



**SOLVAY**

asking more from chemistry®

# Building a new model of sustainable chemistry

Annual  
Report  
2013

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# Solvay, asking more from chemistry

As an international chemical group, Solvay assists industry in finding and implementing ever more responsible and value-creating solutions. Its products serve many markets including energy and environment, automotive and aerospace, electricity and electronics, with a common goal: to improve the performance of clients and society's quality of life. The Group is firmly committed to sustainable development, and focused on innovation and operating excellence. Solvay generates 90% of its net sales in activities where it is one of the top three players worldwide. Thus, as the time comes to take stock of the past year, this report is structured around the three major challenges that Solvay faces: asserting itself as a leader, committing to sustainable chemistry, and constantly reinventing itself.

# €9,940

million net sales

# 29,400

employees

# 117

sites and presence  
in 56 countries

*Following the agreement in principle signed on May 7, 2013 by Solvay and Ineos to combine their Chlorovinyls activities in a 50/50 joint venture and notification of the project to the European Commission, Solvay's Chlorovinyls activities are now presented as "Assets held for sale" in the balance sheet and in the income statement under "Discontinued operations". As such, they are not included in the presentation above. In addition, the compounds activities within Chlorovinyls (Plastic Integration), which are not included in the proposed joint venture with Ineos, have been presented as "Assets held for sale" since December 31, 2013. Unless otherwise stated, this rule applies to all data presented in this document.*

*The number of employees (full-time equivalent) stated in this document includes those working for "discontinued activities".*

in  
**fig-  
ures**

over  
**150  
years**



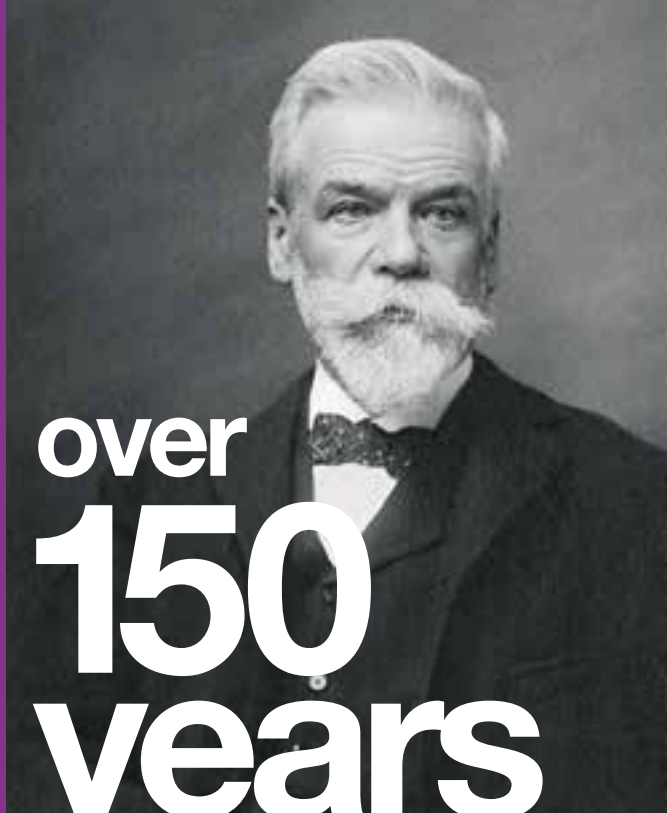
**SOLVAY**

asking more from chemistry®

by  
**mar-  
kets**

in the  
**world**

in  
**2013**



Solvay  
over  
150 years



# Pioneering spirit 1863

In 1863, a young inventor, Ernest Solvay, files his first patent for the "industrial production of sodium carbonate from ammonia" and creates, with members of his family, the company Solvay & Cie. The strategy of this – global and partnership-based – undertaking is driven by the conviction that scientific progress exists to serve humanity. With this vision, Solvay positions itself as a forerunner in the social, industrial and scientific fields. This same pioneering spirit has led Solvay to become involved in the Solar Impulse project and to innovate in the field of responsible chemistry.

## 1872 One of the first multinationals

From 1872 onwards, Solvay & Cie undertakes fast-pace internationalization, bringing it closer to its sources of supply and its industrial customers. In 1913, Solvay & Cie is the first global industrial player to be present in Europe (including Russia) and the United States.

At that time 90% of all industrial sodium carbonate in the world is produced by using the Solvay process. Presently, Solvay's decentralized corporate culture remains an asset for the Group, engaged today in rapid expansion in Asia, the United States and Eastern and Central Europe.

## A social 1878 laboratory

Solvay is the starting point for many social innovations. Guided by its humanistic ideals, the Group sets up in 1878 a comprehensive in-house social security system, introduces the eight-hour day (1897) and later provides the first paid holidays for workers (1913). Today, its social practices remain one of its strengths, recognized by its stakeholders.



1949

# Anticipating and reinven- ting oneself

Solvay's longevity is explained by its ability to break with established patterns. Its history includes various periods of diversification and refocusing. Long a single-product company, the Group begins in 1949 its first diversification to become Europe's largest PVC producer. Later, following the 1973 oil shock, Solvay invests successfully in life sciences. It divests this branch in 2009, with a new focus on specialty chemicals.

Looking  
to the future

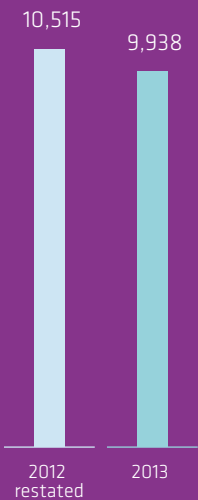
In 2011, Solvay undertakes the largest operation in its history by acquiring Rhodia. Propelled into the ranks of the world's leading chemical groups, the Group reaffirms its ambitions and reorganizes. The Solvay group is now rapidly changing, resolutely oriented towards value creation, constantly at the leading edge, responsible, always quick-footed and closer than ever to the opportunities its markets offer.

2013  
YEARS

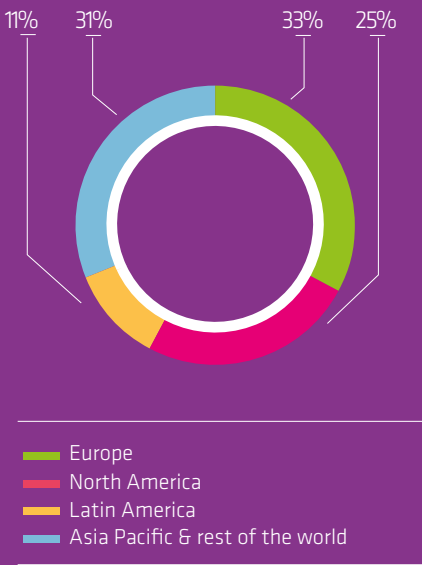
# Solvay in figures

To permit meaningful comparison from one year to the next, the 2012 data have been restated, in accordance with IFRS standards, as indicated in the footnote below.

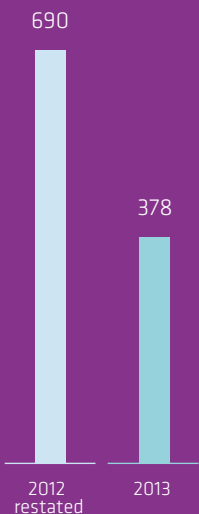
## → Net sales In € million



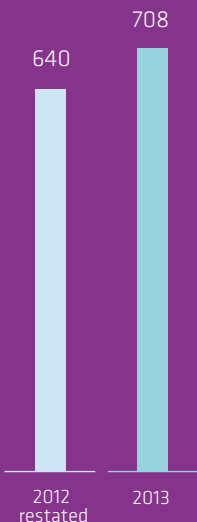
## → Net sales by region in 2013



## → Adjusted Net Income Solvay Share In € million

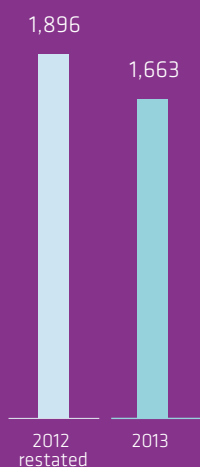


## → Capital expenditures In € million

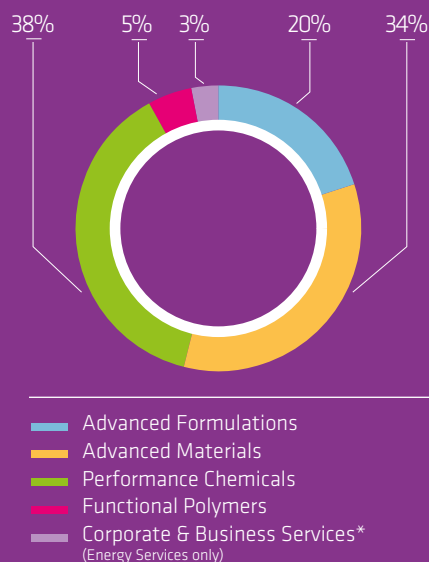


The 2012 income statement data are restated to reflect the new organization that came into effect on January 1, 2013, the alignment with the revised IAS 19 standard, and the planned joint venture with Ineos for chlorovinyls in Europe. The European Chlorovinyls business activities are reflected as "Assets Held For Sale" on the Balance Sheet (in one single line) and as discontinued operations in the Income Statement as required by IFRS. As from December 31, 2013, Benvic (the PVC compounding business) is reflected in the Balance Sheet as "Assets Held For Sale", but as continued operations in the Income Statement. Chemlogics is consolidated in the financial statements from November 1, 2013. Furthermore, Solvay is presenting Adjusted Income Statement performance indicators that exclude non-cash Purchase Price Allocation (PPA) accounting impacts related to the Rhodia acquisition. The reader is referred to pages 48 ff. of the present Annual Report for further information on the convention followed in the management analysis.

→ **Adjusted REBITDA**  
In € million

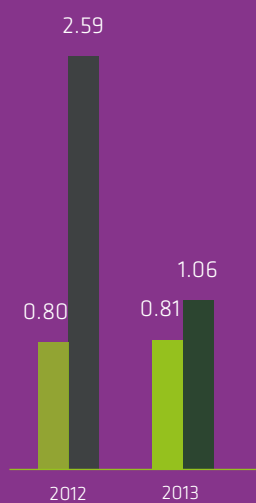


→ **Adjusted REBITDA by Operating Segment in 2013\***



\* Excluding Corporate costs.

→ **Occupational accidents at the Group's sites<sup>(1)(2)</sup>**  
Accidents per million hours worked



**LTAR: Lost Time Accident Rate**  
Number of work accidents with absence from work more than 1 day employees and contractors.

**MTAR: Medical Treatment Accident Rate**  
Number of work accidents leading to medical treatment (other than first aid) employees and contractors.

→ **Greenhouse gas emissions<sup>(1)(3)</sup>**  
Mt CO<sub>2</sub> equivalent



→ **Energy consumption<sup>(1)(3)</sup>**  
Petajoules



(1) See the Sustainable Development Report 2013: <http://www.solvay.com/en/media/publications/index.html>  
 (2) These data include the Chlorovinyls activities, which it is planned to contribute to a joint venture with Ineos.  
 (3) These data don't include the Chlorovinyls activities.

Solvay  
in  
headlines

# Building a new model of sustainable chemistry

**Sustainability and responsibility:** never have these issues been so crucial for mankind. All around the world, we are seeking solutions. Solutions that limit the impact of climate change, which allow us to produce more with fewer resources, to meet the needs and aspirations for the health and well-being of more than one billion new consumers.

Our  
3 performance  
levers

# Our vision

**Building a strong leader**, a player in the reshaping of the global chemical industry. **Asserting ourselves as a model** of sustainable chemistry, capable of attracting and developing talented people who conceive, design and produce solutions to meet the major challenges facing society today.



**Asking more  
from chemistry:**  
this is what enables  
the Group to create value  
for all its stakeholders.

# Solvay by markets



## CONSUMER GOODS & HEALTHCARE

Through its diverse offering, Solvay seeks to improve the performance and ease of use of products employed every day. Its solutions based on specialty surfactants, its polymers and its fluorinated fluids contribute to the effectiveness of detergents and hygiene products. Its polymers, polyamide and intelligent fibers are used by the textile industry to create high-performance clothing. The range of cellulose acetates serves the cigarette filters market. For health professionals, the Group develops a wide range of products including specialty polymers for biocompatible medical implants, synthesis intermediates and sodium bicarbonate for effervescent tablets.



## AUTOMOTIVE & AERONAUTICS

Solvay offers the automotive market polyamides, specialty polymers and composites that improve performance and contribute significantly to lighter vehicles. Fluorinated electrolytes and lithium salts improve the efficiency of batteries. Solvay's solutions enable automakers to meet constantly rising global standards such as rare earth oxides for catalysis and silicas for the tire labeling. On the aeronautics market, the chemical, mechanical and thermal resistance properties of Solvay advanced solutions contribute to the performance and safety of airplanes.



## BUILDING & CONSTRUCTION

Solvay products make it possible to design buildings that are at once more sustainable, healthier to live in and consume less energy. Its solutions are used in the production of flat glass and double or triple glazing window structures to stringent environmental requirements. Fluorinated products permit the production of high quality insulating foams. Biodegradable solvents are used in paints and "green" coatings. Finally, fluoropolymers and engineering plastics increase the fire resistance of electrical components and cabling.



## ELECTRICAL & ELECTRONICS

Solvay specialty polymers opens new horizons in terms of design, safety and performance to its industrial customers, who take part in the forward march of tablets and smartphones, of OLED technology, of rigid and flexible displays, computer processors and memories and of semi-conductors based on rare earths. For the electrical connectors industry, Solvay develops specific products and fluorinated polyamides with circuit breaker and flame-retardant properties. It also offers eco-responsible solutions including the recycling of rare earths and bio-based polyamides.

## A diversified offering

Consumer  
goods &  
healthcare  
**25%**

Automotive  
& aeronautics  
**17%**



## AGRO, FEED & FOOD

Solvay products and solutions respond to the needs of players right along the food chain. Upstream, its guar derivatives, its fluorinated compounds and its solvents protect crops and improve their productivity, while respecting the environment. Downstream, its range of vanillins contributes to healthier diets, for example by contributing to reducing fats and sugars in processed foods. Sodium bicarbonate promotes a balanced diet and preserves animal health. Finally, cellulose acetate is used to produce environmentally responsible food packaging.



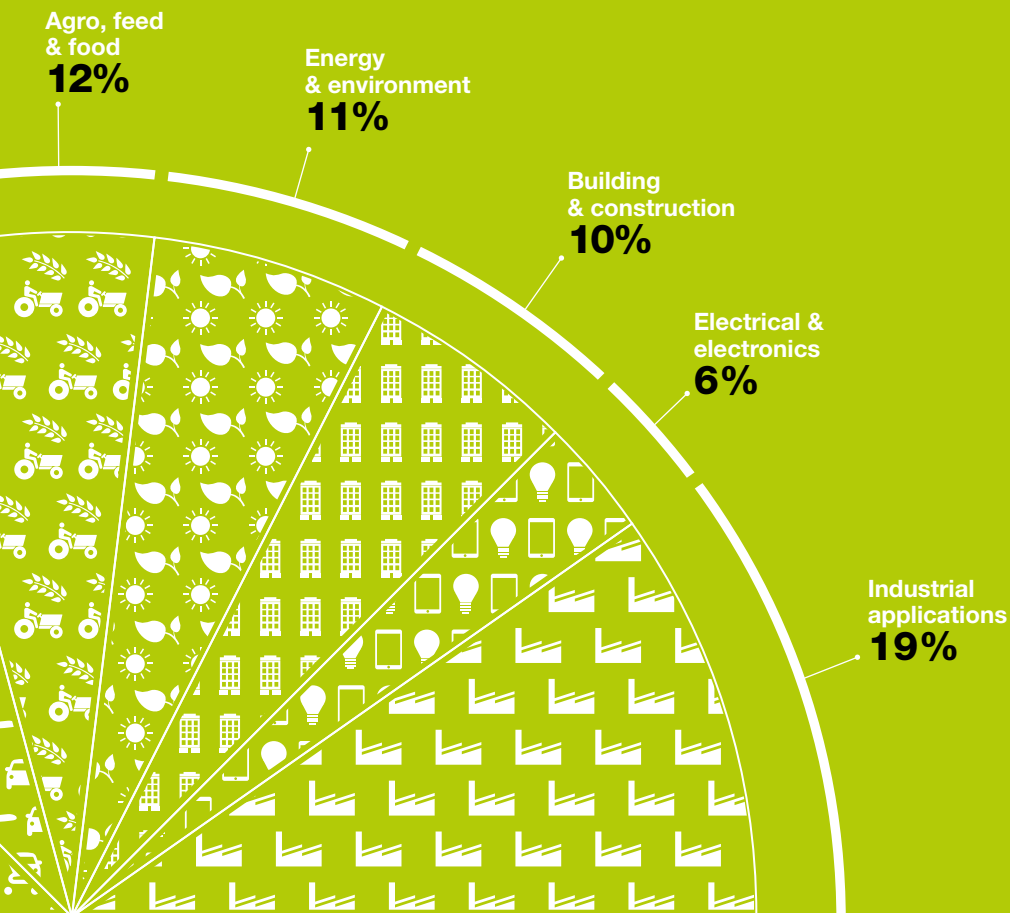
## ENERGY & ENVIRONMENT

Solvay supports energy markets in their quest for improved performance and lower costs. Guar or surfactants provide solutions for oil and gas extraction. PVDF films improve the performance and durability of solar panels, while lithium salts increase battery performance. Solvay processes and solutions are used to produce energy from biomass. Solvay offers its industrial customers its expertise in energy optimization. Elsewhere, Solvay proposes solutions for reducing air, water and soil pollution.



## INDUSTRIAL APPLICATIONS

Solvay provides industries with agents and intermediaries to meet their challenges of competitiveness and environmental performance.



# An activities portfolio directed at growth regions



## EUROPE

**33%**  
of net sales

**15,800**  
employees

**49**  
industrial sites

**8**  
R&I centers



## ASIA PACIFIC AND THE REST OF THE WORLD

**31%**  
of net sales

**6,000**  
employees

**28**  
industrial sites

**4**  
R&I centers



# SOLVAY IS SPEEDING UP ITS DEVELOPMENT IN HIGH-GROWTH AREAS

## ASIA PACIFIC AND THE REST OF THE WORLD

- China: Construction of a fluoropolymers plant in Changshu. Increased production capacity for vanillin and surfactants at Zhenjiang and for silicas at Qingdao.
- Saudi Arabia: construction started of a hydrogen peroxide plant at the Sadara chemical complex (Jubail), in partnership with Sadara Chemical Company.
- Thailand: construction begun of a sodium bicarbonate plant at the Map Ta Phut site.
- Singapore: construction launched of an alkoxylation plant.

## NORTH AMERICA

- Acquisition of Chemlogics, specializing in oil and gas extraction solutions.
- Start of construction of an alkoxylation plant in Pasadena (Texas).
- Capacity increase at the Vernon (Texas) plant, specializing in guar derivatives.
- Capacity increase for natural sodium carbonate (trona) production at Green River (Wyoming).

## EUROPE

- Poland: construction begun of a new highly dispersible silica plant at Wlodek.
- France: doubling of natural vanillin production capacity on the Melle site.
- Germany: construction launched of a new specialty surfactants production site at Genthin.
- Sodium carbonate production capacity raised by 50 kt/year without investment, through industrial excellence.

## LATIN AMERICA

- Brazil: announced acquisition of the specialty chemicals assets of Erca Quimica Ltda.



### NORTH AMERICA

**25%**  
of net sales

**3,700**  
employees

**33**  
industrial sites

**2**  
R&I centers



### LATIN AMERICA

**11%**  
of net sales

**3,900**  
employees

**7**  
industrial sites

**1**  
R&I center

# Solvay in 2013

## Portfolio transformation

Across the world, Solvay has strengthened its position and capacities in growth areas and markets (see page "Solvay in the World"), forged alliances and made acquisitions.

### → MAY

Announcement of the project to set up a European joint venture in chlorovinyls with the Ineos chemicals group, to create a global leader in PVC.\*

### → OCTOBER

Acquisition of Chemlogics, a US company specializing in oil and gas extraction solutions.

### → NOVEMBER

Acquisition of the specialty chemicals assets of Erca Quimica Ltda. in Brazil. Agreement with Shanghai 3F to create a joint venture specializing in the production of specialty fluoropolymers (China).

### → DECEMBER

Signature of an agreement with Braskem, Brazil's leading PVC producer, for the sale of Solvay's 70.59% stake in Solvay Indupa.

## Innovation

### → SEPTEMBER

The Chemistry for the Future Solvay Prize is awarded to Professor Peter G. Schultz.

### → OCTOBER

Solvay's GOVANIL™ vanilla flavor receives the ICIS' Best Product Innovation award.

Among the many launches in 2013 we would mention:

- TECHNLYL® ONE, a new polymers technology to meet the challenges of miniaturization;
- the new KALIX® 3000 range of bio-sourced amorphous polyamides for the smartphones and tablets market.

## Excellence

The Group has undertaken numerous operating excellence initiatives to include:

- energy performance programs at all sites;
- competitiveness plans to consolidate its leadership in sodium carbonate, leading to the closure of the Povoa unit (Portugal);
- competitiveness improvement action plans, especially at Polyamide & Intermediates, Rare Earth Systems, Special Chemicals and Novecare;
- increasing production capacity through targeted approaches (specialty polymers, PVC, sodium bicarbonate in the United States, chlorinated derivatives in Europe, etc.);
- the introduction of an eco-design approach for evaluating the environmental impact of innovation projects.

## Sustainable chemistry

### → MAY

Successful finalization of the second REACH registration phase.

### → JUNE

Partnership with AkzoNobel, the world's leading coatings and paint producer, to gradually increase the proportion of EPICEROL® (bio-sourced epichlorohydrin) in its products.

### → AUGUST

Partnership with Brazilian company GranBio to study building the world's first bio n-butanol plant based on biomass - for commissioning in 2015.

### → SEPTEMBER

Entry into the Dow Jones Sustainability Index Europe (DJSI Europe), the extra-financial index that references the best performing companies for social and environmental responsibility. Partnership with CDC Climat and Marubeni to provide innovative financial solutions in the field of energy efficiency.

## Financial markets

### → NOVEMBER

Successful issuance of a € 1.2 billion perpetual hybrid bond.

\* Subject to approval by the European Commission and the relevant authorities.

## 150<sup>th</sup> anniversary year celebrated worldwide

From Belgium to China, from Bulgaria to Brazil, from the United States to Germany, Solvay teams celebrated the Group's 150 years with their customers and partners.

→ Brussels (Belgium): in the presence of the Belgian royal couple, a thousand people attended the "Odyssey, the chemistry of dreams", show specially created for Solvay.



## MESSAGE FROM THE CHAIRMEN



NICOLAS BOËL



JEAN-PIERRE CLAMADIEU

### **“The Group enters 2014 well positioned to achieve its ambition.”**

After devoting 2012 to integrating the two companies and introducing its new organization, Solvay speeded up its transformation in 2013 in the spirit of its long and rich history.

This transformation year saw the launch of structural projects that help refocus Solvay's activities on growth markets. A new joint venture with Ineos in Europe, the divestment of the Latin American PVC activities, and the acquisition of Chemlogics in the United States all are projects that contribute to making Solvay an even more innovative Group, turned towards growth markets that are also less cyclical and create long-term value.

Simultaneously, Solvay has continued its strategy of selective investment to reinforce its activities portfolio and its leading positions in high-growth regions, particularly in Asia. These major changes have taken place in a difficult economic environment, particularly in Europe and Latin America. Yet it is in this context that the Group has reaffirmed its ambitious growth strategy.

In 2013, Solvay celebrated its 150<sup>th</sup> anniversary, a great source of pride and a unique opportunity to come together around the values that cement the Group: ethics and a

culture of responsibility, striving for excellence and a passion for innovation that serves the planet. It is around these values that Solvay's strategic directions are articulated.

The *Chemistry for the Future Solvay Prize* awarded at the end of the year is a fine example of the Group's desire to cultivate the pioneering spirit and passion for science of its founder.

The Group enters 2014 well positioned to achieve its ambition: with stable shareholders that enable it to combine long-term vision and adaptability, an ambitious strategy and clear roadmap, and a culture of excellence and innovation. Around the world, the energy and professionalism of its teams are enabling Solvay to deploy its strategy with speed and efficiency, and better serve its customers every day. Mobilized around a common culture of responsibility and performance, Solvay's teams are the true power of the Group and we thank them for their commitment.

With all this, Solvay can face the future with confidence and pursue its ambition to be a model of sustainable chemistry.

↓  
**NICOLAS BOËL,**  
CHAIRMAN OF  
THE BOARD OF DIRECTORS

↓  
**JEAN-PIERRE CLAMADIEU,**  
CHAIRMAN OF THE EXECUTIVE  
COMMITTEE AND CEO

## INTERVIEW WITH JEAN-PIERRE CLAMADIEU, CHAIRMAN OF THE EXECUTIVE COMMITTEE AND CEO



**“This transformation allows us to set an ambitious performance objective for 2016.”**

**2013 was a year full of major transformation projects for the Group. How would you judge it?**

**Jean-Pierre Clamadieu:** In 2013, Solvay accelerated its transformation with the ambition of becoming a Group with faster, less cyclical and more profitable growth. This is the reason for the changes we have made in our portfolio. The acquisition of Chemlogics in the United States strengthens our position in oil and gas formulations. Elsewhere we have initiated the gradual exit from our chlorovinyls activities in Europe and Latin America. Building on the experience and know-how that our teams have acquired over the years we have generalized our thrust for excellence to all our activities. This profound transformation will continue in 2014 and beyond. It allows us to set an ambitious performance objective for 2016.

# **“Employee autonomy and responsibility are the keys to our performance culture.”**

## **How do you view Solvay’s results in 2013?**

**J.-P. C.:** In 2013 we faced a depressed macro-economic environment, particularly in Europe. Despite this, and leaving aside the scheduled phasing out of carbon credits and the effects of the speculative bubble on guar, our operating performance remained broadly stable, thanks in particular to our ability to defend our margins. This demonstrates the solidity of our business portfolio. Among our growth engines, let me underscore the superb performance of Specialty Polymers in a challenging environment, made possible by its programs of excellence, the record results of Silica which benefited from its leadership position in the tire market, and the growth of Aroma Performance supported by the very dynamic food flavorings market.

## **Operational excellence and innovation are two major strategic levers. How are you activating them to serve growth?**

**J.-P. C.:** At Solvay, operational excellence involves all Group employees in a process of continuous improvement. In 2013 we launched more than 120 excellence programs covering the organization of production, supply chain management, innovation, marketing and customer relationships. The results are promising. The energy efficiency plans we are deploying at all our sites should reduce our energy bill by more than 100 million by 2016. “Academies” are gradually being set up to enhance the skills and performance of the Group’s key professions. In 2013, priority was given here to developing commercial excellence.

We have set the course for our innovation: implementing our vision of a chemistry that serves responsible development with answers to the major challenges facing society. These are challenges that we of course share with our customers, who are coming to us with increasingly complex questions and expecting from us the solutions that will enable them to make the difference on their own markets. Our researchers’ mission is to make full use of our expertise in advanced materials and formulations to devise, for example, solutions that serve sustainable mobility, effective energy transition, or responsible agriculture. We are keen to meet in this way the challenges posed by

population growth and resource scarcity, without forgetting the fight against CO<sub>2</sub> emissions.

## **In a Group the size of Solvay, how does one make change happen fast? And how do you see your own role?**

**J.-P. C.:** In a world of rapid change, you have to adapt and react quickly to seize opportunities and meet new challenges. This is the objective of our decentralized organization. Employee autonomy and responsibility are the keys to our performance culture. For us, our employees’ professionalism and commitment are “assets” that we develop by promoting the diversity of experiences. My role, that of the Executive Committee and, beyond that, of all members of the “Leadership Council”, is to give a clear direction, to align energies, and help everyone understand how they can contribute to this collective project. And we need to be real agents of change, as close as possible to the ground where our teams live and work.

## **What is your vision of Solvay at the end of this transformation?**

**J.-P. C.:** We want to make Solvay a leading global chemistry group, recognized for its commitment to its customers, its ongoing pursuit of operational excellence and the quality of its innovations for serving more sustainable development. With its strong history and an ownership structure that gives it the wherewithal to pursue its long-term ambitions, the Solvay group is undertaking its transformation with determination. This is how we build a real model of sustainable chemistry.

# Executive Committee

→ The Executive Committee (Comex) ensures objectives are achieved and optimizes resource allocation across the various Global Business Units (GBUs). Acting as a collegial body, it is collectively responsible for the overall performance of the Group and for protecting the Group's interests. As of January 1, 2014, the Comex is composed of six members, each of whom oversees a number of GBUs, Functions or Zones. The Chairman of the Executive Committee and the Chief Financial Officer also assume this supervisory role in addition to their specific responsibilities.



↓  
**JEAN-PIERRE CLAMADIEU**  
CHAIRMAN OF THE EXECUTIVE COMMITTEE AND CEO



↓  
**KARIM HAJJAR**  
CHIEF FINANCIAL OFFICER



↓  
**JACQUES VAN RIJCKEVORSEL**



↓  
**VINCENT DE CUYPER**



↓  
**ROGER KEARNS**



↓  
**PASCAL JUÉRY**



# Leadership Council\*

→ The Comex is supported by the Leadership Council. This body's mission is to gather and share information needed to feed exchanges of ideas and align the thinking processes of the Comex, GBU Presidents, Function General Managers, Zone Presidents and the Business Services General Manager. The Leadership Council meets every four months with a formal agenda.



↓  
**T. BENNER**  
SILICA



↓  
**A. BROUHNS**  
PUBLIC AFFAIRS/EUROPE



↓  
**G. BUCCO**  
MULTI BUSINESS UNIT  
COMMERCIAL NETWORK



↓  
**E. BUTSTRAEN**  
NOVECARÉ



↓  
**M. CHOLLET**  
STRATEGY



↓  
**C. CLEMENTE**  
SODA ASH & DERIVATIVES



↓  
**G. COLLETTE**  
INDUSTRIAL



↓  
**F. CONSTANT**  
SOLVIN



↓  
**G. CRAUSER**  
PEROXIDES



↓  
**M. DEFOURNY**  
CORPORATE SECRETARY &  
GROUP COMMUNICATION



↓  
**S. DESORMIERE**  
MARKETING & SALES



↓  
**A. DI DONFRANCESCO**  
SPECIALTY POLYMERS



↓  
**H. DU**  
RARE EARTH SYSTEMS



↓  
**F. FERRAROLI**  
FIBRAS



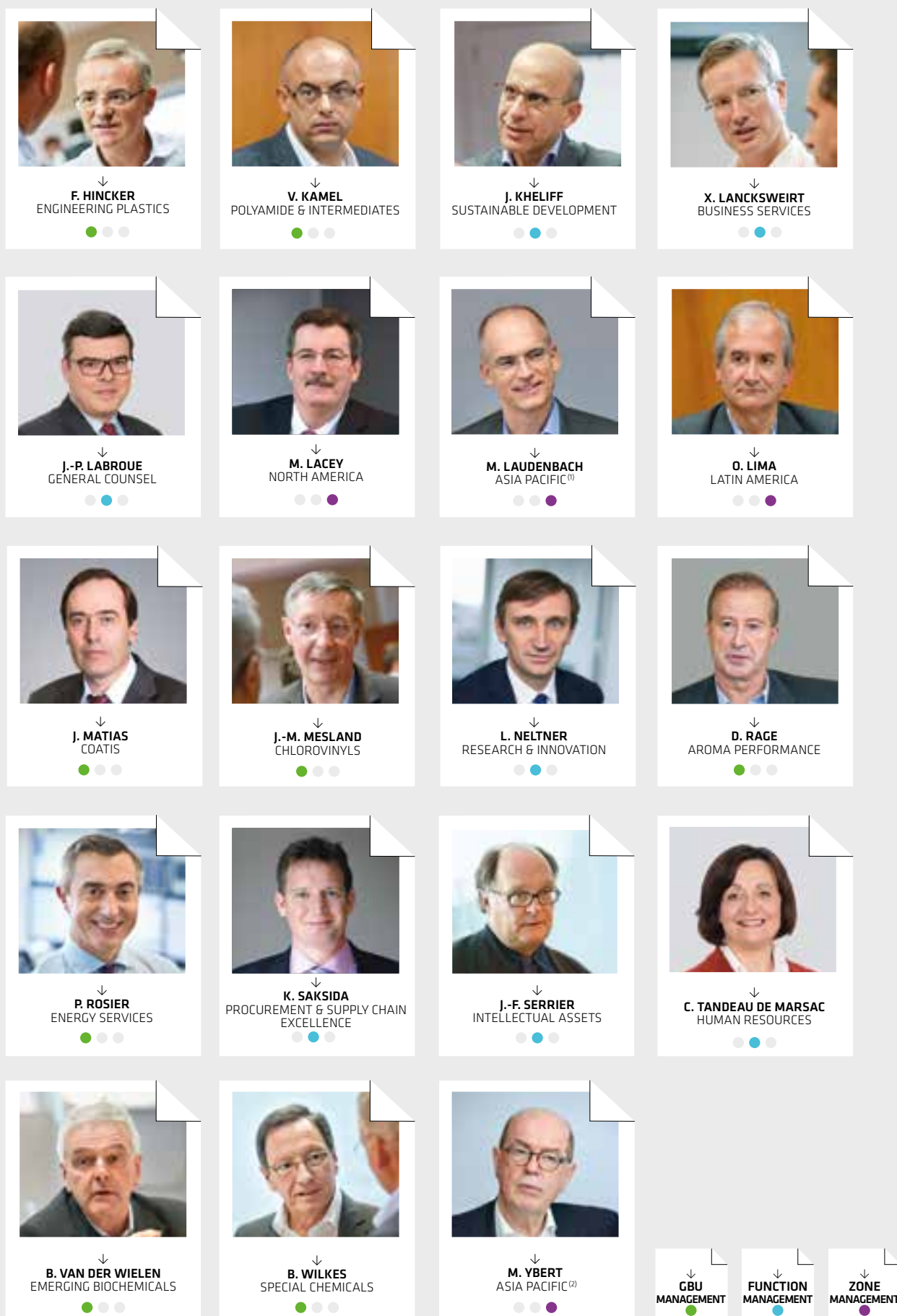
↓  
**O. FERRARY**  
ACETOW



↓  
**J. HARTON**  
ECO SERVICES



\* At April 1, 2014.



(1) Zone President from July 1, 2014.  
 (2) Zone President until June 30, 2014.



→ Solvay committed itself in 2013 to a process of transformation, driven by an efficient organization and a culture of assertive performance. A new model of sustainable chemistry is under way: inventive, global, focused on growth-generating activities, with higher returns and stronger cash generation.

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# Affirming our leadership



# Supporting the Group's transformation

For the success of its transformation process, Solvay is relying on its 29,400 employees in 56 countries. The primary mission of Human Resources (HR) is to ensure everyone endorses the Group's new ambitions and contributes to the change process. By offering a motivating work environment, focusing on people development, and deploying a culture of accountability and performance, Human Resources participates actively in the Group's success.



## ➤ Making chemistry meaningful: new employer communication

Increasing its appeal to young people is an important challenge for Solvay, which recruits 2,500 new employees each year, increasingly in fast-growing regions. Launched in 2013, the new employer brand capitalizes on the Group's values and its commitment to sustainable development. Beyond the prospects of international careers, Solvay offers talented persons from across the world the opportunity to play an active role in building a more sustainable future through chemistry. This ambition is expressed throughout the new recruit integration process. It was the subject of a communication campaign in major recruiting countries and on social networks on the theme "Join us. At Solvay we ask more from chemistry".



Since 2013, Solvay has been organized “BU-centrally” around the autonomy and accountability of the management teams of the Global Business Units (GBUs). As a driver of change, Human Resources is adapting its vision and mission to new challenges: providing day-by-day support to the operating entities, promoting employee development, and increasing the attractiveness of Solvay to today’s and tomorrow’s talent.

600 people worldwide are mobilized to achieve these objectives. While structured to respond to local needs as expressed by GBUs, the HR team also provides the Group with a global vision of its skills needs.

In 2013, this team worked to strengthen the cohesion of the Group by harmonizing policies and processes, and helping deploy the new culture of performance and accountability.

### A priority: supporting geographic expansion

To assist the Group in its product and geographic expansion, new ways of working are being introduced.

Identified as a powerful lever of cohesion and motivation, internal mobility is encouraged by a policy that invites talents to come out of their culture and skills “silos”.

In growth areas, emphasis is also being placed on recruiting and retaining local staff, particularly in Asia. This multicultural dimension is proving a real asset as the Group multiplies its acquisitions, facilitating the integration of new teams from acquired companies, such as, in 2013, Chemlogics in the United States and Erca Química Ltda in Brazil.

Right now the new culture is being actively promoted on a global basis. Everywhere, initiatives are being implemented to encourage ownership of it, including management sensitization, internal training sessions, and integrating behavioral models in annual performance appraisals.

### An approach for the development of people

Continuous skills improvement and the endorsement by every employee of the requirements of excellence are the keys to individual and collective performance. This was the premise of the “Performance, Development and Career” program that was deployed in 2013, with the goal of evaluating employee performance, developing behavioral skills that link in to the new corporate culture, defining individual development plans, and strengthening discussion of career development. In 2013, managers were trained in a new annual assessment interview tool, the PDCR\*, designed to promote employee development in a single Group-wide process.

This tool will be gradually rolled out to the sites. The program includes training to improve skills in management and executive leadership. In 2013, these modules were adapted to the new challenges and supplemented by professional “Academies”, focusing on business skills.

### Social dialogue to guarantee responsible management

In line with its goal of responsible growth, the Group is careful to move ahead within a framework that guarantees employees’ safety and well-being at work, and respect for their fundamental social rights. This is the subject of the social responsibility agreement signed in 2013 with IndustriALL Global Union, a global federation of chemical workers (p.36).

\* Performance, Development and Career Review.



### Commercial academy: a tool for achieving excellence

A priority for GBUs in 2013, commercial excellence is one of the programs that the Group provides through its “Commercial Academy” to marketing and sales employees. This unique cross-cutting course trains participants to marketing fundamentals and to value-capturing mechanisms.



# Organized and mobilized around a shared vision

Solvay has structured its businesses into five Operating Segments, each with its own specific business model and each comprised of Global Business Units (GBUs) having similar growth dynamics and competitiveness challenges. Each GBU is responsible for its own strategy and has the operational levers with which to implement it. All focus on a common goal: creating value for the Group while respecting their responsibility commitments.

## Advanced Formulations



→ Net sales: € 2,432 million  
REBITDA: € 369 million

A growth engine for the Group, the innovative offering of this Segment is aligned with major societal trends: population growth, new consumption patterns, etc.

## Advanced Materials



→ Net sales: € 2,551 million  
REBITDA: € 646 million

Another growth engine and a leader on markets with high entry barriers, the cutting-edge activities of this Segment generate high returns on investment.

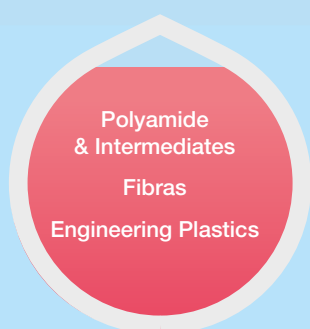
## Performance Chemicals



→ Net sales: € 3,125 million  
REBITDA: € 724 million

Operating on mature markets with low cyclicity, this Segment's success is based on economies of scale, competitiveness and quality of service.

## Functional Polymers



→ Net sales: € 1,763 million  
REBITDA: € 93 million

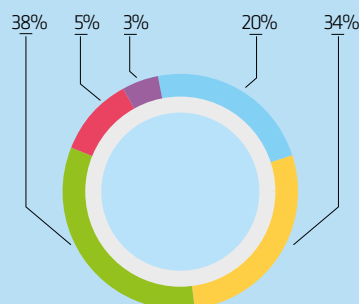
The key success factors of this Segment, which primarily groups the Polyamide activities, are continuous manufacturing optimization and innovation.

## Corporate & Business Services



→ Net sales: € 67 million  
REBITDA: € - 169 million

This Segment brings together the functions and services charged with achieving the Group's objectives of operational excellence, energy efficiency and collaborative innovation.



→ Adjusted REBITDA by Operating Segment\*

— Advanced Formulations  
— Advanced Materials  
— Performance Chemicals  
— Functional Polymers  
— Corporate & Business Services\*  
(Energy Services only)

\* Excluding Corporate costs.

Following the agreement in principle signed on May 7, 2013 by Solvay and Ineos to combine their Chlorovinyls activities within a 50/50 joint venture and notification of the project to the European Commission, Solvay's Chlorovinyls activities are now presented as "Assets held for sale" in the balance sheet and in the income statement under "discontinued operations". As such, they are not included in the above presentation. Moreover, those compounds activities in Chlorovinyls (Plastic Integration) which are not included in the proposed joint venture with Ineos have been presented as "Assets held for sale" since December 31, 2013.

# Advanced Formulations

As growth engines for Solvay, the Advanced Formulations activities are characterized by their strong capacity for innovation and their low capital intensity. In line with the major trends in society, their offerings contribute to advances in mass consumer markets, the environment and energy.

## Novecare

→ The world's leading producer of specialty surfactants; major player in the polymers, guar and phosphorus derivatives markets

→ 2013 net sales: €1,581 million - 28 industrial sites\*

Novecare develops leading edge technologies that affect the behavior of fluids to give them cleansing, softening, moisturizing, hydrating, gelling, texturizing, penetrating or dispersing properties. Its products are found in shampoos, detergents, paints, lubricants, plant protection, mining and oil extraction.

Since 2010, the GBU has been engaged in an ambitious growth strategy directed at supporting expanding consumer markets, particularly in Asia. It also invests in niche markets with a range of high-added-value specialties. Novecare relies on a global network of 28 production sites and 10 R&I centers and labs that develop innovative solutions to sustainable development issues.

### Increased positions in the US energy market

Identified as a reference partner by oil and gas extraction operators, the GBU has expanded its specialties portfolio with the acquisition of the US corporation Chemlogics. This brings Novecare recognized know-how in custom formulations for well stimulation and cementing, and significantly strengthens its presence on the booming US energy market. The GBU is today able to offer major oil players a full range of innovative products and technologies for extracting oil and gas more competitively and sustainably, with enhanced water management.

### Surfactants: increased global capacity

Across the world, Novecare is boosting its manufacturing capacity to meet global market needs. In November 2013, the GBU doubled its surfactants production capacity in Latin America by acquiring the specialty chemicals assets of Brazil's Erca Quimica Ltda group. This opens the door wider to one of the world's largest markets for health & beauty and agrochemicals.

To better support its customers in Central and Eastern Europe, the GBU has begun building a new specialty



### A creative value proposition for energy markets

Acquiring Chemlogics significantly expands Solvay's range of non-conventional oil and gas extraction technologies: Chemlogics' expertise in friction reducers, non-emulsifiers and natural extraction technologies complements the GBU's own expertise in surfactants, natural polymers and green solvents. Chemlogics' rapid innovation model and close customer relationships will also leverage the Group's expansion in North America.

*Chemlogics in brief: 277 employees - Net sales: USD 500 million in 2013 - Assets: 3 plants with an annual production capacity in excess of 300,000 tons, 8 formulation centers and 6 research centers.*

surfactants plant at Genthin (Germany). This investment comes on top of those made in existing European sites to increase and optimize production.

The GBU also has begun building new alkoxylation<sup>(1)</sup> facilities in Texas (USA) and Singapore from which to optimize its →

(1) Alkoxylation is a process for manufacturing monomers for producing surfactants.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs.

## Advanced Formulations

→→ supply lines to the highly dynamic construction and manufacturing industry markets.

### **Guar: a global offering of bio-based solutions**

Novecare is strengthening its leadership in the guar derivatives market with breakthrough innovations that respond to strong demand for sustainable solutions from both the agrochemicals and oil sectors. Novelties placed on the market in 2013 include STARGUAR®, a “ready-to-mix” crop protection solution that allows operators to adjust dosages to local conditions.

The GBU has also significantly increased its production capacity. It has invested in its Vernon plant in Texas (USA), which delivers mainly to the North American oil extraction market. In China, the plant expansion at Zhangjiagang is in response to strong demand from the Asian health & beauty market. With its third production site at Melle (France), Solvay is the only player in guar derivatives that is able to accompany customers on three continents.



## Coatis

→ **First Latin American producer of phenol and derivatives; leader in oxygenated solvents**

→ **2013 net sales: € 486 million - 1 industrial site\***

Coatis utilizes several levers to expand its business: substitute products that meet the current challenges of sustainable development, a historical presence in Latin America, a portfolio of competitive products and privileged access to bio-sourced raw materials (ethanol and glycerol).

Phenol and derivatives produced at the Paulínia site in the southeast Brazil are used in the production of synthetic resins employed in foundries, construction and abrasives. Its production capacity enables the GBU to supply the constant growth of the Latin American market and increases its market share.

Coatis' oxygenated solvents are used as a substitute for harmful solvents, due to their low toxicity, their biodegradability and their high solvent power.

In 2013, Coatis confirmed its development in bio-sourced solvents by expanding the AUGEO® range of innovative solvents produced from glycerin (a renewable feedstock derived from biodiesel).

The GBU has a project to produce bio n-butanol from bagasse, a renewable by-product from the crushing of sugarcane.



### **Biotechnology projects in Latin America**

After piloting and establishing expected results with the Cobalt Technology company, Coatis has joined forces with a Brazilian biotechnology company, GranBio to build the first n-butanol plant at competitive cost using sugarcane residues. Their medium-term ambition is to build several bio-refineries alongside sugar plants in Brazil and in other Latin American countries. They are also keen to capture new markets with chemical companies.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs

# Aroma Performance

→ World's number one producer of diphenols and fluoroaliphatic derivatives; world's number one producer of triflic acid, and of lithium salt for agro-pharmaceutical, electronics, and batteries markets; world's number one producer of vanilla flavorings for the food industry; world's number one producer of diphenol intermediaries for monomer producers to the petrochemical industry

→ 2013 net sales: € 365 million - 5 industrial sites\*

Aroma Performance's growth strategy is based on a strong global presence, placing it very close to its customers, and on maximizing the potential of its two fully integrated production chains, diphenols and fluoroaliphatic derivatives.

## The challenge: to meet global demand for vanillin

As the world's leading vanillin producer, Aroma Performance is the partner of choice for aromas and fragrances producers. Its leadership rests on its ability to meet strict food safety and environmental conservation regulations. In 2013, the GBU expanded its portfolio of natural bio-fermented vanillins. Complementing its flagship brands, RHOVANIL® and RHODIAROME®, the new GOVANIL™ range opens promising horizons for food industry players looking to differentiate their product offerings.

To meet growing demand from its markets, Aroma Performance has doubled the capacity of its site at Melle (France) and begun construction of a new vanillin production unit at Zhenjiang (China), to come into operation in late 2014. These investments increase Solvay's overall vanillin production capacity by 40%. In support of this project, a center of expertise dedicated to the development and application of vanilla flavors, the Vanil'expert center, is being created in Asia, at the R&I facility in Shanghai. Another R&I center will open in Singapore in

2014 to support the needs of the GBU's customers in the region. Aroma Performance stands out as the most global player in its sector, with fully integrated production platforms in North America, Europe and Asia.

## Proximity to fluoroaliphatic derivatives users

The GBU also produces synthesis intermediates for the pharmaceutical, agrochemical and electronics markets, along with monomer stabilizers for petrochemicals and energy storage solutions. Its fluoroaliphatic derivatives are increasingly used in electronic applications, while its lithium salts (LiTFSI) have become an essential component of Li-ion batteries for electric vehicles. As reference supplier to two subsidiaries of the Bolloré Group, a world leader in energy storage, Aroma Performance has doubled its capacity for these products on its French site at Salindres to support the growth of these markets. The GBU has also increased its presence in agrochemical industries, offering a new service for joint-developing molecules to measure.

## Initial successes of the GOVANIL™ range

GOVANIL™ new generation vanilla flavors for the food industry have an intensity 20% above that of standard flavors and unprecedented long lasting taste. These properties serve in particular to offset reduced fats or sugars levels in recipes for cookies, chocolates and cakes. The range, available now in three products (standard, intensive and natural), is being marketed worldwide. In 2013 it took the ICIS innovation award. ICIS is a leading global provider of content and information on the chemistry and energy sectors.



\* Number of sites where the GBU operates. A single site may be shared by several GBUs

# Advanced Materials

A leader in markets with high entry barriers and high returns on investment, the Advanced Materials Segment is a major contributor to the Group's performance and growth. The innovation capacities of its various activities, their global presence and the long-term partnerships they have forged with customers give them a clear competitive edge with industries that are seeking ever less energy-consuming and polluting functionalities.

## Specialty Polymers

→ **World's number one producer of specialty and high-performance polymers**

→ **2013 net sales: € 1,288 million - 14 industrial sites\***

With over 1,500 products, Specialty Polymers offers the widest range of specialty polymers in the world. Its solutions derive from four technologies in which the GBU boasts unparalleled expertise: aromatic polymers – covering the full spectrum of high-performance polymer applications – high-moisture barrier polymers, fluoropolymers and high-performance cross-linkable compounds. Its value creation strategy is based on three levers: innovation, accelerated growth in markets with high entry barriers and operating excellence. Anticipating ever increasing worldwide demand for “clean” technologies and energy, the GBU is focusing its development on highly dynamic sectors like aerospace and transportation, water treatment, smart devices, energy and healthcare.

Specialty Polymers works with a network of 10 R&I centers and labs on three continents. The GBU generates one-third

of its sales with products and applications that are under five years old.

### Rapid fire innovation

To maintain a constant flow of new products and technologies, the GBU partners with its customers to design specific solutions. Thus, for the highly specialized subsea pipeline market, the GBU has developed an ultra-flexible PVDF: this extrudable fluoromaterial, with its specific application technology, facilitates the restoration of underwater pipelines.

In 2013, Specialty Polymers expanded its KALIX® range of high-performance plastics (APPS) for smartphones with three new ranges of bio-based polyamides: KALIX® 3000 – the first amorphous polyphthalamide (APP) – KALIX® 2000, a range of semi-crystalline polyamides with exceptional external impact resistance, and KALIX® HPPA 5000 halogenated flame-retardant polyamides. The mechanical properties of this latest innovation will enable it to replace certain metals, including aluminum and magnesium. →



### SOLEF® PVDF, a booming market

SOLEF® PVDF (polyvinylidene fluoride) is a polymer offering high-added-value in several key sectors, including transportation, alternative energy, electronics, water filtration, and oil extraction. For several years now, its expansion in high growth sectors has justified capacity increases across the world. In 2013, a new production line increased by 50% the production capacity at Tavaux (France), enabling the GBU to better serve a very active European market. The SOLEF® PVDF range is used especially in hybrid and electric vehicle batteries, in oil and gas extraction, in membranes for wastewater purification equipment, and for energy storage in electronic devices.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs.



→ → On the energy market, for which Specialty Polymers develops energy efficiency solutions, its membranes contribute to the advance of zero-emission cars and the development of alternative energy sources.

#### **Strengthening our presence in expanding segments**

Another priority of the GBU is to increase its presence in Asia, where it has significant R&I and production capabilities. Partnerships are key vehicles in implementing this strategy: the GBU has signed, with the Chinese company Shanghai 3F New Materials (SH3F), an agreement to create a joint venture to accelerate the production of specialty polymers in China. The new unit, based in Changshu in Jiangsu Province in China, will produce TFE fluoromonomers and PTFE high-performance fluoropolymers. This will enable Specialty Polymers to produce locally for the automotive, photovoltaics, lithium ion battery, water purification membrane and oil and gas applications markets. To capitalize further on global demand for ever more light-weight, durable and recyclable materials, the GBU has acquired a shareholding in Aonix Advanced Materials, a developer of advanced composite materials and industrial systems. With this partner, Specialty Polymers will develop new thermoplastic compounds for sale across the world.



## Silica

→ **Inventor of highly dispersible silica and world leader in applications for energy-saving tires**

→ **2013 net sales: € 416 million - 8 industrial sites\***

„Silica provides innovative solutions for tire manufacturers along with applications for many other market segments: toothpaste, food, industrial products, rubber goods. The GBU develops its activity in close partnership with its customers, fed by innovation and a strong global presence.

#### **The reference in the “green tire” market**

Highly Dispersible Silica (HDS), marketed in the ZEOSIL® range, has become the reference in the tire industry, especially for energy-saving tires. Used to improve tires' rolling resistance, ZEOSIL® HDS products reduce a vehicle's fuel consumption by 5 to 7%. The international development of the HDS technology is supported by the stringent demands of the many government standards governing the automotive and tire industries.

#### **Continuous geographical growth**

In 2013, the GBU increased the production capacity of its Qingdao (China) site and began building a plant at Włocławek in Poland. These investments mark another step in the GBU's organic growth, following on the new factory in Qingdao (China)

in 2010, and capacity increases in the United States (2011) and France (2012). By 2015, they will enable Silica to double its production capacity for highly dispersible silica as compared with 2009.

#### **→ A new basis for expansion in Europe**

With a capacity of 85,000 tons, the future Silica plant in Poland will produce several ranges of ZEOSIL®, including ZEOSIL® PREMIUM, a new generation of Highly Dispersible Silica for improving tire energy efficiency and performance. The GBU is well positioned to support the growth of its customers in Central and Eastern Europe and in Russia.



\* Number of sites where the GBU operates. A single site may be shared by several GBUs.

## Rare Earth Systems

- **World's number one supplier of specialty rare earth formulations, with a global market share of over 25%**
- **2013 net sales: € 298 million - 5 industrial sites\***

\_Rare earths is the generic term for 17 natural non-ferrous elements present as ores in the earth's crust. These are particularly prized for their exceptional catalytic, magnetic, luminescent or abrasive qualities.

Rare Earth Systems possesses unique technological expertise in the separation and processing of rare earths. Its products contribute to many innovations in use in everyday life, compact fluorescent light bulbs, LCD TV screens, semiconductors and capacitors for laptops and tablets, medical equipment, etc.

With its industrial know-how, global presence and R&I proximity, Rare Earth Systems has affirmed itself as a strategic partner for the automotive catalysis, electronics and phosphor powders recycling markets. The GBU is the leading global supplier to the automotive industry of additives for particulate filters and mixed oxides for catalysts. Also the leading world producer of cerium-based abrasives for semiconductors, the GBU strengthened its position in 2013 by launching ZENUST™, a high precision colloidal cerium oxide abrasive.



Since 2012, Rare Earth Systems has been developing a technology for recycling the luminescent powders contained in fluorescent lamps. This process helps preserve rare earth resources and ensure reliable supplies of terbium to the European market.

## Special Chemicals

- **World leader in fluor, strontium and barium-based specialties**
- **2013 net sales: € 549 million - 21 industrial sites\***

\_For meeting customers' needs as closely as possible, GBU Special Chemicals relies on its leadership in leading edge technologies, its integrated materials sourcing, its manufacturing facilities, and a global R&I network.

The GBU provides high-added-value solutions to niche markets: automotive, electronics, high-performance materials, energy conservation and storage. Recognized as a benchmark in the industry, its flagship NOCOLOK® brazing flux is used in manufacturing aluminum heat exchangers for the automotive industry, for residential air conditioning systems and industrial heat exchangers. The GBU also produces blowing agents (SOLKANE®) for the thermal insulation market

and fluorinated intermediates for agrochemicals. For the electronics market, it develops ultra-pure chemical processes in wet environments for semiconductors along with barium salts for passive components.

Innovation and geographic expansion are two strategic levers of Special Chemicals. The GBU is particularly active in Asia, where it is capturing the strong growth of regional automotive and electronics markets. In 2013, the Chinese joint venture Lansol, held in partnership with Sinochem Lantian, laid the first stone of a new NOCOLOK® plant, based at Quzhou (Zhejiang Province). The GBU has also set up a new R&I center in Korea to strengthen its research capacities in screens, electronics and energy storage.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs.

# Performance Chemicals

Solidly cash-generating, the activities of the Performance Chemicals Segment are engaged in new programs of excellence to create sustainable value.

As of January 1, 2014, Essential Chemicals has been split into two GBUs – Soda Ash & Derivatives and Peroxides. In this way each can better develop its specific technologies and seize opportunities in different regions of the world.

## Soda Ash & Derivatives

→ The world's leading producer of soda ash and sodium bicarbonate

→ 2013 net sales: € 1,351 million <sup>(1)</sup>  
- 12 industrial sites <sup>(2)</sup>

—The production of soda ash and sodium bicarbonate, Solvay's historical activity, has grown continuously worldwide for 150 years, directly linked to population growth and increased purchasing power. Soda ash is used mainly by the glass and detergent industries. Sodium bicarbonate serves primarily the food and feed markets and the health sector, and is also used to neutralize acid flue gases. For example, the SOLVAIR SOLUTIONS® range helps manufacturers control their own air emissions.

In 2013, GBU Soda Ash & Derivatives announced the construction of the largest sodium bicarbonate production plant in Southeast Asia. Based in Thailand, by 2015 it will be producing over 100,000 tons of bicarbonate a year for Asia's rapidly growing food and health markets. Meanwhile, the GBU has launched an operational excellence and manufacturing capacity optimization program to increase, by 2015, its competitiveness in North America and Europe. In particular the GBU has opted to expand its natural soda ash business at Green River (Wyoming), United States.



## Peroxides

→ Leading global supplier of hydrogen peroxide

→ 2013 net sales: € 405 million <sup>(1)</sup> - 16 industrial sites <sup>(2)</sup>

—Hydrogen peroxide ( $H_2O_2$ ) is mainly used by the paper industry to bleach pulp. Its properties are also of interest to many markets like chemicals, food, textiles and the environment. The world leader in this technology, Peroxides develops innovative applications and processes for these market segments. Its business is benefiting from the high consumption of paper pulp and from worldwide demand for high-added-value specialty derivatives. Innovation capacity and agility are two of GBU Peroxides' strengths. Thus, to meet the expectations of its customers in more remote areas (including South America), it rolled out in 2013 a new concept of mini-plants to be located at customers' manufacturing plants. Growing industrial demand for propylene oxide\* is another growth driver: the GBU is leveraging here its unique expertise in building mega plants producing  $H_2O_2$  as feedstock for propylene oxide in the framework of HPPO (Hydrogen Peroxide to Propylene Oxide) partnerships.

*\* An intermediate in the manufacture of polyurethane, a polymer widely used in many consumer products and industrial applications.*

### → HPPO: A mega plant to serve the Sadara (Saudi Arabia) chemical complex

In 2013, construction started on one of the world's largest plants to produce  $H_2O_2$  as feedstock for propylene oxide. The unit is located at Jubail, Saudi Arabia, on the Sadara chemical complex. Operated by Saudi Hydrogen Peroxide Company, a joint venture recently formed by Sadara Chemical Company and the Solvay group, it will produce more than 300,000 tons of  $H_2O_2$  per year. This is the third such mega plant operated by Solvay under partnerships, after the world's largest plant at Map Ta Phut (Thailand), and that of Antwerp in Belgium. In so doing Solvay consolidates its global leadership in a technology adapted to high-volume markets.

(1) 2013 restated figures in application of IFRS 11 are available on Solvay website, Investors section [www.solvay.com](http://www.solvay.com)  
(2) Number of sites where the GBU operates. A single site may be shared by several GBUs.

## Acetow

- **Leading global producer of cellulose acetate tow for cigarette filters; number one in CIS and South America; number two in Western Europe; reference supplier of cellulose acetate flakes**
- **2013 net sales: € 658 million - 4 industrial sites\***

Acetow is a reference partner for cigarette filter producers and a leading supplier of cellulose acetate flakes to the manufacturing sector. Acetow's cellulose acetate is produced from bio-sourced raw material in the form of wood pulp from sustainable forests. Its cellulose acetate tows cover all varieties of cigarette filters. Acetow offers innovative products and services: such as RHODIA FILTER TOW® for Micro Slim cigarettes, a new range of colored filters, RHODIA FILTER SORB™ for an improved filtration, and RHODIA DE-TOW™ for a faster degradation of the used filter. The GBU's growth strategy has two main pillars: maintaining the dynamism of its traditional activities and winning new markets by offering products that meet the challenges of sustainable development. Acetow has signed a license to manufacture and market the ACCOYA® acetylation technology, a process which increases the resistance of wood used outdoors. The GBU is also developing a cellulose acetate bio-plastic under the OCALIO™ brand, which is easy to mold and used in many common consumer products.

### → Speeding cigarette filter biodegradation

Innovations developed by Acetow include the RHODIA DE-TOW™ range with enhanced degradation compared to standard cellulose acetate. This solution exploits photo- and bio-degradation synergies to significantly accelerate the degradation process of cigarette filters.

## Eco Services

- **Number 1 in sulfuric acid regeneration in the United States**
- **2013 net sales: € 288 million - 7 industrial sites\***

Eco Services is the leading player in sulfuric acid regeneration in the United States. The GBU works with major refineries on the West Coast and in the Midwest, the Gulf of Mexico and Canada. It also provides virgin sulfuric acid to US major industrial clients. Eco Services' performance is based on the reliability and quality of its service, its operating efficiency and its logistics expertise. In line with the Group's sustainable development commitments, Eco Services was in 2007 the first sulfuric acid producer to sign an agreement with the United States Environmental Protection Agency to reduce its environmental footprint. In early 2014 it attained its goal, reducing its total sulfur dioxide emissions by more than 90%.

## Emerging Biochemicals

- **Inventor and world leader in EPICEROL® technology; a leading producer of chlorovinyl in Southeast Asia**
- **2013 net sales: € 424 million - 1 industrial site\***

The GBU Emerging Biochemicals groups the various activities to develop and produce chlorovinyl and epichlorohydrin based on EPICEROL® (1). Through the Thai subsidiary Vinythai Public Company Ltd, the GBU produces PVC resins sold under the SIAMVIC® brand, along with caustic soda in the form of a solid water-soluble base. It is the world's number one producer of bio-sourced epichlorohydrin, or EPICEROL®, an innovative technology based on the conversion of glycerin. Competitive and with a significantly reduced environmental footprint, it offers a high-performance alternative to the conventional method. In Thailand, the GBU has obtained the "level-4 green industry certificate", high CSR distinction awarded by the Thai Ministry of Industry. The Industrial Estate

Authority of Thailand has also presented it with a Golden Trophy for its environmental and social initiatives.

(1) Raw material used in the production of epoxy resins.

### → Strengthened partnership with AkzoNobel

In 2013, Solvay concluded a three-year renewable contract to supply AkzoNobel, the world's number one paints and coatings producer, with EPICEROL® bio-sourced epichlorohydrin. AkzoNobel's strategy is to steadily increase the share of sustainable solutions in its products.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs.

# Functional Polymers

As part of its portfolio optimization strategy, the Group has refocused its Operational Segment on the Polyamide chain. Solvay is one of the few players to control the entire polyamide 6-6 chain. Given the cyclical nature of its markets, the GBUs in this Segment have launched major competitiveness enhancement programs. They have also opened new markets by launching innovative solutions.

## Polyamide

→ 2013 net sales: €1,557 million - 16 industrial sites\*

### Polyamide & Intermediates

→ A leading world producer of polyamide 6-6 and adipic acid

Polyamide & Intermediates (P&I) supplies a wide variety of markets including engineering plastics, textiles, industrial fibers and yarns, varnishes and adhesives, and leather processing. In 2013, the GBU started a program of business excellence and improving the flexibility of its industrial tools. P&I has also invested in optimizing the energy efficiency of its adipic acid production chain at Châlampé (France), which will significantly reduce energy costs. To achieve its objective of profitable growth, the GBU is looking to its mastery of its production process, to its added-value specialties, and to the launch of new polymers and molecules.

### Fibras

→ Latin America's number one manufacturer of polyamide (nylon)

Fibras produces polyamide 6.6-based yarns and fibers used in many textile and industrial applications. With a strong focus on innovation, Fibras has developed specific expertise in designing yarns for smart textiles. Marketed under the AMNI® and EMANA® brands, these innovations are recognized by Brazil's health authorities. The EMANA® fiber includes bio-crystals that interact with body heat. EMANA® is particularly appreciated by textiles manufacturers for its beneficial cosmetics effects to skin and to improve athletic performance. In 2013, the integration of EMANA® with denim fabric created the first "technological jeans" in the world, opening vast new global prospects for the brand.

### Engineering Plastics

→ Global specialist in polyamide 6.6-based solutions

Engineering Plastics designs, manufactures and sells, under the TECHNYL® brand, a full range of high-performance materials. Their mechanical, thermal and fire resistance qualities meet the expectations of demanding markets, including automotive and transportation, construction, energy, consumer goods and industrial equipment. In 2013, Engineering Plastics celebrated the 60<sup>th</sup> anniversary of its TECHNYL® brand by segmenting its solutions into four differentiated offerings: metal replacement, fire protection, thermal management and fluid barrier. Involved at an early stage in its customers' projects, the GBU offers its unique expertise in advanced simulation and prototyping, dedicated application testing and certified laboratories. This approach has given birth to SINTERLINE TECHNYL POWDERS™, a range of powders for laser prototyping, enabling complex 3D parts to be produced in record time.



#### → TECHNYL®ONE: pushing the boundaries

In 2013, Engineering Plastics launched TECHNYL®ONE, a new patented technology designed to help electrical equipment manufacturers meet the challenges of miniaturization. Launched at the Kunststoff fair in Düsseldorf (Germany), it offers higher electrical performance than standard high-performance plastics while eliminating corrosion problems.

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\* Number of sites where the GBU operates. A single site may be shared by several GBUs.



# Corporate & Business Services

This Segment includes the GBU Energy Services offering of energy optimization programs for the Group and for third parties. It also includes the Corporate functions that are responsible with GBUs for defining and deploying transversal policies that guarantee consistency within Group and Business Services, which handles all the Group's IT and business processes.

## Energy Services

→ **Specialist in energy management**

→ **2013 net sales: €67 million - 1 industrial site\***

The vocation of GBU Energy Services is to improve the energy consumption and contribute to the reduction of the CO<sub>2</sub> emissions of Solvay – with a target of impacting REBITDA by over €100 million in 2016. Solvay itself is Energy Services' number one client. The GBU's mission here is to optimize energy purchases (€1 billion in 2013), to deploy the Solwatt energy efficiency program on Group sites, and operate an installed global energy self-production capacity of 1,000 MW.

### Expertise made available to industry

Energy Services offers to third-party industrial enterprises expertise developed for Solvay.

Its Energy & CO<sub>2</sub> Management Services (ECMS) proposes to reduce the latter's overall energy costs by 10 to 20%, through competitive access to energy and to CO<sub>2</sub> management and energy efficiency services. The GBU also offers manufacturers an opportunity to optimize the profitability of their energy production facilities at European level.

Anticipating future trends in the energy market, Energy Services is developing Cleantech activities based on research into innovative alternative energy sources.

In 2013, Energy Services created with CDC Climat (100% subsidiary of the French *Caisse des Dépôts*) and with Marubeni a

joint venture to finance energy efficiency projects in the Euro zone. The first investment by this joint venture was made at Solvay's rare earth's plant at La Rochelle (France).

### → Solwatt for a culture of energy efficiency

The Solwatt program was initiated in 2011 to assist Solvay's industrial sites in gradually reducing their energy consumption. The aim is to reduce these costs by at least 10% in three years and create a sustainable culture of energy efficiency in these entities.

The continuous improvement plans, covering processes, production, and maintenance, being implemented under the program involve all employees at each site. Today the program is deployed in 33 Solvay units – representing 59% of the Group's energy bill.

Outcomes are in line with objectives. In 2013, Solvay began marketing Solwatt to third parties.

## Business Services

Business Services groups, in a single organization by process, all of the Group's IT services and its main administrative departments (accounting; credit, customer service, customs; payroll and personnel administration; supplies). Business Services serves daily thousands of Solvay

customers and employees around the world. In 2013, Business Services initiated its transformation into a global shared services organization, with the goal of making the Group a benchmark for quality service, process efficiency, cost optimization and value creation.

\* Number of sites where the GBU operates. A single site may be shared by several GBUs.

→ Solvay is convinced that chemistry can respond to the challenges of sustainable development and that the success of the Group rests on its ability to respond to these, both with the solutions it offers and the way it operates. This conviction guides its strategic directions and its allocation of resources.

---

# Committing to sustainable chemistry



# Sustainable development: an opportunity for chemistry

The “Solvay Way” social and environmental responsibility initiative plays a central role in the Group’s vision of building a model of sustainable chemistry. A lever for growth, Solvay Way is intended to develop, through responsible production practices, a sustainable chemistry that is respectful of the planet and contributes to the emergence of safer and healthier lifestyles and consumption.



Jacques Kheliff, Solvay Group General Manager Sustainable Development

## → “Pragmatism and mobilization”

*Solvay Way converts our ambition for more sustainable development into concrete action. We have conceived this demanding approach and the associated reference guide in such a way that each player in the Group, from manager to operator, can commit personally to the Group’s sustainable development engagement. The strength of this approach lies in its pragmatism. Integrating existing programs and indicators, it does not seek to revolutionize, but to question, inviting each entity, and each employee,*

*to ask themselves what impact their activities, their practices, their processes, and their products have on their stakeholders. All our employees, at all levels, have specific roles to play in Solvay Way. This is why 10% of the variable remuneration of our 7,500 managers is linked to CSR\*, sending a strong sign of Solvay’s commitment to sustainable development. Already, 100% of the Group’s entities have evaluated their practices and determined their lines of progress for 2014: this rapid adoption reflects strong internal mobilization and constitutes a guarantee of success for the realization of our 2020 objectives.*

\*CSR: Corporate Social Responsibility.





“Sustainable development is a major concern for chemists. Their fundamental role in the transformation of natural resources into industrial resources requires them to take responsibility for their products’ socio-economic effects and environmental footprint. Solvay was a forerunner in taking these issues into account in its processes and practices.

Today, the Group has made sustainable development a driver of its strategy and the majority of its activities are already directed towards markets that reflect the requirements and opportunities linked to challenges facing the world today.

Deployed in 2013, the Solvay Way responsibility initiative aims to accelerate the Group’s progress towards sustainable chemistry. Its primary objectives remain:

attaining excellence in safety, health and professional hygiene for people on its sites; achieving a growing share of turnover with products responding to the challenges of sustainable development, continuously improving the performances of its technologies and processes, reducing its environmental footprint, and developing a rich and balanced social dialogue. Anchored in the everyday reality of the Group’s professions, Solvay Way is implemented by benchmarking against Group best practices.

## Commitments at the highest level

Solvay has chosen to align its initiative with the most demanding global references. As a signatory to the United Nations Global Compact, the Group publishes a detailed report on its activities annually. The Group also adheres to the obligations of the “Responsible Care” global charter, a continuous improvement program initiated by the chemical industry itself, and to the OECD’s Guiding Principles for Multinational Enterprises.

For further details, readers are referred to the Sustainable Development Report [www.solvay.com](http://www.solvay.com).



# Solvay Way for 360° responsibility

“The Solvay Way reference framework consists of 48 lines of improvement, structured under the form of 23 commitments to stakeholders.

This grid is used by the entities of the Group to evaluate their practices.

In 2013, under the leadership of Sustainable Development management and supported by a network of 200 correspondents and champions, the framework was deployed across all the Group’s sites, which have undertaken their first self-assessments. This annual review has permitted them to define action plans to facilitate further progress in the way they go about their professions.

The Solvay Way framework conforms to the new international standard ISO 26000 and its performances are evaluated and verified each year by external audit. Solvay is an active member of the IIRC (International Integrated Reporting Council) and is part of the pilot working group which aims to integrate key financial and extra-financial data in a single report.

## Priority objectives for 2020

Solvay has identified 13 priorities around five themes relating to preservation of the environment, innovation, safety and employee development. These include a 10% reduction in greenhouse gas emissions and primary energy consumption, and a 25% reduction in air emissions of potentially acidifying substances. Wide-ranging action will be taken to ensure all new products meet the highest standards as measured by the Sustainable Portfolio Management (SPM) tool. The Group also commits to undertake a risk analysis of each of its sites over the next five years and to train all its employees in the Solvay Way initiative.

## Commitments to stakeholders

**Customers.** Solvay is committed to innovating, analyzing and developing its markets by integrating CSR and applying its CSR approach in its relations with its customers, particularly in terms of controlling product-related risks.

With clients facing increasingly stringent regulations and ever more demanding consumers, Solvay watches over the safety of its products throughout their lifecycle and works continuously to reduce their environmental and social impact. Listening to markets, the Group is developing a forward-looking vision that → →

## 5 action lines

1. Achieving excellence in **safety, health and occupational hygiene** for everyone on our sites.
2. Realizing an increasing share of our **sales** in markets or with activities that meet the requirements of sustainable development.
3. Continuously improving the performance of our technologies, processes and products and our understanding of them, so as to reduce their **environmental impact and prevent damage** to people throughout the lifecycles of our products.
4. Reducing greenhouse **gas emissions, energy and water consumption**, and negative impacts on soil, water and air quality, as well as the use of resources, especially non-renewable ones.
5. Developing a **wide-ranging and balanced social dialogue** with employee representatives at national and international level.

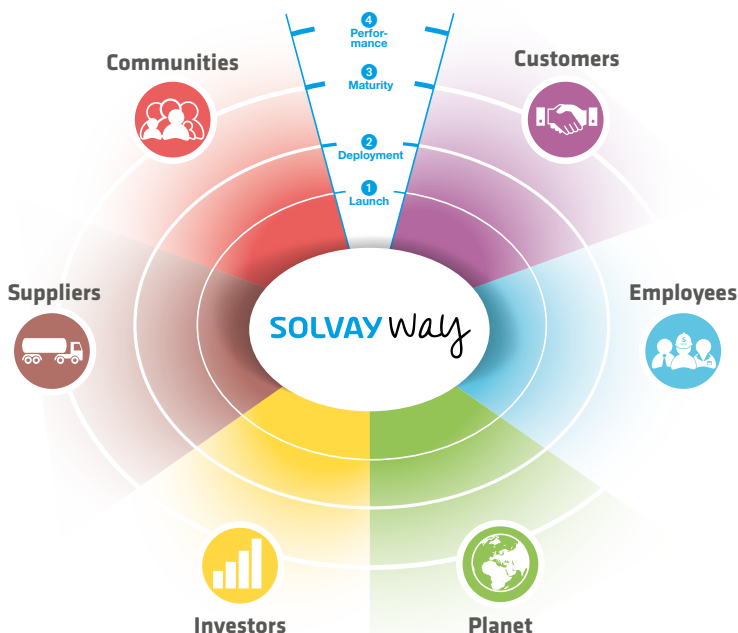
→ → anticipates customers' needs and guides its R&I. All innovations are evaluated against the criteria of the SPM methodology.

**Employees** Solvay is committed to providing its employees with safe and healthy workplaces. It guarantees them respect of their fundamental social rights and fair treatment. It is also committed to promoting the quality of social dialogue and employee engagement.

A pioneer in the realm of social policy, Solvay views the Group's talents as its main asset and developing them as part of its mission: it is committed to developing its employees' skills and employability.

**Planet** Solvay is committed to promoting environmental management, conserving natural resources, reducing the environmental impact of its activities, conserving biodiversity and exercising a responsible influence in its various environments. Solvay's ambition is to offer a chemistry whose products and operating processes are increasingly respectful of the environment. The Group is keen to reduce the environmental footprint of its manufacturing processes and to improve energy efficiency. Priority is given to the use of renewable and recycled materials, while consuming less and less energy and resources. Preservation of water resources is an essential line of action: the goal here is by 2020 to reduce by 20% the emissions of substances with a eutrophication potential and by 10% the use of groundwater and drinking water.

**Investors** Solvay is committed to generating value and to managing risk in a responsible manner, to ensuring the dissemination of and compliance with good management and governance practices, and to communicating in an ethical and transparent manner. By adopting the most stringent governance practices, publishing its results and the Group's strategic vision



Jyrki Raina, General Secretary of IndustriALL Global Union

## → “IndustriALL: a global agreement that enables us all to move forward”

*Our mission is to ensure that multinational groups act in a proper and dignified manner that respects the rights of their employees worldwide. The global CSR agreement signed with Solvay is an important step in our action. It establishes that social dialogue can be envisaged at an international level, and has much to offer to a global group. Solvay undertakes to respect international labor standards in all its activities - including those countries that have not ratified these conventions. It also undertakes to have*

*its practices assessed on-site. This is a very committing process, for both Solvay and for us. Each year, we will conduct two on-site evaluation missions: one focused on safety, the other on the implementation of the agreement in all its aspects - environmental protection, wages, supplier relations. Specifically, our representatives will meet employees to examine the Group's practices in situ and suggest areas for improvement. This agreement embodies IndustriALL's vision of social dialogue as a source of mutual progress, a vision that we are pleased to see shared by Solvay.*

## Enhancing the sustainability of procurement

Solvay is a participant in the creation and implementation of "Together for Sustainability", an initiative by six major chemical companies to strengthen the transparency and sustainability of procurement practices. This initiative rests on regular audits and assessments of suppliers' responsible practices, based on social and environmental criteria. The benefit for suppliers lies in having to fill out a single form, accessible to all principals on an online platform. In 2013, during the pilot phase, Solvay conducted over 500 assessments and audits.

## Recognized extra-financial

In 2013, the Group's CSR performance was recognized by its inclusion into the DJSI Europe index. Solvay is also referenced in the FTSE4Good and NYSE Euronext Vigeo World 120 extra-financial indices.

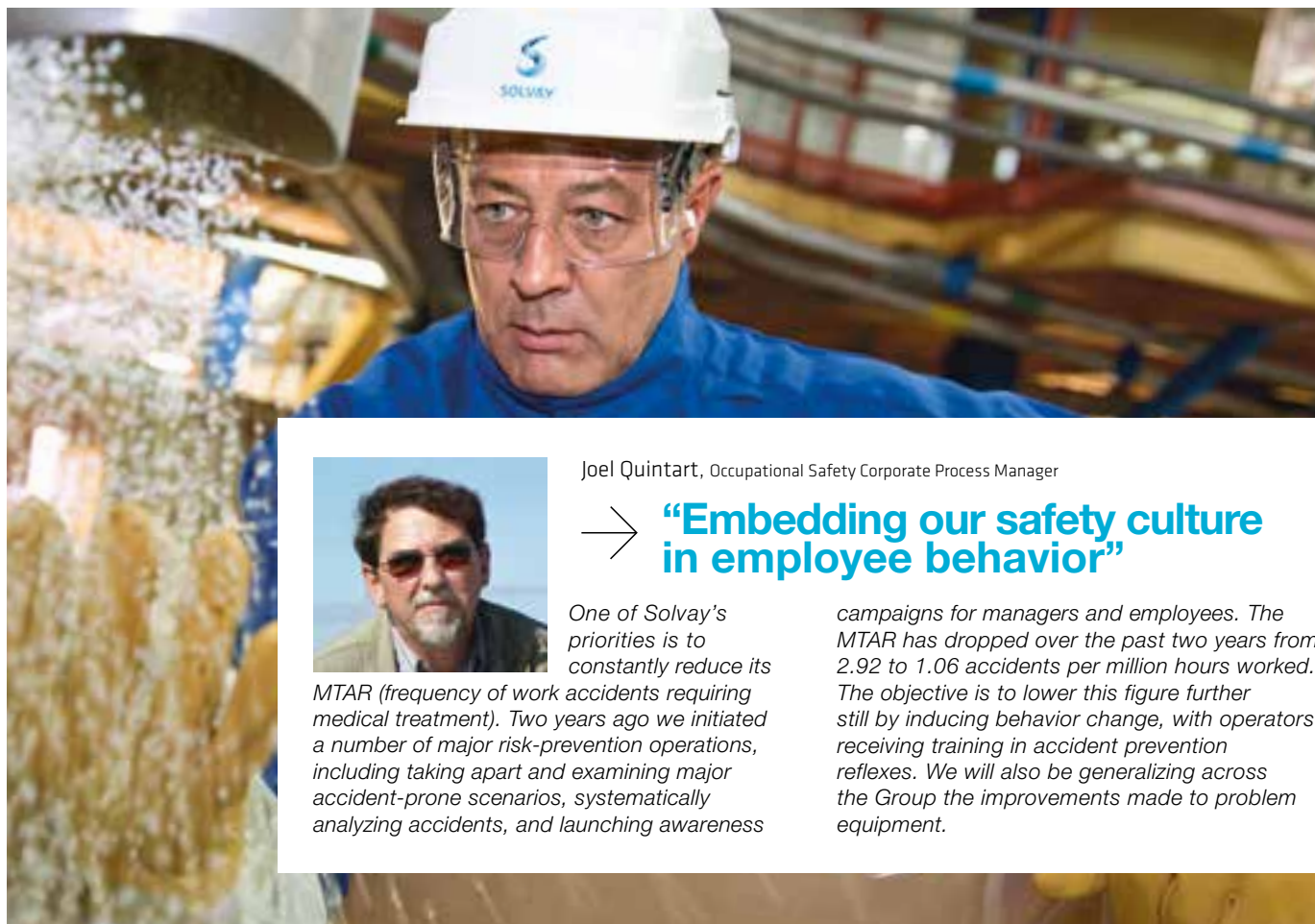
MEMBER OF  
**Dow Jones**  
**Sustainability Indices**  
In Collaboration with RobecoSAM



on a regular and complete basis, Solvay meets the requirements of transparency and rigor demanded by market authorities and expected by investors. Its recognition by extra-financial rating agencies in 2013 contributes to the value of the Group.

**Suppliers** Solvay is committed to evaluating the CSR performance of its buyers. It is also committed to optimizing relationships with its suppliers in this area with two priorities: defining the responsibility prerequisites it expects them to meet and integrating these into its selection procedures, and managing and evaluating their CSR performance. The Group wishes to establish relationships of trust with its suppliers, based on clear and shared ethical principles established with the goal of creating sustainable value for all. The involvement of suppliers alongside the Group is fed by information campaigns, regular meetings, training, and assessments.

**Communities** Solvay is committed to the sustainable integration of its sites in their local areas by controlling both manufacturing and supply chain risks, and by an ever more robust prevention approach. Solvay has established relationships of trust with its site neighbors, through dialogue, clear information and strict control of risks and inconvenience to them. Flows of transport are subject to special vigilance, involving the entire supply chain.



Joel Quintart, Occupational Safety Corporate Process Manager

### → "Embedding our safety culture in employee behavior"

*One of Solvay's priorities is to constantly reduce its MTAR (frequency of work accidents requiring medical treatment). Two years ago we initiated a number of major risk-prevention operations, including taking apart and examining major accident-prone scenarios, systematically analyzing accidents, and launching awareness*

*campaigns for managers and employees. The MTAR has dropped over the past two years from 2.92 to 1.06 accidents per million hours worked. The objective is to lower this figure further still by inducing behavior change, with operators receiving training in accident prevention reflexes. We will also be generalizing across the Group the improvements made to problem equipment.*



# On the ground



## “Product safety: unparalleled expertise”

**GRETA VANMARCKE**, CORPORATE PROCESS MANAGER OF PRODUCT REGULATORY AFFAIRS & PRODUCT STEWARDSHIP

For us, managing our products responsibly means constantly improving and going beyond existing regulations, whether European, REACH, or national. This includes our voluntary monitoring at global level of “Substances of Very High Concern” (SVHC)<sup>(1)</sup> so as to restrict their use as much as possible. My team’s responsibility is to ensure the global implementation of these measures and to ensure the compliance of internal procedures. We are proud of the recognition this expertise earns us: for example since 2014 Solvay has chaired CEFIC’s<sup>(2)</sup> Strategy Implementation Group (SIG) for Product Stewardship.



## “Testing our portfolio against the challenges of sustainable development”

**MICHEL WASHER**, DEPUTY CHIEF SUSTAINABILITY OFFICER

We have at Solvay a powerful tool: the Sustainable Portfolio Management Methodology (SPM). One axis of the SPM matrix measures the impact of our production processes; the other evaluates the alignment of our products with the requirements of sustainable development. We have already analyzed 65% of our net sales with this tool, and expect to have analyzed at least 80% by end-2015. Our goal is 20% of our net sales in the SPM “Star”<sup>(3)</sup> category in 2020. We are proud of this approach that is recognized as a reference, and that we shall be making available to everyone with the help of the consultant who helped us develop it.



## “CSR: a driver for Solvay Way”

**SANDRINE ROCHAT**, GBU ENGINEERING PLASTICS – GLOBAL HSE & PRODUCT STEWARDSHIP MANAGER, SOLVAY WAY CHAMPION

As a “Champion”, I am responsible for promoting and deploying Solvay Way best practices in my GBU. Since 2013, 10% of managers’ variable remuneration has been correlated with the achievement of concrete sustainable development objectives. This ‘incentive’ has promoted effective deployment of the approach around the world and the rapid realization of our two main objectives for the year: the referencing of the Group in major extra-financial performance indices and, at all sites, training, mobilizing teams and carrying out Solvay Way self-assessments.



## “Energy Transition: an offering adapted to the challenges”

**PHILIPPE ROSIER**, PRESIDENT OF ENERGY SERVICES

For Solvay, energy transition is at once a challenge and a promising market. Our contribution takes many forms, through our environmentally friendly processes and also our participation in bringing to maturity the energies of the future. One example is the water-saving solutions we propose to the very dynamic gas extraction market in the United States. In the field of new energy, we are investing in the production and distribution of torrefied biomass, that can replace coal for electricity generation and large-scale heating. We are also deploying our Solwatt energy efficiency program at Group sites, with the goal of paring back the Group’s energy consumption by another 10% by 2020.

(1) These include substances identified by the REACH program as carcinogenic, mutagenic and toxic for reproduction (CMR), and endocrine disruptors.  
(2) European Chemical Industry Council. (3) SPM Star: aligned with the needs of sustainable development AND experiencing accelerated growth.

→ Solvay conducts scientific research and innovation for excellence in order to develop products and processes that are at once efficient, competitive and sustainable. This reflects the Group's priority of helping to create solutions that meet the present and future needs of a planet, which will soon number 9 billion inhabitants.

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# Constantly reinventing ourselves



6,503 km traveled  
without fossil fuel  
in the United States:  
mission accomplished  
for the Solar Impulse.

# Innovation, a key lever of growth

Our planet is undergoing substantial changes linked to human activity, with major underlying issues: access to health and well-being, climate change, and resource scarcity. To these Solvay has opted to devote its research and innovation: 22% of net sales in 2013 consisted of products, technologies and applications less than five years old<sup>(1)</sup>.

...Fired up by Solvay's pioneering spirit, Research and Innovation (R&I) is tasked with contributing to the responsible growth of the Group with reference to societal megatrends.

## Six R&I areas to meet the challenges of the future

R&I is focusing its efforts on six areas of innovation that it has identified as crucial for sustainable growth.

**Advanced materials:** The Group's expertise in polymers and formulation enables it to design new, lighter, safer and more efficient functional materials.

**Sustainable energy:** Solvay is helping to develop alternatives to fossil fuel consumption: new generation batteries, photovoltaics, bio-energy.

**Organic electronics:** Solvay is developing increasingly less expensive, higher performance and resistant materials to improve the sustainability of lighting devices and screens.

**Eco-designed processes:** Solvay is developing breakthrough innovations for itself and its clients, offering diminished raw materials and energy consumption, reduced emissions and lower investment costs.

**Advanced formulations:** Solvay's formulation expertise is enabling it to create responsible products that provide solutions to global issues or contribute to the health and well-being of consumers.

**Renewable chemistry:** innovation in renewable or recycled raw materials contributes to the evolution of Group products and processes.

## A global, interconnected and open network

Backed by a global network and fed by external input, Solvay R&I is configured to capture innovation opportunities and turn them into high-value practical, sustainable and creative applications for the Group and its markets.



Louis Neltner, Solvay General Manager Research & Innovation

→ **“At the heart of a global innovation ecosystem”**

*At Solvay, we are convinced that we can grow only through exposure to other mindsets and approaches. Our close relationship with academia around the world, especially in mixed laboratories\*, is enriching our work with the long-term vision of basic research. In Europe, we are working with other chemists in competitive clusters and institutes of excellence to advance green chemistry, environmental technologies and carbon-free energy. Collaborative research with*

*our customers is also being systematized. Finally, we have chosen to invest, directly or through investment funds, in start-ups that have leading edge expertise in areas identified as vital to the future: biotechnology, photovoltaics and advanced materials. For example, our partnership with Aonix Advanced Materials will accelerate the development of recyclable, lightweight, and high-performance thermoplastic composite materials, especially for the electronics market.*

\* Solvay has developed close partnerships with France's National Centre for Scientific Research (CNRS) and several universities across the world, working in joint laboratories: Advanced Polymers in Lyon (France), Laboratory of the Future in Bordeaux (France), Complex Fluids in Bristol (USA), National Scientific and Technological Laboratory for Bioethanol (Brazil) and the Eco-Efficient Products Laboratory (E2P2L) in Shanghai (China).





### → Innovation tools to match Asia's potential

In Asia, three major "Multi-BU" R&I centers are facilitating cross-fertilization between different markets and technologies. In Seoul (Korea), R&I is dedicated to electronics and engineering plastics. In India, the new Vadodara center focuses on renewable chemistry and materials science. The Shanghai (China) center is supporting the regional development of the GBUs, including a mixed eco-innovation research center, in which Solvay is partnering with Chinese and French universities. Solvay also has in Asia a dozen application, process improvement and innovation laboratories. These include the Singapore laboratory dedicated to health and beauty, agrochemicals and oil & gas.

The specific feature of Solvay R&I is to be global and interconnected. Its global network consists of 15 major R&I centers engaged in a dynamic process of cross-fertilization, 11 advanced laboratories, and 4 mixed units partnered with leading public research institutions and universities, along with numerous GBU-level, application-specific laboratories on four continents. This geographical proximity to markets and customers promotes relevant and rapid operational innovation.

In addition, the Group is firmly positioned at the heart of a global innovation ecosystem. Its policy of open innovation allows it to expand its vision, to complement its own skills from outside, and to identify long-term development opportunities. More than one hundred collaborative projects have emerged from joint research with customers, academia or cutting-edge expertise.

### An excellence-directed approach backed by demanding tools

Just like the rest of the Group, R&I is committed to a continuous improvement process to increase its efficiency and shorten time to market. Our researchers work closely with Marketing and Industrial Functions on projects that meet the present and future needs of end markets. The criteria of responsibility, cost competitiveness, and consistency with main trends are applied well upstream. An eco-design approach, extending the existing Sustainable Portfolio Management (SPM) methodology, was introduced in 2013. This will gradually be applied to the entire portfolio of projects. In this way, each new project is evaluated to measure its environmental footprint and its societal acceptance throughout its life, from drawing board to implementation.

In France, the Laboratory of the Future<sup>(2)</sup> is designing "fast flow" tools and research methodologies to shorten the time-to-market of innovations.

(1) These terms include new products or existing products benefiting from new processes introduced in the last five years; directed at new or existing applications.

(2) Laboratoire du Futur: a joint research cluster of Solvay, CNRS and the University of Bordeaux-1.

### Key figures

↓  
**15**  
major R&I centers

↓  
**1,950**  
employees

↓  
**€280 m**  
R&I effort

↓  
**80%**  
of Group R&I expenditure  
is managed by the GBUs

↓  
**252**  
patents applied for in 2013

# Ahead of the pack in sustainable mobility

The global transport market is growing, and with it energy consumption and CO<sub>2</sub> emissions. How do we control this growth and reduce its impacts? What alternatives can we propose? Faced with regulatory and consumers pressure, industrial transport sector specialists are looking for solutions. Solvay Research and Innovation makes available to them its expertise in materials structure and automotive pollution control, for improving existing and future technologies and preparing the future.



## Lightweight materials for leaner consumption

- The lighter a vehicle, the less energy it needs to propel itself. Solvay's ultra-lightweight, ultra-high performance engineering plastics can pare back a vehicle's weight by up to 20%.
- These advanced materials, which are also fully recyclable, replace metal in many applications like structural parts (seats) and bodywork.
- For complex engine block structures, high-performance foams and fire and shock resistant composite materials meet the most stringent standards.

## Green technology for less polluting vehicles

- Solvay's technological solutions contribute to reducing polluting particulate emissions.
- Catalytic converters systems for petrol and diesel engines based on rare earths enable particulate filters to be completely regenerated at low temperature in a very short time. This technology can eliminate 99% of soot emissions from diesel car exhausts.
- Highly dispersible silica is used to produce energy-saving tires, which directly contribute to reducing a vehicle's CO<sub>2</sub> emissions. Since being launched, they have saved the equivalent of almost 18 billion liters of fuel.

## Contribution to success of electric vehicles

- Economic competitiveness and long-term autonomy are the two prerequisites for the full expansion of the electric vehicle market.
- Solvay has developed solutions (electrolytes, salts, binders, dividers) that improve the performance of lithium (Li-ion) batteries.
- In a longer term perspective, researchers are developing a new generation of more efficient and safer batteries.
- Solvay also designs fire-retardant materials and heat-resistant engineering plastics notably used for electric energy storage and management, thereby contributing to the emergence of hybrid and electric engines.

## More performance under the hood

- Solvay's fluoroelastomers improve the performance of fuel injectors and its high temperature-resistant polymers are used in turbo and air intake systems.
- Researchers are also developing specialty polymers-based solutions for heat-management systems, which allow more effective seals to be produced at very low temperatures.
- Solvay's heat-resistant engineering plastics ensure the safety of under-hood parts and improve engine efficiency.

# Solutions for responsible energy management

With the planet's fossil energy resources dwindling, how do we go about ensuring alternative solutions? What course should energy transition take? How do we help consumers and industries improve their performances? Faced with these issues, of direct concern, Solvay R&I proposes impactful solutions. Its teams are working along two avenues: saving resources by optimizing consumption, and the competitiveness of alternative energies.



## Promoting the emergence of alternative energies

- Solvay's pioneering solutions increase the performance, competitiveness and attractiveness of existing processes and solutions.
- In collaboration with players in the photovoltaic market, Solvay is developing new materials that improve the efficiency, durability and ease of use of solar panels.
- Researchers are also developing new technologies to optimize the use of biomass as a source of energy.

## Storage and recycling for optimized flows

- In countries that encourage carbon-free energy, energy storage to meet peak demand is a major challenge.
- Solvay teams are contributing to the development of new generations of lithium-based batteries, faster-charging and with greater storage capacities.
- They are also looking at new catalytic processes for capturing and recovering carbon dioxide (CO<sub>2</sub>).
- The Group is exploring alternative avenues such as solar pond technology that can store solar energy in a body of salt water.

## Reducing resources consumption

- Solvay teams are developing industrial processes that optimize energy and resources consumptions and promote the recycling of raw materials and industrial discharges.
- Solvay's solutions enable its clients to reduce their own consumption of resources. Solutions using surfactants, guar and polymers improve the efficiency of existing extraction processes in the oil and mining industry, increase recovery from mature fields, and substantially limit their impact on the environment.
- In the United States, Solvay regenerates and recycles sulfuric acid for oil refineries.







# Financial & Corporate Governance Information

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→ Solvay's financial results in 2013 showed that allowing for exceptional factors, the Group managed to maintain the same level of REBITDA as in 2012 despite a challenging macroeconomic environment. Solvay made headway in creating a higher growth, less cyclical and more valuable company, while keeping a healthy balance sheet and generating solid Free Cash Flows.

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# Financial information



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# 1 Management report

The management report for the accounting period ending on December 31, 2013, consisting of pages 48 to 64, 149 to 161 (Management of Risks) and 164 to 196 (Corporate Governance), has been prepared in accordance with Articles 96 and 119 of the Belgian Companies' Code and was approved by the Board of Directors on February 24, 2014. It covers both the consolidated accounts of the Solvay group and the statutory accounts of Solvay SA.

In this section, Solvay is presenting its 2012 Income Statement restated for:

- the Group's new business organization effective as from January 1, 2013;
- the application of IAS 19 revised;
- the Group's European Chlorovinyls activities planned to be contributed to the JV with Ineos.

The term "restated" throughout this document must be understood as per above considerations, unless otherwise stated.

The European chlorovinyls business activities are reflected as "Assets Held For Sale" on the Balance Sheet (in one single line) and as discontinued operations in the Income

As from December 31, 2013, Benvic (the PVC compounding business) is reflected in the Balance Sheet as "Assets Held for Sale", but as continued operations in the Income Statement.

Chemlogics is consolidated in the financial statements from November 1, 2013.

Furthermore, Solvay is also presenting adjusted income statement performance indicators that exclude non-cash Purchase Price Allocation (PPA) accounting impacts related to Rhodia acquisition.

## 1.1 Highlights of 2013

- Group net sales at € 9,938 million, down (5)% year on year;
- REBITDA at € 1,663 million (€ 1,896 m in 2012), overall flat allowing for CER phase out, exceptional guar effects and Chemlogics;
- Adjusted Net Income, Group share at 378 million (€ 690 million in 2012) mainly due to portfolio related non-recurring items;
- Adjusted earnings per share at € 4.54 (€ 8.37 in 2012);
- Strong Free Cash Flow at € 524 million; net debt decreased by € 23 million to € 1,102 million. € 1,200 million hybrid financing accounted as equity;
- **Stable dividend proposed compared to 2012: € 3.20 gross per share, € 2.40 net.**

In € million	Adjusted	
	2013	2012 restated
Net sales	9,938	10,515
REBITDA	1,663	1,896
REBITDA as % of net sales	17%	18%
REBIT	1,035	1,303
Total depreciation and amortization	603	593
EBIT	796	1,357
Net income, Solvay share	378	690
Earnings per share (basic) (in €)	4.54	8.37
Research expenditure	237	247
Capital expenditures (continuing operations)	708	640
Capital expenditures (discontinued operations)	102	145
Free cash flow	524	787

## 1.2 Business performance and analysis

### Management analysis convention

In addition to the consolidated IFRS accounts for 2012 (historical and restated) and 2013 provided in pages 65 to 141 (Financial Statements) in this report, Solvay is disclosing “Adjusted” Profit & Loss information and analysis in order to provide a more meaningful appreciation of the economic and financial performance of the Group and its Business segments between periods.

Adjusted Profit & Loss indicators referring to 2012 and 2013 exclude non-cash Purchase Price Allocation (PPA) accounting impacts related to the Rhodia acquisition.

All references to year-on-year (year on year) evolution must be understood on an adjusted basis for 2012 and 2013, and restated 2012, unless otherwise stated.

Furthermore, on a pro forma basis Solvay 2011 historical figures were presented in order to account for Rhodia’s results as if the acquisition had become effective from January 1st, 2011. Likewise, historical figures were restated to harmonize accounting policies among the two former legacy groups, aligning policies along those currently used by the new Solvay. Furthermore, pro forma results exclude impacts from i) purchase price allocation entries; ii) non-recurring acquisition costs related to the Rhodia transaction and iii) financial revenues on cash deposits and investments.

The term “Net sales” refers to the sales of goods and value-added services corresponding to Solvay’s know-how and core business. Net sales exclude other revenues primarily comprising commodity and utility trading transactions and other revenues deemed as incidental by the Group (for example temporary).

Furthermore, Solvay uses for its analysis and financial communications non-GAAP<sup>(1)</sup> indicators, the definitions of which are the following:

- REBITDA is defined as operating result before depreciation and amortization, non-recurring items, temporary step-up of inventories related to the Rhodia and Chemlogics acquisitions and pre-operational gain/(losses) of Rusvinyl resulting from financial expenses (not capitalized);

- non-recurring items mainly include:

- gains and losses on the sale of subsidiaries, joint-ventures, associates accounted for under the equity method that do not qualify as discontinued operations;
- acquisition costs of new business;
- gains and losses on the sale of real estate not directly linked to an operating activity;
- major restructuring charges;
- impairment losses resulting from the shutdown of an activity or a plant;
- impairment losses resulting from testing Cash-Generating Units for impairment (a CGU includes tangible assets, intangible assets and allocated goodwill if any);
- the impact of significant litigation;
- the remediation costs not generated by on-going production facilities (shut-down sites, discontinued activities, etc.);
- other material operating income or expenses resulting from unusual events and likely to distort the analysis and comparability of the Group’s performance;

- Free Cash Flow is calculated as cash flow from operating activities (including dividends from associates and joint ventures) + cash flow from investing activities (excluding acquisitions and sales of subsidiaries and other investments);

- net debt is defined as short and long-term financial debt less cash and cash equivalents and other current receivables – Financial instruments.

Solvay believes that these measurements are useful tools for analyzing and explaining changes and trends in its historical results of operations, as they allow performance to be compared on coherent basis. They are not, however, subject to audit and are not performance measurements with regard to IFRS. The methods of calculating changes used by Solvay may differ from those used by other companies.

(1) Generally accepted accounting principles.

## Analysis of the consolidated results for the accounting period ending December 31, 2013

### Analysis of Group operational performance

In € million	IFRS		Adjusted	
	2013	2012 restated	2013	2012 restated
<b>Sales</b>	<b>10,367</b>	<b>10,910</b>	<b>10,367</b>	<b>10,910</b>
Other non-core revenues	429	395	429	395
<b>Net sales</b>	<b>9,938</b>	<b>10,515</b>	<b>9,938</b>	<b>10,515</b>
Cost of goods sold	(8,043)	(8,547)	(8,043)	(8,502)
<b>Gross margin</b>	<b>2,324</b>	<b>2,364</b>	<b>2,324</b>	<b>2,409</b>
Commercial and administrative costs	(1,199)	(1,076)	(1,199)	(1,076)
Research and development costs	(237)	(247)	(237)	(247)
Other operating gains and losses	(94)	(97)	55	35
Earnings from associates and joint ventures accounted for using the equity method	92	183	92	183
<b>REBIT</b>	<b>886</b>	<b>1,127</b>	<b>1,035</b>	<b>1,303</b>
Non-recurring items	(239)	55	(239)	55
<b>EBIT</b>	<b>647</b>	<b>1,181</b>	<b>796</b>	<b>1,357</b>
<b>Net income</b>	<b>315</b>	<b>580</b>	<b>422</b>	<b>707</b>
Non controlling interests	(44)	(17)	(44)	(17)
<b>Net income Solvay share</b>	<b>270</b>	<b>563</b>	<b>378</b>	<b>690</b>
<b>Earnings per share (basic) in €</b>	<b>3.25</b>	<b>6.84</b>	<b>4.54</b>	<b>8.37</b>

The table hereafter reconciles IFRS results (which include PPA impacts related to the Rhodia acquisition) with adjusted results (which exclude non cash PPA impacts) for the FY 2013.

In € million	2013	2012 restated
<b>EBIT IFRS</b>	<b>647</b>	<b>1,181</b>
Non recurring items (-)	239	(55)
<b>REBIT IFRS</b>	<b>886</b>	<b>1,127</b>
Adjustments of Rhodia inventories at FV (PPA)	0	45
Losses from Rusvinyl (pre-operational stage) accounted for using the equity method	11	0
Adjustments of Chemlogics retention plan	1	0
Adjustments of Chemlogics inventories at FV (PPA)	13	0
IFRS depreciation and amortization (recurring)	752	724
<b>REBITDA (Key Performance Indicator monitored by Management)</b>	<b>1,663</b>	<b>1,896</b>

### NET SALES

Change in net sales In € million	Net sales 2012 restated	Volume	Price	Conversion Forex	Scope	Net sales 2013	YoY evolution
Solvay group	10,515	(183)	(202)	(328)	136	9,938	(5)%
Advanced Formulations	2,565	(49)	(61)	(121)	98	2,432	(5)%
Advanced Materials	2,743	(20)	(98)	(94)	19	2,550	(7)%
Performance Chemicals	3,162	43	(25)	(57)	2	3,125	(1)%
Functional Polymers	1,888	(61)	(31)	(51)	17	1,762	(7)%
Corporate & Business Services	157	(97)	13	(6)	0	67	(57)%

Group net sales amounted to € 9,938 million (€ 10,515 million in 2012), down (5)% year on year, due to volumes (2)%, pricing (2)% in a deflationary raw material environment, forex changes (3)%, and scope effect +1%. Excluding the CER phase-out, volumes declined (1)%. Net sales were down (5)% in Advanced Formulations, (7)% in Advanced Materials, (1)% in Performance Chemicals and (7)% in Functional Polymers.

### Operating elements

#### Costs of goods sold

The cost of goods sold on an adjusted basis amounted to € (8,043) million, down 5.5% compared to prior year. More than half of this decline was due to the foreign exchange rate effects, and more specifically in respect of the Brazilian real, the US dollar and the Japanese yen depreciations compared to the euro. The remainder of the decrease in costs of goods sold was mainly due to lower raw materials prices in a general deflationary context in most businesses



and to a lesser extent to the positive impact of competitiveness improvement excellence initiatives.

Cost of goods sold in 2013 IFRS accounts also amounted to € (8,043) million. It included a € (13) million impact corresponding to the temporary inventory step-up relative to the Chemlogics' acquisition.

#### Commercial and administrative costs

Commercial and administrative costs of € (1,199) million in 2013 (both on an adjusted and on an IFRS basis) rose by € (123) million or by 11.4% compared to the prior year. This increase is primarily due to Chemlogics acquisition, the inflation experienced over the different regions where the Group operates and to some exceptional expenses linked especially to the integration of Solvay and Rhodia.

#### Research and development costs

Research and development costs of € (237) million in 2013 (both on an adjusted and on an IFRS basis) decreased by 4% compared to prior year but remained stable at 2.3% on net sales. The decrease in costs was due to an increase in capitalized development expenses while the total cash out for research and development increased by 3% compared to 2012.

#### REBITDA

Changes in adjusted REBITDA In € million	2012 restated	Structure	Foreign exchange conversion	Volume & mix	Price	Cost of goods	Fixed costs	Others including equity earnings	2013
Group	1,896	16	(36)	(126)	(202)	205	(36)	(55)	1,663

In a challenging macro economic environment and against demanding comparables, REBITDA amounted to € 1,663 million (€ 1,896 million in 2012), broadly flat allowing for the CER phase out, exceptional guar effects and Chemlogics.

Overall pricing power was preserved in a deflationary raw material context with the reduction of selling prices of € (202) million more than offset by savings in raw material and energy costs of € 205 million. By Operating Segment, pricing power at Advanced Materials and at Engineering Plastics (within Functional Polymers) compensated for a major margin squeeze at Advanced Formulations, where

#### Other operating gains and losses

Other operating gains and losses in 2013 amounted to € 55 million on an adjusted basis, compared to € 35 million in 2012. In 2013, the balance of other gains and losses includes mainly the realignment of insurance policies of the Group which led to the reversal of provisions for € 22 million.

On an IFRS basis, other operating gains and losses amounted to € (94) million, or a € (149) million difference with the adjusted accounts and corresponding to the depreciation of PPA on fixed assets relative to Rhodia's acquisition. Please refer to note 6 to the consolidated financial statements.

#### Earnings from associates and joint ventures accounted for using the equity method

Earnings from associates and joint ventures, accounted for using the equity method, amounted to € 92 million compared with € 183 million in 2012. The most important contributors in 2013 were Hindustan Gum & Chemicals, Solvay Sodi, Deven and Peroxidos Do Brasil.

The decrease of € 91 million is largely driven by the reduction of Indian native-guar JV Hindustan Gum & Chemicals' (Hichem) result after 2012 exceptional guar pricing conditions.

the Novocare business unit suffered from the impacts in the guar derivatives business. Excellence initiatives across businesses and functions helped to substantially mitigate inflationary effects on the Group's fixed cost base.

The year on year REBITDA evolution per Operating Segment broke down as follows: Advanced Formulations (29)%, Advanced Materials 3%, Performance Chemicals (3)% and Functional Polymers (7)%.

The Group's REBITDA margin on net sales came in at 16.7% compared with 18.0% in 2012.

#### Depreciation and Amortization charges

Depreciation and Amortization charges amounted in 2013 to € (603) million on an adjusted basis versus € (593) million in 2012.

Depreciation and Amortization charges in 2013 IFRS accounts amounted to € (752) million or a € (149) million difference with the period adjusted accounts and corresponding to the depreciation of PPA on fixed assets relative to Rhodia's acquisition.

#### Non-recurring Items

Non-recurring Items were € (239) million (€ 55 million in 2012) and included restructuring expenses, primarily from Soda Ash and integration plans € (115) million. Non-cash impairment charges amounted to € (65) million (Benvic and Plextronics). Other costs of € (59) million were linked to environmental and litigation provisions. As a reminder, 2012 included a € 149 million positive impact from the partial reversal of impairments from Soda Ash.

#### OPERATING RESULT

Adjusted EBIT amounted to € 796 million (€ 1,357 million in 2012), down (41)%, and included amortization and depreciation charges of € (603) million. On an IFRS basis, EBIT was at € 647 million. The difference between IFRS and adjusted figures reflects the Rhodia PPA depreciation impact of € (149) million.

## Analysis of operational performance by Operating Segment

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>9,938</b>	<b>10,515</b>	<b>(5)%</b>
Advanced Formulations	2,432	2,565	(5)%
Advanced Materials	2,551	2,743	(7)%
Performance Chemicals	3,125	3,162	(1)%
Functional Polymers	1,763	1,888	(7)%
Corporate & Business Services	67	157	(57)%
<b>REBITDA</b>	<b>1,663</b>	<b>1,896</b>	<b>(12)%</b>
Advanced Formulations	369	518	(29)%
Advanced Materials	646	627	3%
Performance Chemicals	724	750	(3)%
Functional Polymers	93	100	(7)%
Corporate & Business Services	(169)	(99)	(71)%
<b>EBIT</b>	<b>796</b>	<b>1,357</b>	<b>(41)%</b>
Advanced Formulations	235	427	(45)%
Advanced Materials	460	453	2%
Performance Chemicals	457	680	(33)%
Functional Polymers	(37)	100	(137)%
Corporate & Business Services	(319)	(302)	(6)%

## ADVANCED FORMULATIONS (PREVIOUSLY NAMED CONSUMER CHEMICALS)

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>2,432</b>	<b>2,565</b>	<b>(5)%</b>
Novecare	1,581	1,684	(6)%
Coatis	486	506	(4)%
Aroma Performance	365	376	(3)%
<b>REBITDA</b>	<b>369</b>	<b>518</b>	<b>(29)%</b>

**Net Sales** of Advanced Formulations amounted to € 2,432 million (€ 2,565 million in 2012) while the operating segment's **REBITDA** reached € 369 million (€ 518 m in 2012).

Performance at Advanced Formulations was mainly impacted in 2013 by adverse developments in Novecare's guar business:

(i) The phase-out of 2012's exceptional profit on peak native guar prices at our JV Hichem (accounting for c. € (100) million year on year decline), (ii) a c. € (50) million exceptional adverse guar derivative margin effect year on year.

Novecare's other businesses grew, in particular Agro, Oil & Gas (guar excluded) and Coatings.

The performance of Coatis improved during the year thanks to positive pricing power driven by sales indexed in US dollars and despite Brazil's difficult economic situation.

Aroma Performance continued its growth in food & flavor volumes. Volume growth in fluor was offset by price decreases in Hydroquinone (which compares to high hydroquinone prices in 2012 when supplies were tight after an unexpected operational outage at a large competitor).

Products by GBU	Applications	Markets	Trademarks	Competitors
Novecare				
Surfactants	Dispersion, foaming, conditioning, surface modification, intermediate, gelling, rheology	Food, Agro & Feed Solutions Consumer Goods & Healthcare Industrial Applications Energy & Environment	AGRHO®, STARGUAR®, AGHRO N-PROTECT®, SOPROPHOR®, RHODOLINE®	AKZO Nobel, BASF, Clariant, Croda, Dow, Koch, Huntsman, Lamberti Grp
Amines			RHODIASOLV®	Oxiteno, Stepan
Synthetic and natural polymers			SIPOMER®, MIRACARE®, RHEOMER®, JAGUAR®	
Phosphorous chemistry			MACKAM®, PROBAN®, TIGUAR®, TOLCIDE®	
Coatis				
Phenol and derivatives	Synthetic resins, molding compounds, polycarbonate, polymer additives	Consumer Goods & Healthcare Automotive & Aeronautics Building & Construction Industrial Applications Food, Agro & Feed Solutions		Dow, Ineos, Shell
Ketonic solvents	Adhesives, cosmetics, mining frother			Arkema, Sasol, Halterman
Acetic solvents	Inks, de-greasers, film formation aids, solubilisation of actives and resins			Celanese, Ineos, Eastman
Glycerin-based solvents			AUGEO™	
Aroma Performance				
Natural vanillin	Flavors, fragrances	Food, Agro & Feed Solutions Consumer Goods & Healthcare	RHOVANIL® NATURAL, GOVANIL™ NATURAL,	Borregaard, Jiaxin, many small Chinese competitors(Jilin, Anhui), major F&Fs for formulated vanilla flavor Govanil™ (Prova, Givaudan, Firmenich)
Vanillin & ethylvanillin			RHOVANIL®, RHODIAROME®, GOVANIL™, GOVANIL™ INTENSE, RHOVEA™	
Guaiacol, pyrocatechol	Flavors, fragrances, crop protection	Food, Agro & Feed Solutions Consumer Goods & Healthcare		Camlin
Sandalwood	Fragrances	Consumer Goods & Healthcare	RHODIANTAL® ORIGINAL, RHODIANTAL® CANDALUM	Many small Indian companies
Hydroquinone	Monomers stabilizers, anti-oxidants	Consumer Goods & Healthcare		Camlin, Eastman, Goodyear, Mitsui, Ube, Sanjili, Nalco, GE Betz, Evonik, AH Marks
MeHQ, TBC	Monomers stabilizers	Food, Agro & Feed Solutions		Central Glass, Sinochem, Syngenta, BASF, Bayer Cropscience
Triflic acid & triflic acid anhydride (TA, TAA) and derivates (LiTFSI, TFSK)	Antistatic applications, energy storage	Automotive & Aeronautics Industrial Applications Consumer Goods & Healthcare Food, Agro & Feed Solutions		Central Glass, 3M, Asian players
Cyclopentanone	Fragrances, electronics	Consumer Goods & Healthcare Industrial Applications	RHODIASOLV® XPT	BASF, Nippon Zeon, CST, Chinese players

## ADVANCED MATERIALS

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>2,551</b>	<b>2,743</b>	<b>(7)%</b>
Specialty Polymers	1,288	1,348	(4)%
Silica	416	382	9%
Rare Earth Systems	298	434	(31)%
Special Chemicals	549	579	(5)%
<b>REBITDA</b>	<b>646</b>	<b>627</b>	<b>3%</b>

**Net Sales** of Advanced Materials ended at € 2,551 million (€ 2,743 million in 2012). **REBITDA** increased 3% to € 646 million driven by a favorable product mix and pricing power. Performance was supported by the positive momentum in Specialty Polymers, Silica and Special Chemicals.

Rare Earth Systems was penalized by sustained price decreases in rare earths and subsequent margin squeeze, which however stabilized

during the year. Specialty Polymers posted growth in a difficult environment thanks to the delivery of its excellence programs. Silica benefited from its strong position in the energy efficient tire market and Special Chemicals succeeded in the execution of its strategic exit from loss-making Life Science businesses.

Products by GBU	Applications	Markets	Trademarks	Competitors
<b>Specialty Polymers</b>				
Aromatics Fluoropolymers High-barrier polymers Cross-linkable compounds	Healthcare, consumer goods	Consumer Goods & Healthcare	SOLVIVA®, UDEL® PSU, DIOFAN® PVDC	Victrex, BASF, AGC
		Consumer Goods & Healthcare	RADEL® PPSU, IXEF® PARA, IXAN® PVDC, AMODEL® PPA	Sabic, EMS, BASF
	Automotive, advanced transportation	Automotive & Aeronautics	TECNOFLON®, AMODEL® PPA	DuPont, Dyneon, Daikin, EMS, DSM
		Automotive & Aeronautics	RADEL® PPSU & FOAMS, AJEDIUM FILMS, KETASPIRE® PEEK, TORLON® PAI	Sabic, Evonik, Victrex
	Smart devices, electrical, electronics	Electrical & Electronics	IXEF® PARA, AMODEL® PPA, COGEGUM® XLPO	EMS, DuPont, PolyOne
	Industrials	Industrial Applications	SOLEF® PVDF, HALAR® ECTFE, FOMBLIN® PFPE	Arkema, Dyneon, DuPont, 3M
	Energy, water	Energy & Environment	SOLEF® PVDF, KETASPIRE® PEEK, TORLON® PAI	Arkema, Victrex, Evonik
		Energy & Environment	SOLEF® PVDF	Kureha, Arkema
		Energy & Environment	SOLEF® PVDF, UDEL® PSU	BASF, Arkema
	Construction	Building & Construction	SOLEF® PVDF, RADEL® PPSU, UDEL® PSU	BASF, Arkema
<b>Silica</b>				
Highly dispersible silica (HDS)	Energy-efficient tires	Automotive & Aeronautics	ZEOSIL®, ZEOSIL® PREMIUM	Evonik, PPG, OSC
	Polymer reinforcement	Automotive & Aeronautics Industrial Applications	ZEOSIL®	Evonik, PPG, OSC
Precipitated silica (conventional)	Oral care (toothpaste)	Consumer Goods & Healthcare	TIXOSIL®	JM Huber, PQ Corporation, WR Grace, Evonik, OSC
	Nutrition	Food, Agro & Feed Solutions	TIXOSIL®	JM Huber, PQ Corporation, WR Grace, Evonik, OSC
<b>Rare Earth Systems</b>				
Rare earth oxide formulations	Automotive catalysts	Automotive & Aeronautics	OPTALYS®, ACTALYS®, EOLYS®	DKK, MEL Chemicals
	Energy-efficient lighting	Electrical & Electronics	LUMINOSTAR®	Nichia
	Semiconductor polishing	Electrical & Electronics	ZENUS®	Nikki, DA Nano

Products by GBU	Applications	Markets	Trademarks	Competitors
<b>Special Chemicals</b>				
Hydrogen fluoride	Refineries, steel & surface treatment, chemical industry	Industrial Applications		DuPont, Honeywell, Lanxess, DDF, 3F, Mexichem, China Yingpeng, Zhejiang Sanmei, Shandong donuye Group
	High voltage engineering, wet chemicals for chip etching and cleaning, chemicals for Li-batteries	Electrical & Electronics	FOR C <sub>4</sub> F <sub>6</sub> : SIFREN®	Kemeite, Liming, Henan Huaneng Fluoride and others, HaloPolymer, Asahi Glass, Kanto Denka, Show Denko, Cental Glas, Linde, AirProducts
Fluor-based compounds	Insulation, energy saving	Building & Construction	SOLKANE®, IXOL	Honeywell, Arkema, DuPont, Albarnali, Chemtura
	Brazing, refrigerants	Automotive & Aeronautics Industrial Applications	NOCOLOK®, SOLKATHERM® SES36	DuPont, Honeywell
	Solvents (precision cleaning)	Industrial Applications	SOLVOKANE®	DuPont, Honeywell, Arkema, Central Glass, Asahi, 3M
TFAC, TFA, TFAH, TFAEt, TFK, ETFBO, Other CF <sub>3</sub>	Building blocks in active ingredients, intermediates	Consumer Goods & Healthcare Food, Agro & Feed Solutions		Halocarbon, SRF, Sinochem, Lantian
Solkane 227ph, Solkane 134a ph	Propellants in asthma sprays and other medical sprays	Consumer Goods & Healthcare	SOLKANE®	Mexichem, DuPont
Precipitated calcium carbonate (PCC)	Sealant	Building & Construction	SOCAL®, WINNOFIL®	Shiraishi-Omya, SMI (UK), Cales de Lierca
	Paint	Building & Construction	SOCAL®	Schaefer Kalk
	Plastisol	Automotive	SOCAL®, WINNOFIL®	Cales de Lierca, SMI
Electronic grade H <sub>2</sub> O <sub>2</sub> and HF and NF <sub>4</sub> F	Semiconductors, displays, photovoltaic	Electrical & Electronics		BASF, Stella Chemifa, Honeywell, Dongwoo Finechem
Barium compounds	Paints, coatings, batteries, plastics, paper	Automotive Aeronautics Electrical & Electronics Building & Construction		Sachtleben, Chinese producers
	Ceramic capacitors, display and photovoltaic glasses	Electrical & Electronics		Sakai Chemicals, Nippon Chemicals
Strontium compounds	Display and photovoltaic glasses, ferrites	Electrical & Electronics		Sakai Chemicals, Nippon Chemicals

## PERFORMANCE CHEMICALS

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>3,125</b>	<b>3,162</b>	<b>(1)%</b>
Essential Chemicals	1,756	1,811	(3)%
Acetow	658	616	7%
Eco Services	288	314	(8)%
Emerging Biochemicals	424	421	1%
<b>REBITDA</b>	<b>724</b>	<b>750</b>	<b>(3)%</b>

**Net Sales** of Performance Chemicals ended at € 3,125 million, (€ 3,162 million in 2012) while its **REBITDA** amounted to € 724 million (€ 750 million in 2012). The record results at Acetow did not fully offset the result at Emerging Biochemicals.

Essential Chemicals delivered strong REBITDA despite challenging market conditions in the flat glass sector early in 2013 and despite prices pressure in some export markets, a performance that was further supported by improved results in the US Green River

operations. The targeted € 100 million cost saving plan (by year-end 2015) is on track and the closure of the Povoia plant was completed in January 2014.

Acetow enjoyed strong demand and volumes sold out coupled with pricing power. Eco Services volumes were stable while Emerging Biochemicals continued to be affected by poor demand in both PVC and epichlorohydrin and price pressure from competition.



Products by GBU	Applications	Markets	Trademarks	Competitors
Essential Chemicals				
Soda Ash & Derivatives				
Na <sub>2</sub> CO <sub>3</sub> soda ash	Flux in flat glass	Building & Construction Automotive & Aeronautics Energy & Environment	SOLVAY SODA® DENSE	Tata Chemicals, FMC, Ciech, Sisecam, Nirma, Bashkim, OCI, Eti-Soda, Novacarb
	Flux in container glass	Food, Agro & Feed Solutions Consumer Goods & Healthcare	SOLVAY SODA® DENSE	
	Water softener in detergents	Consumer Goods & Healthcare	SOLVAY SODA® LIGHT	
	Metallurgy	Industrial Applications	SOLVAY SODA® DENSE	
NaHCO <sub>3</sub> sodium bicarbonate	Supplement in animal feed, supplement in food	Food, Agro & Feed Solutions	BICAR Z®, BICAR® FCC, BI-PROTEC®	Church & Dwight, FMC, Natural Soda, Tata Chemicals, Sisecam, Ciech, Bashkim, Eti-Soda, Novacarb
	Flue gas cleaning agent	Energy & Environment Industrial Applications	SOLVAIR®	
	Supplement in pharma	Consumer Goods & Healthcare	BICAR® PHARMA, BICAR® CODEX	
Peroxides				
Hydrogen peroxide	Bleach for wood pulp & paper industry	Consumer Goods & Healthcare	INTEROX®	Arkema, Evonik, FMC, EKA, Kemira, OCI
	Disinfection & aseptic packaging	Food, Agro & Feed Solutions	INTEROX®, PARAMOVE®	Arkema, Evonik, FMC, MGC
	Metals & mining, chemical synthesis HPPO	Industrial Applications	INTEROX®	Arkema, Evonik, FMC
Peracetic acid	Disinfection & aseptic packaging	Food, Agro & Feed Solutions Energy & Environment	PROXITANE®, OXYSTRONG®	Evonik, Kemira, FMC
Sodium percarbonate	Bleaching for detergent powder	Consumer Goods & Healthcare	OXYPER®	Evonik, Kemira, OCI, FMC
Acetow				
Cellulose acetate tow	Cigarette filters	Consumer Goods & Healthcare	RHODIA® FILTERTOW	Celanese, Eastman, Daicel/Mitsubishi, Chinese companies (Jinan, Henan, Xinyang)
Cellulose acetate tow			RHODIA DE-TOW™	
Cellulose acetate flakes/Silica			RHODIA FILTERSORB™	
Cellulose acetate tow			RHODIA COLOURED TOW™	
Cellulose acetate flakes			RHODIA ACETOL®	
Nitric Acid	Foams, fertilizers	Automotive & Aeronautics Food, Agro & Feed Solutions	TARANIST™	Yara, Borealis, BASF
Cellulose acetate compound	Packaging for cosmetics and food, toys, glasses, tools electronical devices	Consumer Goods & Healthcare	OALIO™	Eastman, DuPont, Braskem
Acetylated wood	Outdoor applications like windows, doors, decking, cladding, shutters, etc as well for construction work	Consumer Goods & Healthcare	ACCOYA®	

Products by GBU	Applications	Markets	Trademarks	Competitors
<b>Eco Services</b>				
Regenerated H <sub>2</sub> SO <sub>4</sub>	Refineries chemical industry	Industrial Applications, Energy & Environment		Chemtrade, DuPont, PVS
Sulfuric acid oleum	Nylon, paper, mining, agriculture, water treatment	Consumer Goods & Healthcare Energy & Environment		Chemtrade, Cornerstone, DuPont, PVS, Rotech, Southern States, various smelters, various fertilizer companies, imports
Alum	Mining, agriculture, water treatment	Energy & Environment		Chemtrade, Kemira, Thatcher
<b>Emerging Biochemicals</b>				
PVC	Pipe, fittings, profiles, wires, cables	Building & Construction	SIAMVIC®	Thai Plastic & Chemical PCL
	Film, sheets	Consumer Goods & Healthcare Industrial Applications		
NaOH caustic soda	Multiple applications	Consumer Goods & Healthcare Industrial Applications Food, Agro & Feed Solutions		AGC Chemicals (Thailand)
Bio-based epichlorohydrin	Epoxy resins	Building & Construction, Electrical & Electronics, Consumer Goods & Healthcare, Automotive & Aeronautics	EPICEROL®	Samsung Fine Chemicals Dow
Epichlorohydrin				

## FUNCTIONAL POLYMERS

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>1,763</b>	<b>1,888</b>	<b>(7)%</b>
Polyamide	1,557	1,688	(8)%
Chlorovinyls	206	200	3%
<b>REBITDA</b>	<b>93</b>	<b>100</b>	<b>(7)%</b>

**Net Sales** of Functional Polymers amounted to € 1,763 million, down (7)% from 2012's € 1,888 million, while the operating segment's **REBITDA** also fell (7)% to € 93 million.

The successful structural repositioning of Engineering Plastics bolstered performance with volume increases and strong pricing power. However, performance was held back by a difficult competitive environment for Polyamide & Intermediates and Fibras.

### Discontinued Operations

Performance of the European chlorovinyls business to be contributed to the planned JV with Ineos stood broadly in line with 2012. Net sales were € 1,904 million and REBITDA amounted to € 153 million in 2013.

Products by GBU	Applications	Markets	Trademarks	Competitors	
Polyamide					
Polyamide & Intermediates					
Adipic acid	Polyamide 6.6, other products for polyurethane and coating applications, plasticizers	Industrial Applications, Automotive & Aeronautics, Consumer Goods & Healthcare, Building & Construction, Electrical & Electronics	RHODIACID™	Invista, Ascend, CSM-CPEC, CNPC, BASF, Radici, Asahi, Lanxess	
Hexamethylenediamine			RHODIAMINE™	Invista, Ascend, BASF, Radici, CPEC	
Polyamide resin: ■ PA 6.6 ■ PA 6.10 ■ PA 6.10/6.T	Plastic compounds for Engineering Plastics, industrial yarns, textile and fibers applications, tire cords, airbags	Industrial Applications, Automotive & Aeronautics, Consumer Goods & Healthcare, Building & Construction, Electrical & Electronics	STABAMID®	Invista, Ascend, BASF, Radici, Asahi	
Engineering Plastics					
Polyamide 6.6 compounds	Metal replacement, fire protection, thermal management, fluid barrier	Automotive & Aeronautics, Electrical & Electronics, Consumer Goods & Healthcare, Industrial Goods	TECHNYL® TECHNYL STAR®	DuPont, BASF, Radici, Nilit, Ascend, Invista	
Polyamide 6 compounds			TECHNYL® TECHNYL STAR®	BASF, Lanxess, DSM, DuPont, Radici	
Recycled Polyamide compounds			TECHNYL® R TECHNYL® ECO 4EARTH®	Very fragmented competition	
Long Chain Polyamide compounds			TECHNYL EXTEN®	Arkema, Evonik, EMS, UBE	
High temperature Polyamide compounds			TECHNYL® ONE	DuPont, EMS, DSM	
Polyamide powders			Laser sintering	SINTERLINE™ TECHNYL® POWDERS	Evonik, Arkema
Design, simulation services			Metal replacement, fire protection, thermal management, fluid barrier	MMI™ TECHNYL® DESIGN	BASF
Fibras					
Textile yarns	Apparel	Consumer Goods & Healthcare	AMNİ® EMANA®	Hyosung, Taekwang, Nilit, Acelon, LeaLea, Fujian	
Staple fiber	Abrasives	Consumer Goods & Healthcare		Invista	
Industrial yarns	Sewing threads, tire, MRG	Consumer Goods & Healthcare, Automotive & Aeronautics, Industrial Applications		Kordsa, Enka, CSM, SRF	

**CORPORATE & BUSINESS SERVICES**

In € million	Adjusted		Year on year evolution %
	2013	2012 restated	
<b>Net sales</b>	<b>67</b>	<b>157</b>	<b>(57)%</b>
Energy Services	67	154	(57)%
Other Corporate & Business Services	0	3	n.m.
<b>REBITDA</b>	<b>(169)</b>	<b>(99)</b>	<b>(71)%</b>

**Net sales** and **REBITDA** for 2013 respectively amounted to € 67 million and € (169) million. The end of CERs sales resulted in a REBITDA drop of € 90 million compared to 2012.

Excellence initiatives across corporate functions and services helped to neutralize cost inflation, while costs linked to the Group's 150-year anniversary celebration and new branding efforts were offset by one-offs like the positive impact from the realignment of insurance policies of the Group.

## Energy situation

Energy costs are an important part of the Group's cost structure. Net energy costs represented about € 0.9 billion in 2013. Energy sources were spread over electricity and gas (circa 70%), coke, coal and anthracite (circa 15%) and steam and others (circa 15%). The Solvay group has pursued an active energy policy for many years now. In this context it operates an energy production park with a total installed capacity of 1,000 MW.

Within the Group, Energy Services focuses on optimizing the Solvay's energy purchase costs and carbon emissions. Furthermore, Energy Services launched an important operating energy efficiency excellence initiative called Solwatt. It aims at reducing energy consumption and optimizing energy production on sites. Solwatt integrates also the medium and long term planning of energy consumption per site. It is gradually rolled out and will cover all the Group's manufacturing sites by 2015. The objective is to reduce by 10% the Group energy bill by 2016.

## Additional comments on the Group consolidated income statement of the FY 2013 (IFRS/adjusted)

In € million	IFRS		Adjusted	
	2013	2012 restated	2013	2012 restated
<b>EBIT</b>	<b>647</b>	<b>1,181</b>	<b>796</b>	<b>1,357</b>
Net financial expenses, of which:				
■ Cost of borrowings	(187)	(167)	(187)	(167)
■ Interest on lending and short term deposits	25	16	25	16
■ Other gains and losses on net indebtedness	(2)	(8)	(2)	(8)
■ Cost of discounting provisions	(87)	(200)	(87)	(200)
Income/losses from available-for-sale investments	40	(3)	40	(3)
<b>Result before tax</b>	<b>437</b>	<b>820</b>	<b>585</b>	<b>997</b>
Income tax	(187)	(241)	(229)	(291)
<b>Result from continuing operations</b>	<b>249</b>	<b>579</b>	<b>357</b>	<b>705</b>
Result from discontinued operations	65	1	65	2
<b>Net Income</b>	<b>315</b>	<b>580</b>	<b>422</b>	<b>707</b>
Non controlling interests	(44)	(17)	(44)	(17)
<b>Net Income Solvay share</b>	<b>270</b>	<b>563</b>	<b>378</b>	<b>690</b>

**Net Financial Expenses** narrowed to € (210) million (€ (360) million in 2012). Net charges on net debt were € (162) million versus € (151) million in 2012 and included a € 17 million one-off non-cash income effect from the decision to exercise the 2014 call option of the € 500 million Rhodia HY bond maturing in 2018.

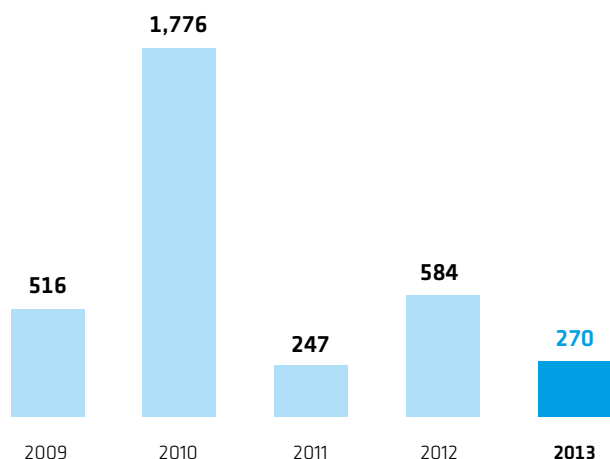
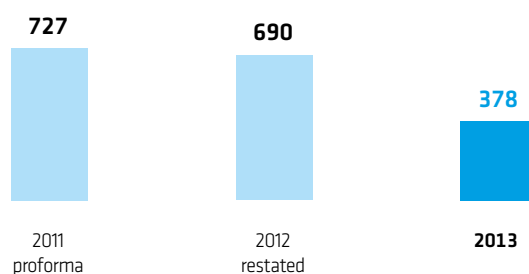
The cost of discounting provisions for environmental reserves and pension liabilities narrowed to € (87) million from € (200) million in 2012. This was mainly due to environmental reserves which in 2013 included an overall € 41 million one-off contribution following discount rates increases, whereas in 2012, decreases in discount rates resulted in a negative impact of € (50) million.

Income from available for sale investments amounted to € 40 million (€ (2) million in 2012) and primarily included a € 36 million capital gain from the disposal of a non-core financial investment.

**Adjusted Income Taxes** of € (229) million (€ 291 million in 2012) included provisions for prior-year items worth € (68) million as well as the recognition of net deferred tax assets movements of € 40 million which led to a nominal tax rate of 46% (or 35% when taking into account non-recurring elements).

**Net Result from discontinued operations** was € 65 million (€ 1 million in 2012). Net results comprised 3 principal elements: Net income of the European chlorovinyls activities to be contributed to the JV with Ineos € 27 million, the non-cash impairment resulting from the fair valuation of Solvay Indupa € (68) million and the last cash milestone payment of € 100 million received in connection with the disposed pharma business.

**Adjusted Net Income** was € 422 million (€ 707 million in 2012). Adjusted Net income Group Share came in at € 378 m and Adjusted basic earnings per share at € 4.54. On an IFRS basis, Net income Group share amounted to € 270 million.

→ Net income, Group share (IFRS)  
In € million→ Adjusted net income, Group share  
In € million

## Financing structure

The **Net financial debt** amounted to € 1,102 million at the end of December 2013, a reduction of € 23 million, *versus* € 1,125 million at the end of December 2012. Gross debt reduced from € 3,652 million at the end of 2012 to € 3,515 million, using the available cash to repay debt. In 2014, Solvay has the opportunity to repay € 500 million EMTN bond (maturing January 2014) and has decided to exercise the first call option in 2014 related to € 500 million Rhodia senior High Yield notes maturing in 2018.

In November 2013, following the acquisition of Chemlogics for US\$ 1,345 million financed with available cash, the Group issued € 1.2 billion hybrid bonds (treated as equity under IFRS) with the aim to further strengthen its balance sheet ahead of the refinancing of its debt maturities from 2014 onwards.

**Equity** amounted to € 7,453 million at the end of 2013, compared to € 6,574 million at the end of 2012.

At the end of 2013, the **net debt to equity ratio** was **14.8%**.

Solvay's **long and short-term ratings** are Baa1/P2 (negative outlook) at Moody's and BBB+/A2 (stable outlook) at Standard & Poor's.

## Free Cash Flow

**Free Cash Flow** was € 524 million, and included cash flow from discontinued operations for € 235 million.

**Cash flow from operating activities** was € 1,278 million compared to € 1,457 million last year. Besides net income of € 315 million, it consisted of:

- depreciation, amortization and impairments amounting to € 929 million;
- change in working capital amounting to € 54 million, whereof industrial working capital of € 17 million for continuing operation.

**Cash flow from investing activities** was € (1,732) million included Chemlogics acquisition € (881) million and capital expenditures which amounted to € (810) million including € (102) million from discontinued operations.

## Investments

In € million	Capital expenditures in 2013
Advanced Formulations	136
Advanced Materials	213
Performance Chemicals	187
Functional Polymers	74
Corporate & Business Services	98
<b>GROUP</b>	<b>708</b>



**Total capital expenditures** in 2013 amounted to € 708 million.

Besides health, safety & environment and maintenance capital expenditures, the Group selectively invested in a number of strategic projects, with priority given to businesses and geographies with superior and sustainable growth potential. Several growth investments were realized in 2013 in our growth engines and highly resilient businesses. The most significant being:

#### In Advanced Formulations

- the large-scale alkoxylation facility in Singapore to serve the fast-growing Asian market in home & personal care, coatings, industrial, agrochemicals and oil & gas;
- the large-scale alkoxylation unit in the US (Texas), at an integrated industrial facility of LyondellBasell's Equistar Chemicals affiliate, in order to serve a growing North American market;

- the specialty surfactant plant in Germany to develop and produce surfactant solutions for Solvay's home & personal care and industrial customers serving Central and Eastern Europe;
- the new vanillin production facility in China representing an increase of 40% of Solvay's global production to serve the growing demand in the region;
- an investment to double the specialty fluorinated derivatives production capacity in France.

#### In Advanced Materials

- the new plant of Highly Dispersible Silica (HDS) in Poland to increase capacity by 85,000 tons per year;
- the investment in Specialty Polymers in China (Changshu).

## Research & Innovation

In € million

#### Net Research & Innovation costs in 2013

Advanced Formulations	52
Advanced Materials	90
Performance Chemicals	20
Functional Polymers	22
Corporate & Business Services	53
<b>GROUP</b>	<b>237</b>

**Net Research & Innovation** costs in 2013 were € 237 million.

Research & Innovation policy and organization are described from page 39 to 43 of this report.

## Group employees

The Solvay group employed 29,400 full-time equivalents at December 31, 2013 compared to 29,100 at December 31, 2012. Additional information concerning Human Resources and the organization of the Group are available from page 20 to 22 of this report.

## Analysis of the parent company results (Solvay SA)

In € million

	2013	2012
Profit for the year available for distribution	359	933
Carried forward	4,174	3,513
<b>TOTAL AVAILABLE TO THE GENERAL SHAREHOLDERS' MEETING</b>	<b>4,533</b>	<b>4,446</b>
Appropriation:		
Gross dividend	271	271
Carried forward	4,262	4,175
<b>TOTAL</b>	<b>4,533</b>	<b>4,446</b>

Solvay SA is a société anonyme created under Belgian law, with its registered office at rue de Ransbeek 310 at 1120 Brussels. Solvay SA has two branches: Solvay SA France (25, rue de Clichy, 75009 Paris, France) and Solvay SA Italie (Via Piave 6, 57013 Rosignano, Italy).

The accounts of Solvay SA are prepared in accordance with Belgian generally accepted accounting principles, and include its French and Italian branches.

The main activities of Solvay SA consist of holding and managing a number of participations in Group companies and of financing the Group from the bank and bond markets. It also manages the research center at Neder-Over-Heembeek (Belgium) and a very limited number of industrial and commercial activities not undertaken through subsidiaries.

The operating result represents the balance of the head office operating costs partially offset by income from industrial and commercial activities not undertaken through subsidiaries.

Current profit before taxes amounts to € 220 million end of 2013, compared with € 1,062 million in the previous year. The current profit includes dividends received from its various shareholdings (€ 535 million in 2013) and the differential between interest paid and received on its financing activities.

The balance of extraordinary results for 2013 is € 102 million, compared with € (149) million in 2012. The main item (€ 147 million) results from write-backs of impairments on some participations.

The net profit of Solvay SA amounted in 2013 to € 359 million, compared with € 933 million in 2012.

In the absence of transfers to untaxed reserves, carried forward net income of € 4,533 million is available for distribution.

## Events after the reporting period and outlook

### Events after the reporting period

The recent significant devaluation of the Argentina Pesos (ARS) will have an additional negative impact on the result of the sale of Solvay Indupa.

Early 2014, a process to explore the divestment of Eco Services (Performance Chemicals) has been initiated. Eco Services is active in the recycling of sulfuric acid in the US oil and gas business.

There were no other material events after the reporting period.

### Outlook

So far into the year some of Solvay's end markets have shown early signs of improvement and the Group is well-placed to benefit from better macroeconomic conditions. Although Solvay remains cautious, it is confident that 2014 will show REBITDA growth supported by the delivery of excellence programs.

## Management of risks

Risk management (processes, risks identified and actions undertaken to reduce them) is described on pages 148 to 161 of this report.

## Financial instruments

The management of financial risks and any use of financial instruments to hedge them are described on pages 153 and 154 of this report.

## Audit Committee

The mission, composition and modus operandi of the Audit Committee are described on pages 170 to 178 of this report.

## Corporate Governance Statement

The Corporate Governance Statement is included on pages 164 to 196 of this report. It includes among others a description of the legal and shareholding structure of Solvay, its capital and dividend policy, the modus operandi of the Shareholders' Meetings, the composition and modus operandi of the Board of Directors and its Committees, the composition and modus operandi of the Executive Committee, the compensation policy and the most recent compensation report, a description of the main characteristics of risk management and internal control systems, the measures taken by Solvay to comply with Belgian rules on insider trading and a description of the Group's Code of Conduct.

## 1.3 Additional financial information

### Historical financial data

In € million	IFRS				
	2009	2010	2011	2012	2013
Sales	8,485	7,109	8,109	12,831	10,367
Net sales			8,001	12,435	9,938
REBITDA	1,439	1,051	1,208	2,022	1,663
REBITDA as % of sales	17	15	15	16	17
REBIT	969	633	748	1,227	886
Total depreciation and amortization	496	717	455	794	752
EBIT	864	305	560	1,275	647
Net income, Solvay share	515	1,777	247	584	270
Earnings per share (basic) (in €)	6.28	21.85	3.04	7.10	3.25
Research expenditure	555	181	156	261	247
Capital expenditures	567	538	4,797	826	1,809
Free Cash flow			327	787	524
<b>Financial data</b>					
Equity *	5,160	6,839	6,653	6,596	7,453
Net debt	1,333	(2,902)	1,760	1,125	1,102
Net debt/shareholder's equity (in %)	26	NA	26	17	15
Gross dividend per share (in €)	2.93	3.07	3.07	3.20	3.20
Gross distribution to Solvay shareholders	241	240	250	271	271
<b>Personnel data</b>					
Persons employed at December 31	28,204	16,785	29,121	29,103	29,389
Personnel costs	2,016	1,339	1,422	2,302	2,143

\* Equity 2013 includes hybrid bonds.

In € million	Adjusted			2013
	2011 Proforma	2012	2012 restated	
Net sales	12,693	12,435	10,515	9,938
REBITDA	2,068	2,067	1,896	1,663
REBITDA as % of sales	16	17	18	17
REBIT	1,408	1,403	1,303	1,035
Total depreciation and amortization	655	663	593	603
EBIT	1,425	1,451	1,357	796
Net income, Solvay share		710	690	378
Earnings per share (basic) (in €)		8.63	8.37	4.54
Research expenditure	218	261	247	237
Capital expenditures	1,058	826	826	1,809
Free cash flow	656	787	787	524

### Earnings per share

On an adjusted basis, the basic earnings per share amounted to € 4.54 in 2013 compared to € 8.37 in 2012 explained by the evolution of the operating results.

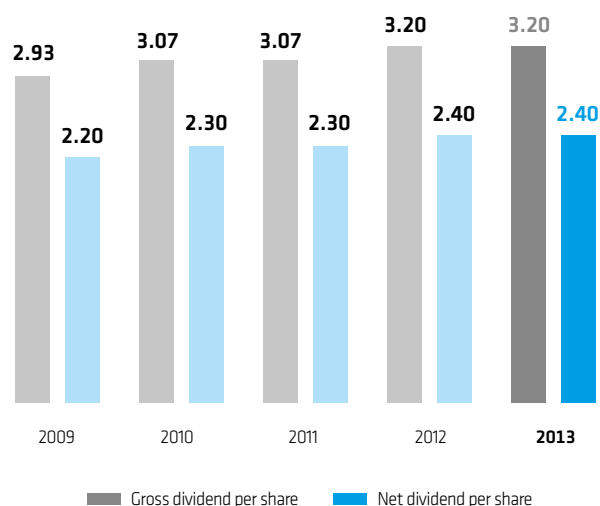
On an IFRS basis, the basic earnings per share amounted to € 3.25 in 2013 compared to € 6.84 in 2012.

### Dividend

On February 24, 2014, the Board of Directors decided to propose to the General Shareholders' Meeting of May 13, 2014 payment of a total gross dividend of € 3.20 per share (€ 2.40 net per share).

The dividend for the fiscal year 2013, stable compared to the dividend for the fiscal year 2012, is in line with the Group's dividend policy of maintaining a stable to increasing dividend whenever possible and, as far as possible, never reducing it. Dividend was then never decreased in the last 30 years and increased in some years.

Given the interim dividend of € 1.3333 gross per share (€ 1.00 net per share; coupon no. 93) paid on January 23, 2014, the balance of the dividend in respect of 2013, equal to € 1.8667 gross per share (€ 1.40 net per share; coupon no. 94), will be paid on May 20, 2014. Solvay shares will be traded 'ex-dividend' on NYSE Euronext from May 15, 2014.

→ Gross and net dividend per share  
In €

## IFRS historical consolidated data per share

In €	2009	2010	2011	2012	2013*
Equity*	57.87	78.95	75.79	80.14	89.63
REBITDA	16.74	12.92	14.87	24.57	20.00
Net income	6.28	21.85	3.04	7.10	3.25
Net income (from continuing operations)	2.59	0.62	3.51	7.08	2.47
Diluted net income	6.28	21.80	3.03	7.06	3.22
Diluted net income (from continuing operations)	2.59	0.62	3.49	7.04	2.45
Number of shares (in thousands) at December 31	84,701	84,701	84,701	84,701	84,701
Average number of shares (in thousands) (basic) for calculating IFRS earnings per share	82,143	81,320	81,224	82,305	83,151
Average number of shares (in thousands) (basic) for calculating IFRS diluted earnings per share	82,186	81,499	81,546	82,696	83,843
Gross dividend	2.93	3.07	3.07	3.20	3.20
Net dividend	2.20	2.30	2.30	2.40	2.40
Highest price	77.8	81.9	111.6	109.8	118.9
Lowest price	42.0	67.8	61.5	62.1	97.4
Price at December 31	75.6	79.8	63.7	108.6	115.0
Price/earnings at December 31	12.0	3.6	21.0	15.30	35.4
Net dividend yield (in %)	3	3	3	2	2
Gross dividend yield	4	4	4	3	3
Annual volume (thousands of shares)	71,259	47,028	63,462	77,846	54,437
Annual volume (in € million)	4,414	3,481	5,522	6,796	5,960
Market capitalization at December 31 (in € billion)	6.4	6.8	5.4	9.2	9.8
Velocity (in %)	85	56	78	92	63
Velocity adjusted by Free Float (in %)	122	80	111	131	94

\* Equity 2013 includes hybrid bonds.

## 2 Financial statements

### 2.1 Consolidated Financial Statements

The following financial statements were authorized for issue by the Board of Directors meeting on February 24, 2014. They have been drawn up in accordance with the IFRS accounting policies which are set out in the coming pages.

#### General comment:

- a the Chlorovinyls net assets have been reclassified in 2013 to the Assets Held for Sale and Liabilities associated with Asset Held for Sale. In 2012 they were included in each line of the balance sheet;
- b the Solvay Indupa had already been reclassified in 2012 to the Assets Held for Sale and Liabilities associated with Asset Held for Sale;
- c the PVC Compounds (Benvic) net assets have been reclassified in 2013 to the Assets Held for Sale and Liabilities associated with Asset Held for Sale. In 2012 they were included in each line of the balance sheet;
- d the net income of Chlorovinyls, Solvay Indupa and post-closing adjustments related to the divestiture of the Pharmaceutical business are included in the result from discontinued operation in 2013. The income statement for 2012 has accordingly also been restated for Chlorovinyls;
- e the cash flow statement doesn't segregate continuing and discontinued operations. A specific statement discloses the cash flow from operating, investing and financing activities for discontinued operations (see note 23).

#### Income statement

€ million	Notes	2013	2012
<b>Sales</b>	(1) (2)	<b>10,367</b>	<b>10,910</b>
Revenue from non-core activities		429	395
<b>Net sales</b>		<b>9,938</b>	<b>10,515</b>
Cost of goods sold		(8,043)	(8,546)
<b>Gross margin</b>		<b>2,324</b>	<b>2,364</b>
Commercial and administrative costs		(1,199)	(1,076)
Research and development costs		(237)	(247)
Other operating gains and losses	(4)	(94)	(97)
Earnings from associates and joint ventures accounted for using equity method	(5)	92	183
<b>REBIT</b>		<b>886</b>	<b>1,127</b>
Non-recurring items	(6)	(239)	55
<b>EBIT</b>		<b>647</b>	<b>1,181</b>
Cost of borrowings	(7)	(187)	(167)
Interest on lendings and short term deposits	(7)	25	16
Other gains and losses on net indebtedness	(7)	(2)	(8)
Cost of discounting provisions	(7)	(87)	(200)
Income/loss from available-for-sale investments		40	(3)
<b>Result before taxes</b>		<b>437</b>	<b>820</b>
Income taxes	(8)	(187)	(241)
<b>Result from continuing operations</b>		<b>249</b>	<b>579</b>
Result from discontinued operations	(13)	65	1
<b>Net income for the year</b>	(12)	<b>315</b>	<b>580</b>
Non-controlling interests		(44)	(17)
<b>Net income (Solvay share)</b>	(9)	<b>270</b>	<b>563</b>
Basic earnings per share from continuing operations (in €)	(11)	2.47	6.28
Basic earnings per share from discontinued operations (in €)		0.78	0.56
Basic earnings per share (in €)		3.25	6.84
Diluted earnings per share from continuing operations (in €)	(11)	2.45	6.25
Diluted earnings per share from discontinued operations (in €)		0.78	0.56
Diluted earnings per share (in €)		3.23	6.81
<b>RATIOS</b>			
Gross margin as a % of sales		22.4%	21.7%
Interest coverage ratio		5.4	7.1
Income taxes/Result before taxes (in %)		42.9%	29.4%

Interest coverage ratio = REBIT/Charges on net indebtedness.  
Explanatory notes can be found after the financial statements



## NON IFRS METRICS

€ million	Notes	2013	2012
REBITDA	(3)	1,663	1,896
Adjusted net income	(10)	422	707

## Statement of comprehensive income

€ million	Notes	2013	2012
<b>Net income for the year</b>		<b>315</b>	<b>580</b>
<b>Other comprehensive income</b>			
<b>Recyclable components</b>			
Hyperinflation	(14)	30	
Gains and losses on available-for-sale financial assets	(14)	(23)	14
Gains and losses on hedging instruments in a cash flow hedge	(14)	(9)	11
Currency translation differences	(14)	(356)	(129)
<b>Non recyclable components</b>			
Remeasurements of the net defined benefit liability	(14)	109	(419)
<b>Income tax relating to recyclable and non recyclable components</b>			
Income tax relating to components of other comprehensive income	(14)	(38)	44
<b>Other comprehensive income, net of related tax effects</b>		<b>(287)</b>	<b>(478)</b>
<b>Comprehensive income for the year</b>		<b>28</b>	<b>102</b>
attributed to:			
■ owners of the parent		25	101
■ non-controlling interests		3	1

## Statement of cash flows

The amounts below include the effect of the discontinued operations.

€ million	Notes	2013	2012
Net income		315	580
■ Depreciation, amortization and impairments <sup>(1)</sup>	(15)	929	794
■ Earnings from associates and joint ventures accounted for using the equity method		(93)	(184)
■ Net financial charges and Income/loss from available-for-sale investments		245	401
■ Income taxes expense	(16)	232	295
Changes in working capital	(17)	54	54
Changes in provisions	(18)	(245)	(310)
Dividends received from associates and joint ventures accounted for using equity method		83	53
Income taxes paid	(16)	(262)	(179)
Other	(19)	20	(47)
<b>Cash flow from operating activities</b>		<b>1,278</b>	<b>1,457</b>
Acquisition (-) of subsidiaries	(20)	(878)	(2)
Acquisition (-) of investments – Other	(20)	(121)	(39)
Loans to associates and non consolidated subsidiaries	(20)	(23)	0
Sale (+) of investments	(20)	44	191
Acquisition (-) of tangible and intangible assets	(20)	(810)	(785)
Sale (+) of tangible and intangible assets	(20)	33	109
Dividend from available-for-sale investments		4	1
Changes in non-current financial assets		18	4
<b>Cash flow from investing activities</b>		<b>(1,732)</b>	<b>(520)</b>
Capital increase (+)/ redemption (-)		0	(28)
Proceed from bond issuance classified as equity	(21)	1,191	0
Acquisition (-)/ sale (+) of treasury shares		(1)	142
Net changes in borrowings		(120)	(379)
Changes in other current financial assets		205	(294)
Interests paid		(198)	(176)
Dividends paid		(343)	(278)
Other	(22)	(61)	(67)
<b>Cash flow from financing activities</b>		<b>672</b>	<b>(1,081)</b>
<b>Net change in cash and cash equivalents</b>		<b>218</b>	<b>(144)</b>
Currency translation differences		(53)	(22)
Opening cash balance		1,778	1,943
Closing cash balance <sup>(2)</sup>	(33)	1,943	1,778
<b>FREE CASH FLOW FROM CONTINUING OPERATIONS <sup>(3)</sup></b>		<b>290</b>	<b>679</b>
<b>FREE CASH FLOW FROM DISCONTINUED OPERATIONS <sup>(3)</sup></b>		<b>235</b>	<b>108</b>
<b>TOTAL FREE CASH FLOW</b>		<b>524</b>	<b>787</b>

(1) On tangible assets, intangible assets and goodwill.

(2) Including cash in assets held for sale (€ 11 million in 2013 and € 10 million in 2012).

(3) Free cash flow = Cash flow from operating activities (including dividends from associates and joint ventures) + cash flow from investing activities (excluding acquisitions and disposals of subsidiaries and other investments).

Explanatory notes can be found after the financial statements.

## Cash flows from discontinued operations

€ million	Notes	2013	2012
Cash flow from operating activities		337	252
Cash flow from investing activities		(102)	(144)
Cash flow from financing activities		(22)	(29)
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>	(23)	<b>213</b>	<b>79</b>

## Statement of financial position (balance sheet)

€ million	Notes	2013	2012
<b>ASSETS</b>			
<b>Non-current assets</b>		<b>11,191</b>	<b>11,602</b>
Intangible assets	(25)	1,620	1,462
Goodwill	(26)	3,096	2,717
Tangible assets	(27)	4,679	5,393
Available-for-sale investments	(28)	38	66
Investments in associates and joint ventures	(29)	889	869
Other investments	(30)	111	123
Deferred tax assets	(8b)	502	548
Loans and other non-current assets	(34)	257	424
<b>Current assets</b>		<b>7,242</b>	<b>6,728</b>
Inventories	(31)	1,267	1,422
Trade receivables	(34)	1,322	1,657
Income tax receivables		35	13
Other current receivables – Financial instruments	(34)	481	758
Other current receivables – Other		583	685
Cash and cash equivalents	(33)	1,932	1,768
Assets held for sale	(13)	1,621	425
<b>Total assets</b>		<b>18,433</b>	<b>18,330</b>
<b>EQUITY &amp; LIABILITIES</b>			
<b>Total equity</b>		<b>7,453</b>	<b>6,574</b>
Share capital		1,271	1,271
Reserves		5,804	4,859
Non-controlling interests		378	443
<b>Non-current liabilities</b>		<b>6,838</b>	<b>8,226</b>
Long-term provisions: employee benefits	(32)	2,684	2,987
Other long-term provisions	(32)	773	1,214
Deferred tax liabilities	(8b)	469	489
Long-term financial debt	(33)	2,745	3,321
Other non-current liabilities		166	216
<b>Current liabilities</b>		<b>4,142</b>	<b>3,530</b>
Short-term provisions: employee benefits	(32)		63
Other short-term provisions	(32)	339	243
Short-term financial debt	(33)	769	331
Trade liabilities	(34)	1,353	1,617
Income tax payable		17	69
Dividends payable		112	103
Other current liabilities		602	768
Liabilities associated with assets held for sale	(13)	949	337
<b>Total equity &amp; liabilities</b>		<b>18,433</b>	<b>18,330</b>
<b>RATIOS</b>			
Net debt to equity ratio		14.8%	17.1%

Net debt to equity ratio = net debt/total equity.

Net debt = short and long-term financial debt less cash and cash equivalents and other current receivables – Financial instruments.

Explanatory notes can be found after the financial statements.

## Statement of changes in equity

Equity attributable to equity holders of the parent												
€ million	Share capital	Issue premiums	Retained earnings	Hybrid Bonds	Treasury shares	Currency translation differences	Revaluation reserve (Fair value)			Total reserves	Non-controlling interests	Total equity
							Available-for-sale investments	Cash flow hedges	Defined benefit pension plan			
<b>Balance at December 31, 2011 published</b>	<b>1,271</b>	<b>18</b>	<b>5,693</b>		<b>(292)</b>	<b>(332)</b>	<b>3</b>	<b>12</b>	<b>(217)</b>	<b>4,885</b>	<b>497</b>	<b>6,653</b>
IAS 19 Revised			(19)							(19)	(1)	(20)
<b>Balance at December 31, 2011</b>	<b>1,271</b>	<b>18</b>	<b>5,674</b>		<b>(292)</b>	<b>(332)</b>	<b>3</b>	<b>12</b>	<b>(217)</b>	<b>4,866</b>	<b>496</b>	<b>6,633</b>
Net profit for the period			563							563	17	580
Items of Other Comprehensive Income						(121)	14	3	(358)	(462)	(16)	(478)
<b>Comprehensive income</b>			<b>563</b>			<b>(121)</b>	<b>14</b>	<b>3</b>	<b>(358)</b>	<b>101</b>	<b>1</b>	<b>102</b>
Cost of stock options			11							11		11
Dividends			(255)							(255)	(25)	(280)
Acquisitions/sale of treasury shares					143					143		143
Increase (decrease) through changes in ownership interests in subsidiaries that do not result in loss of control			(1)							(1)	(31)	(32)
Other			5		(11)					(6)	3	(3)
<b>Balance at December 31, 2012</b>	<b>1,271</b>	<b>18</b>	<b>5,997</b>		<b>(160)</b>	<b>(453)</b>	<b>17</b>	<b>15</b>	<b>(575)</b>	<b>4,860</b>	<b>443</b>	<b>6,574</b>
Net profit for the period			270							270	44	315
Items of Other Comprehensive Income of which hyperinflation <sup>(1)</sup>			20			(315)	(23)	(9)	81	(245)	(41)	(287)
<b>Comprehensive income</b>			<b>291</b>			<b>(315)</b>	<b>(23)</b>	<b>(9)</b>	<b>81</b>	<b>25</b>	<b>3</b>	<b>28</b>
Hybrid Bonds <sup>(2)</sup>				1,194						1,194		1,194
Cost of stock options			10							10		10
Dividends			(276)							(276)	(76)	(352)
Acquisitions/sale of treasury shares					(1)					(1)		(1)
Result on sales of treasury shares			(29)		29					0		0
Increase (decrease) through changes in ownership interests in subsidiaries that do not result in loss of control			(8)							-8	8	
<b>Balance at December 31, 2013</b>	<b>1,271</b>	<b>18</b>	<b>5,985</b>	<b>1,194</b>	<b>(132)</b>	<b>(768)</b>	<b>(6)</b>	<b>6</b>	<b>(494)</b>	<b>5,804</b>	<b>378</b>	<b>7,453</b>

(1) Impact on equity following the application of IAS 29, resulting mainly from the restatement of non-monetary assets (as property, plant and equipment) to reflect current purchasing power as at year end 'using a general price index from the date when they were first recognized.

(2) Following the acquisition of Chemlogics and to strengthen Solvay's capital structure, a hybrid bond has been issued for a worth of € 1.2 billion. This bond qualifies as Equity Instrument as IAS 32 criteria are fulfilled.

## 2.2 Notes to the consolidated financial statements

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## IFRS accounting policies

The main accounting policies used in preparing these consolidated financial statements are set out below:

### 1 General information and applicable IFRS

Solvay (the "Company") is a public limited liability company governed by Belgian law and quoted on NYSE Euronext Brussels, and NYSE Euronext Paris. The principal activities of the Company, its subsidiaries, joint ventures and associates (jointly the "Group") are described in note 1 on segment information.

The Group's consolidated financial statements for the year ended December 31, 2013 were prepared in accordance with IFRS (International Financial Reporting Standards) as adopted by the European Union.

#### A. Standards, interpretations and amendments applicable as from 2013

- Amendments to IAS 19 Employee Benefits (applicable for annual periods beginning on or after January 1, 2013).
- Amendments to IAS 1 Presentation of Items of Other Comprehensive Income (applicable for annual periods beginning on or after from July 1st, 2012).
- Amendments to IFRS 7 Financial Instruments: Disclosures – Offsetting Financial Assets and Financial Liabilities (applicable for annual periods beginning on or after January 1, 2013).
- Amendments to IFRS 1 Government Loans (applicable for annual periods beginning on or after January 1, 2013).
- Amendments to IFRS 1 First Time Adoption of International Financial Reporting Standards – Severe Hyperinflation and Removal of Fixed Dates for First-time Adopters (applicable for annual periods beginning on or after January 1, 2013).
- Amendments to IAS 12 Income Taxes – Deferred Tax: Recovery of Underlying Assets (applicable for annual periods beginning on or after January 1, 2013).
- IFRS 13 Fair Value Measurement (applicable for annual periods beginning on or after January 1, 2013).
- Improvements to IFRS (2009-2011) (applicable for annual periods beginning on or after January 1, 2013).
- IFRIC 20 Stripping costs in the production phase of a surface mine (applicable for annual periods beginning on or after January 1, 2013).

The impacts on the Group Financial Statements of the Amendments to IAS 19 are presented in the paragraph for the changes in accounting policies. The other aforementioned amendments and interpretations have limited impact on the disclosures.

#### B. Standards, interpretations and amendments to standards already published, but not yet applicable in 2013

- IFRS 9 Financial Instruments and subsequent amendments (effective date not communicated yet).
- IFRS 10 Consolidated Financial Statements (applicable for annual periods beginning on or after January 1, 2014).
- IFRS 11 Joint Arrangements (applicable for annual periods beginning on or after January 1, 2014).
- IFRS 12 Disclosures of Interests in Other Entities (applicable for annual periods beginning on or after January 1, 2014).
- Amendments to IAS 32 Financial Instruments: Presentation – Offsetting Financial Assets and Financial Liabilities (applicable for annual periods beginning on or after January 1, 2014).
- Amendments to IFRS 10, IFRS 12 and IAS 27 – *Consolidated Financial Statements and Disclosure of Interests in Other Entities: Investment Entities* (applicable for annual periods beginning on or after January 1, 2014).
- Amendments to IAS 39 – *Novation of Derivatives and Continuation of Hedge Accounting* (applicable for annual periods on or after January 1, 2014, but not yet endorsed in EU).
- Amendments to IAS 36 – *Recoverable amount Disclosures for Non-Financial Assets* (applicable for annual periods on or after January 1, 2014, but not yet endorsed in EU).
- Amendments to IAS 19 Employee Benefits – Employee Contributions (applicable for annual periods beginning on or after July 1, 2014, but not yet endorsed in EU).
- IFRIC 21 – *Levies* (applicable for annual periods on or after January 1, 2014, but not yet endorsed in EU).
- Improvements to IFRS (2010-2012 cycle) (applicable for annual periods beginning on or after July 1, 2014, but not yet endorsed in EU).
- Improvements to IFRS (2011-2013 cycle) (applicable for annual periods beginning on or after July 1, 2014, but not yet endorsed in EU).

#### The impacts due to the application of IFRS 11 – Joint Arrangements are presented below.

IFRS 11 supersedes IAS 31 Interests in Joint Ventures and prescribes that a joint arrangement (i.e. an arrangement under which Solvay has joint control together with one or several other parties) can either be classified as a joint venture or as a joint operation. In the latter case, Solvay has direct rights to the assets, and obligations for the liabilities, relating to the joint arrangement. Accordingly, Solvay's interests in joint operations are treated under a method similar to the proportionate consolidation. With respect to joint arrangements classified as joint ventures, the related interests are accounted for under the equity method, which is consistent with the current Group accounting policy under IAS 31.

Therefore, the initial application of IFRS 11 in 2014 will affect the accounting treatment of the following joint arrangements classified as joint operations:

- BASF Interlox H<sub>2</sub>O<sub>2</sub> Production NV;
- Deven AD;
- MTP HPJV C.V.;
- MTP HPJV Management B.V.;
- MTP HPJV (Thailand) Ltd.;
- Saudi Hydrogen Peroxyde Co.;
- Solvay Sisecam Holding AG;
- Solvay Sodi AD.

The other aforementioned standards, interpretations and amendments will have to the best knowledge of the management no significant impact on the consolidated financial statements.

### C. Changes in accounting principles

In 2011, the IASB published a revised IAS-19 Employee Benefits, applicable for annual periods beginning on or after January 1, 2013. Solvay applied the IAS-19 revised for the first time in the condensed consolidated financial statements as of March 31, 2013.

The impact of the IAS 19 revision on the measurement of the related provisions is limited to the inclusion of the taxes on contributions.

The comparative financial statements have been restated to include the effects of IAS-19 revised as of December 31, 2011. This restatement has impacted the retained earnings (€ (20) million) and the employee benefit provisions (€ 20 million).

On the consolidated income statement ended December 31, 2012, net result was negatively impacted for € 21 million. This is mainly due to the replacement of the interest cost on the defined benefit obligation and the expected return on plan assets with a net interest cost based on the net defined benefit liability and the discount rate.

## 2 Basis for preparation

The consolidated financial statements are presented in million of euros, which is also the functional currency of the parent company. The Group's consolidated financial statements were prepared on a historical cost basis, except for investments held for trading and available for sale, which are stated at their fair value. Financial assets which do not have a quoted price in an active market and the fair value of which cannot be reliably measured are carried at cost. Unless explicitly stated, the accounting policies are applied consistently with the previous year.

The preparation of the financial statements requires the use of estimates and the formulation of judgments and assumptions that have an impact on the application of accounting policies and the amounts shown in the financial statements. The areas for which the estimates and assumptions are material with regard to the consolidated financial statements are presented in the note related to "Critical accounting judgments and key sources of estimation uncertainty".

## 3 Principles of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company (its subsidiaries). Control is achieved where the Company has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. Solvay is presumed to exercise control when it acquires, directly or indirectly, more than 50% of voting rights. To assess this control, potential voting rights that are immediately exercisable or convertible held by Solvay and its subsidiaries are taken into consideration.

The results of subsidiaries acquired or disposed of during the year are included in the consolidated income statement from the effective date of acquisition and up to the effective date of disposal, as appropriate.

Where necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those used by the Group.

All intra-group transactions, balances, income and expenses are fully eliminated.

Non-controlling interests in subsidiaries are identified separately from the Group's equity. The interest of non-controlling shareholders is initially measured either at fair value or at the non-controlling interest's proportionate share of the recognised amounts of acquiree's identifiable net assets. The choice of measurement basis is made on an acquisition-by-acquisition basis. Subsequent to acquisition, the carrying amount of non-controlling interests is the amount of those interests at initial recognition plus the non-controlling interests' share of subsequent changes in equity. Total comprehensive income is attributed to non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. The carrying amounts of the Group's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiary. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity.

When the Group loses control of a subsidiary, the profit or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. Amounts previously recognized in other comprehensive income in relation to the subsidiary are accounted for (*i.e.* reclassified to profit or loss or transferred directly to retained earnings) in the same manner as would be required if the relevant assets or liabilities were disposed of. The fair value of any investment retained in the former subsidiary at the date when control is lost is regarded as the fair value on initial recognition for subsequent accounting under IAS 39 Financial Instruments: Recognition and Measurement or, when applicable, the cost on initial recognition of an investment in an associate or jointly controlled entity.

## 4 Business combinations

Acquisitions of subsidiaries are accounted for using the acquisition method. The consideration for each acquisition is measured at the aggregate of the fair values (at the date of acquisition) of assets transferred liabilities incurred or assumed, and equity instruments issued by the Group in exchange for control of the acquiree. Acquisition-related costs are recognized in profit or loss as incurred.

Where applicable, the consideration for the acquisition includes any asset or liability resulting from a contingent consideration arrangement, measured at its acquisition-date fair value. Subsequent changes in such fair values are adjusted against the cost of acquisition where they qualify as measurement period adjustments (see below). All other subsequent changes in the fair value of contingent consideration classified as an asset or liability are accounted for in accordance with relevant IFRSs. Changes in the fair value of contingent consideration classified as equity are not recognized.

Where a business combination is achieved in stages, the Group's previously held interests in the acquired entity are remeasured to fair value at the acquisition date (*i.e.* the date the Group attains control) and the resulting gain or loss, if any, is recognized in profit or loss. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss, where such treatment would be appropriate if that interest were disposed of.

The acquiree's identifiable assets, liabilities and contingent liabilities that meet the conditions for recognition under IFRS 3 (2008) are recognized at their fair value at the acquisition date, except that:

- deferred tax assets or liabilities and liabilities or assets related to employee benefit arrangements are recognized and measured in accordance with IAS 12 Income Taxes and IAS 19 Employee Benefits respectively;
- liabilities or equity instruments related to the replacement by the Group of an acquiree's share-based payment awards are measured in accordance with IFRS 2 Share-based Payment; and
- assets (or disposal groups) that are classified as held for sale in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations are measured in accordance with that Standard.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see next paragraph below), or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed as of the acquisition date that, if known, would have affected the amounts recognized as of that date.

The measurement period is the period from the date of acquisition to the date the Group obtains complete information about facts and circumstances that existed as of the acquisition date – and is subject to a maximum of one year.

## 5 Investments in associates

An associate is an entity over which the Group has significant influence and that is neither a subsidiary nor an interest in a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The results and assets and liabilities of associates are incorporated in these financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations. Under the equity method, investments in associates are carried in the consolidated statement of financial position at cost as adjusted for post-acquisition changes in the Group's share of the net assets of the associate, less any impairment in the value of individual investments. Losses of an associate in excess of the Group's interest in that associate (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate) are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate.

Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of the associate recognized at the date of acquisition is recognized as goodwill. The goodwill is included within the carrying amount of the investment and is assessed for impairment as part of that investment. Any excess of the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

Where a group entity transacts with an associate of the Group, profits and losses are eliminated to the extent of the Group's interest in the relevant associate.

## 6 Interests in joint ventures

A joint venture is a contractual arrangement whereby the Group and other parties undertake an economic activity that is subject to joint control.

Joint venture arrangements that involve the establishment of a separate entity in which each venturer has an interest are referred to as jointly controlled entities. The Group reports its interests in jointly controlled entities using the equity method of accounting (see 5 Investments in associates).

We refer to note 26 for goodwill arising on the acquisition of the Group's interest in a jointly controlled entity.

Where the Group transacts with its jointly controlled entities, unrealized profits and losses are eliminated to the extent of the Group's interest in the joint venture.

## 7 Goodwill

Goodwill arising in a business combination is recognized as an asset at the date that control is acquired (the acquisition date). Goodwill is measured as the excess of the sum of the consideration transferred over the share acquired by the Group in the fair value of the entity's net identifiable assets at the acquisition date. The consideration transferred corresponds to the sum of the fair values of the assets transferred and liability incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer.

The Group recognises any non-controlling interest in the acquire on an acquisition-by-acquisition basis, either at fair value or at the non-controlling interest's proportionate share of the recognised amounts of acquiree's identifiable net assets.

If, after reassessment, the Group's interest in the fair value of the acquiree's identifiable net assets exceeds the sum of the consideration transferred, the difference is recognized directly in income statement.

Goodwill is not amortized but is reviewed for impairment. Impairment is tested annually and more frequently if there are indications of a loss in value.

For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units (or group of CGUs) in accordance with IAS 36 Impairment of Assets.

A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other group of assets.

These tests consist in comparing the carrying amount of the assets (or CGUs) with their recoverable amount. The recoverable amount of an asset (CGU) is the higher of its fair value less costs to sell and its value in use. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro-rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognized for goodwill is not reversed in a subsequent period.

On disposal of a subsidiary, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

## 8 Foreign currencies

The individual financial statements of each Group entity are prepared in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each Group entity are expressed in euros (EUR), which is the functional currency of the Company and the presentation currency for the consolidated financial statements.

In preparing the financial statements of the individual entities, transactions in currencies other than the entity's functional currency

are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the closing rate.

Non monetary items carried at fair value that are denominated in foreign currencies are retranslated at the closing rate when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise except for:

- exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;
- exchange differences on transactions entered into in order to hedge certain foreign currency risks (see 23 below for hedging accounting policies); and
- exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment.

For the purpose of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in euros using closing rates. Income and expense items are translated at the average exchange rates for the period. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate) under "currency translation differences".

On the disposal of a foreign operation (*i.e.* a disposal of the Group's entire interest in a foreign operation, or a disposal involving loss of control over a subsidiary that includes a foreign operation, loss of joint control over a jointly controlled entity that includes a foreign operation, or loss of significant influence over an associate that includes a foreign operation), all of the accumulated exchange differences in respect of that operation attributable to the Group are reclassified to profit or loss. Any exchange differences that have previously been attributed to non-controlling interests are derecognized, but they are not reclassified to profit or loss.

In the case of a partial disposal (*i.e.* no loss of control) of a subsidiary that includes a foreign operation, the proportionate share of accumulated exchange differences is reattributed to non-controlling interests and is not recognized in profit or loss. For all other partial disposals (*i.e.* of associates or jointly controlled entities not involving a change of accounting basis), the proportionate share of the accumulated exchange differences is reclassified to profit or loss.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate.

The main exchange rates used are:

		Year-end rate		Average rate	
		2013	2012	2013	2012
1 Euro =					
Pound sterling	GBP	0.8337	0.8161	0.8493	0.8109
US Dollar	USD	1.3791	1.3194	1.3280	1.2848
Argentinian Peso	ARS	8.9834	6.4823	7.2770	5.8481
Brazilian Real	BRL	3.2576	2.7036	2.8674	2.5084
Thai Baht	THB	45.1780	40.3470	40.8222	39.9277
Yuan Renminbi	CNY	8.3491	8.2207	8.1645	8.1053
Japanese Yen	JPY	144.7200	113.6100	129.6464	102.4916
Venezuelian Bolivar Fuerte	VEF	8.6789	5.6726	8.0595	5.5303

## 9 Provisions for retirement obligations and other long-term employee benefits

The Group's employees are offered various post-employment and other long terms employee benefits as a result of legislation applicable in certain countries, contractual agreements entered into by the Group with its employees or constructive obligations.

The post-employment benefits are classified under defined benefit or defined contributions plans.

### A. Defined contribution plans

Defined contribution plans involve the payment of fixed contributions to a separate entity, thus releasing the employer from any subsequent obligation, as the entity is solely responsible for paying the amounts due to the employee. Once the contributions have been paid, no liability is shown in the Solvay financial statements. The contributions are recognized in employee benefit expense when they are due.

### B. Defined benefit plans

Defined benefit plans concern all plans other than defined contributions plans.

These plans mainly concern:

- retirement benefits: pension plans, termination benefits, other retirement obligations and supplemental benefits;
- other long-term employee benefits: long-service benefits granted to employees according to their seniority in the Group;
- other post-employment benefits: medical care.

Taking into account projected final salaries on an individual basis, post-employment benefits are measured by applying a method (projected unit credit method) using assumptions involving the discount rate, life expectancy, turnover, wages, annuity revaluation, medical cost inflation and discounting of sums payable. The assumptions specific to each plan take into account the local economic and demographic contexts.

The discount rates are interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension obligation.

The amount recorded under post-employment obligations corresponds to the difference between the present value of future obligations and the fair value of the plan assets intended to hedge them. If this calculation gives rise to a deficit, an obligation is recorded in liabilities. Otherwise, a net asset limited to the lower of the surplus in the defined benefit plan and the present value of any future plan refunds or any reduction in future contributions to the plan is recorded.

The defined benefit cost consists of service cost and net interest on the net liability or asset, both recognized in profit or loss, and remeasurements of the net liability or asset, recognized in other comprehensive income.

Service cost consists of current service cost, past service cost resulting from plan amendments or curtailments and settlement gains or losses.

The interest expenses arising from the reverse discounting of the benefit obligations, the financial income on plan assets (determined by multiplying the fair value of the plan assets by the discount rate) as well as interest on the effect of the asset ceiling are recognized on a net basis in profit or loss from financial items.

Remeasurements of the net liability or asset consist of:

- actuarial gains and losses on the benefits obligations arising from experience adjustments and/or changes in actuarial assumptions;
- the return on plan assets (excluding amounts in net interest) and changes in the limitation of the net asset recognized (excluding amounts in the net interest).

Other long-term benefits such as long service awards are accounted for in the same way as post-employment benefits but remeasurements are fully recognized in profit or loss from financial items for the period in which they occur.

The actuarial calculations of post-employment obligations and other long-term benefits are performed by independent actuaries.



## 10 Non-recurring items

Non-recurring items mainly include:

- gains and losses on the sale of subsidiaries, joint-ventures, associates accounted for under the equity method that do not qualify as discontinued operations;
- acquisition costs of new business;
- gains and losses on the sale of real estate not directly linked to an operating activity;
- major restructuring charges;
- impairment losses resulting from the shutdown of an activity or a plant;
- impairment losses resulting from testing Cash-Generating Units for impairment (a CGU includes tangible assets, intangible assets and allocated goodwill if any);
- the impact of significant litigation;
- the remediation costs not generated by on-going production facilities (shut-down sites, discontinued activities...);
- other material operating income or expenses resulting from unusual events and likely to distort the analysis and comparability of the Group's performance.

## 11 Income taxes

### Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the consolidated income statement because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

### Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit.

Deferred taxes are calculated by tax entity. Deferred tax liabilities are generally recognized for all taxable temporary differences.

Deferred tax assets are generally recognized for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

The following items do not give rise to the recognition of deferred tax:

- the initial recognition of goodwill;
- the initial recognition of an asset or liability in a transaction which is not a business combination and affects neither accounting profit nor taxable profit; and
- temporary differences associated with investments in subsidiaries and interests in joint ventures insofar as they will not reverse in the foreseeable future.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and liabilities on a net basis.

### Current and deferred tax for the period

Current and deferred tax are recognized as an expense or income in profit or loss, except when they relate to items that are recognized outside profit or loss (whether in other comprehensive income or directly in equity), in which case the tax is also recognized outside profit or loss, or where they arise from the initial accounting for a business combination. In the case of a business combination, the tax effect is taken into account in the accounting for the business combination.

## 12 Leases

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

Agreements not in the legal form of a lease contract are analyzed with reference to IFRIC 4 to determine whether or not they contain a leasing contract to be accounted for in accordance with IAS 17.

### Finance leases

Assets held under finance leases are initially recognized as assets of the Group at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the statement of financial position (balance sheet) as a finance lease obligation.

Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets or, where shorter, the term of the relevant lease.

Lease payments are apportioned between finance expenses and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognized immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case they are capitalized in accordance with the Group's general policy on borrowing costs (see 17 below). Contingent rentals are recognized as expenses in the periods in which they are incurred.

### Operating leases

Operating lease payments are recognized as an expense on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating leases are recognized as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognized as a liability. The aggregate benefit of incentives is recognized as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

## 13 Intangible assets

Intangible assets acquired in a business combination are initially measured at fair value; intangible assets acquired separately or internally developed are initially measured at cost.

After initial recognition, intangible assets are measured at cost or fair value less accumulated amortization and any accumulated impairment losses.

Subsequent expenditure on intangible assets is capitalized only if it increases the future economic benefits associated with the specific asset. Other expenditure is expensed as incurred.

Intangible assets are amortized on a straight-line basis over the best estimate of their useful lives. The amortization period and method are reviewed at each financial year-end. A change in the useful life of an intangible asset is accounted for prospectively as a change in estimate.

Patents and trademarks	2-20 years
Software	3-5 years
Development expenditures	2-5 years
Other intangible assets	5-20 years

### Licenses, patents and similar rights

Expenditure on acquired licenses, patents, trademarks and similar rights is capitalized and amortized on a straight-line basis over the contractual period, if any, or the estimated useful life, which is normally considered to be not longer than 20 years.

### Research and Development costs

Research costs are expensed in the period in which they are incurred.

Development costs are capitalized if, and only if all the following conditions are fulfilled:

- the cost of the asset can be reliably measured;
- the technical feasibility of the product has been demonstrated;
- the product or process will be placed on the market or used internally;
- the assets will generate future economic benefits (a potential market exists for the product or, where it is to be used internally, its future utility is demonstrated);
- the technical, financial and other resources required to complete the project are available.

The capitalized development costs are amortized on a straight-line basis over their useful lives.

Capitalized expenditure comprises employee expenses, the cost of materials and services directly attributed to the projects, and an appropriate share of overheads including, and where necessary, the interim interest accrued. It is amortized once the relevant products are sold or the relevant industrial processes are used over the estimated term of the economic benefits expected to flow from the project. The expenditure is tested for impairment if there is indication of a loss in value and annually for projects in the course of development (see note 16).

Development expenditure which does not satisfy the above conditions is expensed as incurred.

### Other intangible assets

Other intangible assets mainly include customer lists and other intangible commercial assets, such as brand names, acquired separately or in a business combination. These are amortized on a straight-line basis over their estimated useful life.

## 14 Greenhouse gas emission allowances and Certified Emission Reductions

With respect to the mechanism set up by the European Union to encourage manufacturers to reduce their greenhouse gas emissions, the Group was granted carbon dioxide (CO<sub>2</sub>) emission allowances for some of its installations. The Group is also involved in Clean Development Mechanism (CDM) under the Kyoto protocol. Under these projects, the Group has deployed facilities in order to reduce greenhouse gas emissions at the relevant sites in return for Certified Emission Reductions (CER).

### Treatment of European Union Allowances (EUA)

These allowances are granted each year under the national allocation plans with a third trading period of eight years starting in January 2013. During the third period, the allowances are generally delivered free of charge and are valid over the entire trading period if not used. Allowances may be freely traded upon allocation and may be purchased or sold, especially if too few or too many allowances are allocated with respect to actual emissions.

In the absence of any IASB standard or interpretation regulating the accounting treatment of CO<sub>2</sub> emission rights, the Group applies the Trade / Production model, according to which:

- emission allowances and purchases will be registered as inventories;
- depending on the company's economic models, inventories will be consumed in the production process or hold for sales and accounted for differently.

### Treatment of Certified Emission Reductions (CER)

Under the CDM projects, Solvay has deployed facilities in order to reduce the greenhouse gas emissions at its Onsan (South Korea) and Paulinia (Brazil) sites. Upon verification by independent experts, should these emissions fall below the benchmark levels set by the UNFCCC, Solvay receives Certified Emission Rights (CER) which are freely transferable. Energy Services is in charge of the sales of CERs.

Allocated CERs are recognized in inventories at the lower of cost and net realizable value. The cost of allocated CERs mainly corresponds to the amortization of gas emission reduction units.

The CER sales realized between participants in CDM projects and in organized markets are recognized in net sales upon delivery of the CERs, *i.e.* when they are recorded in the UNFCCC register.

In order to manage exposure to future CER price fluctuations, Solvay has set up forward CER sales contracts, with or without guarantee of delivery. Based on their characteristics, when these contracts represent derivatives within the meaning of "IAS 39 Financial Instruments: recognition and measurement", they are recognized and measured according to the rules described in 23 Hedge accounting. Otherwise, they represent off-balance sheet commitments.

### Treatment of Energy Services' activities

In addition to selling CERs, Energy Services is involved in developing CO<sub>2</sub> instrument trading, arbitrage and hedging activities, and developing the "Origination" activity. The net income or expense from these activities is recorded, after elimination of intra-group transactions, in net sales or cost of sales for the "industrial" component, where Energy Services sells the CERs generated by Solvay, as well as for the "trading" component, where Energy Services purchases/sells CERs and EUAs.

The margin calls relating to the derivative instruments contracted by Energy Services are recognized in "Other current financial assets" in respect of guarantee deposits paid, and in "Borrowings" in respect of guarantee deposits received.

## 15 Property, plant & equipment

### A. Initial recognition

The property, plant and equipment owned by the Group are recognized as assets at acquisition cost when the following criteria are satisfied:

- it is probable that the future economic benefits associated with the asset will flow to the Group;
- the cost of the asset can be reliably measured.

Items of property, plant and equipment are carried on the balance sheet at cost less accumulated depreciation and impairment. The cost of an item of property, plant and equipment comprises its purchase or production price and any costs directly attributable to the location and condition necessary for its operation, including, where necessary, the borrowing costs accrued during the construction period.

The components of an item of property, plant and equipment with different useful lives are recognized separately.

Items of property, plant and equipment are derecognized from the balance sheet on disposal or discontinuation. The gain or loss arising from the derecognition of an item of property, plant and equipment is recognized in profit or loss for the period of derecognition.

## B. Useful lives

Land is not depreciated.

The estimated useful lives, residual values and depreciation method are reviewed at each year-end, with the effect of any changes in estimate accounted for on a prospective basis.

Depreciation is calculated on a straight-line basis, according to the useful life listed below:

Buildings	30-40 years
IT equipment	3-5 years
Machinery and equipment	10-20 years
Transportation equipment	5-20 years

Depreciation is included in the income statement under cost of goods sold, commercial and administrative costs, and in R&D costs.

## C. Subsequent expenditure

Subsequent expenditure incurred for the replacement of a component of an item of property, plant and equipment is only recognized as an asset when it satisfies the general criteria mentioned above.

The carrying amount of replaced items is derecognized.

Repair and maintenance costs are recognized in the income statement as incurred.

Regarding its industrial activity, Solvay incurs expenditure for major repairs over several years for most of its sites. The purpose of this expenditure is to maintain the proper working order of certain installations without altering their useful life. This expenditure is considered as a specific component of the item of property, plant and equipment and is amortized over the period during which the economic benefits flow, *i.e.* the period between the major repairs.

## D. Dismantling costs

Dismantling and restoration costs are included in the initial cost of an item of property, plant and equipment if the Group has a legal or constructive obligation to dismantle or restore.

Generally, Solvay does not have any current, legal, or constructive obligation to dismantle and/or restore its operating sites in accordance with IAS 37 Provisions, contingent liabilities and contingent assets.

As such, an obligation is only likely to arise upon the discontinuation of a site's activities. However, the costs of dismantling discontinued sites or installations are provided when there is a legal obligation (due to a request or injunction from the relevant authorities), or there is no technical alternative to dismantling to ensure the safety compliance of the discontinued sites or installations.

## 16 Impairment of tangible and intangible assets excluding goodwill

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognized immediately in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

## 17 Capitalized borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

## 18 Government grants

Government grants are not recognized until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants relating to the purchase of property, plant and equipment are deducted from the cost of those assets. They are recognized in the balance sheet at their expected value at the time of initial government approval and corrected, if necessary, after final approval. The grant is amortized over the depreciation period of the underlying assets.

Other government grants are recognized as income over the periods necessary to match them with the costs for which they are intended to compensate, on a systematic basis. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

## 19 Inventories

Inventories are stated at the lower of purchasing cost (raw materials and merchandise) or production cost (work in progress and finished goods) and net realizable value. Net realizable value represents the estimated selling price, less all estimated costs of making the product ready for sale, including marketing, selling and distribution costs. The cost of inventories is determined by using the weighted average cost or first-in, first-out (FIFO) method. Inventories having a similar nature and use are measured using the same cost formula.

Cost of inventories includes the purchase, conversion and other costs incurred to bring the inventories to their present location and condition.

## 20 Financial assets

All financial assets are recognized and derecognized on trade date where the purchase or sale of a financial asset is under a contract whose terms require delivery of the financial asset within the timeframe established by the market concerned, and are initially measured at fair value, plus transaction costs, except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value.

A financial asset is classified as current when the cash flows expected to flow from the instrument mature within one year.

At initial recognition, Solvay classifies financial assets into one of the four categories provided in IAS 39 Financial Instruments: recognition and measurement according to the purpose of the acquisition. This classification determines the method for measuring financial assets at subsequent balance sheet dates: amortized cost or fair value.

Amortized cost is the amount at which the financial asset is measured at initial recognition minus principal repayments, plus or minus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount.

For instruments quoted in an active market, the fair value corresponds to a market price (level 1). For instruments that are not quoted in an active market, the fair value is determined using valuation techniques including reference to recent arm's length market transactions or transactions involving instruments which are substantially the same (level 2), or discounted cash flow analysis including, to a maximum extent, assumptions consistent with observable market data (level 3). However, if the fair value of an equity instrument cannot be reasonably estimated, it is measured at cost.

### Effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts or payments (including all fees on points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the debt instrument, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

Income is recognized on an effective interest basis for debt instruments other than those financial assets classified as at FVTPL.

However, the straight-line method is used instead, whenever it is a good approximation to the amortized cost rule *i.e.* when the difference between both methods is considered as not being significant at Group level.



### Financial assets at fair value through profit or loss (FVTPL)

Financial assets are classified as at fair value through profit or loss if they are held for trading. Financial assets at FVTPL are stated at fair value, with any resulting gains or losses recognized in profit or loss. A financial asset is classified in this category if acquired principally for the purpose of selling in the short term. Derivatives are also classified as at FVTPL unless they are designated and effective as hedges.

### Held-to-maturity investments

Debentures with fixed or determinable payments and fixed maturity dates that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are measured at amortized cost using the effective interest method less any impairment, with revenue recognized on an effective yield basis.

### Available-for-sale financial assets

Available-for-sale assets include investments in entities which were not acquired principally for the purpose of selling in the short term, and which are neither consolidated nor accounted for using the equity method. Assets classified in this category are stated at fair value, with any resulting gains or losses recognized directly in other comprehensive income, except if there exists an impairment loss, in which case the loss accumulated in equity is recycled to the income statement. However, they are stated at cost if they do not have a quoted price in an active market and their fair value cannot be reliably measured by alternative valuation methods.

### Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments which are not quoted in an active market. The Group's loans and receivables category comprises cash and cash equivalents, trade receivables and other non-current assets except pension fund surpluses. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash, have original maturities of three months or less and are subject to insignificant risk of change in value. Loans and receivables are measured at amortized cost using the effective interest method, less any impairment. Interest income is recognized by applying the effective interest rate, except for short-term receivables or when the difference with the straight-line method would be immaterial.

### Impairment of financial assets

The impairment loss of a financial asset measured at amortized cost is equal to the difference between the carrying amount and the estimated future cash flows, discounted at the initial effective interest rate. The impairment of an available-for-sale financial asset is calculated with reference to its current fair value.

An impairment test is performed, on an individual basis, for each material financial asset. Other assets are tested as groups of financial assets with similar credit risk characteristics.

Impairment losses are recognized in the income statement. With respect to available-for-sale assets, in the event of an impairment loss, the cumulative negative changes in fair value previously recognized in equity are transferred to the income statement.

The impairment loss is reversed if the reversal can be related objectively to an event occurring after the impairment was recognized. For financial assets measured at amortized cost and available-for-sale financial assets, the reversal is recognized in profit or loss. However, for available-for-sale financial assets which represent equity instruments, the reversal is recognized directly in equity. Impairment losses relating to assets recognized at cost cannot be reversed.

## 21 Financial liabilities

Financial liabilities are classified as either "financial liabilities at fair value through profit or loss (FVTPL)" or "financial liabilities measured at amortized cost".

### Financial liabilities at fair value through profit or loss (FVTPL)

Financial liabilities are classified as at fair value through profit or loss if they are held for trading. Financial liabilities at FVTPL are stated at fair value, with any resulting gains or losses recognized in profit or loss. A financial liability is classified in this category if acquired principally for the purpose of selling in the short term. Derivatives are also classified as at FVTPL unless they are designated and effective as hedges.

### Financial liabilities measured at amortized cost using the effective interest method

Financial liabilities measured at amortized cost, including borrowings, are initially measured at fair value, net of transaction costs. They are subsequently measured at amortized cost using the effective interest method, with interest expense recognized on an effective yield basis.

The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

The Group's financial liabilities measured at amortized cost comprises non-current financial debt, other non-current liabilities, current financial debt, trade liabilities and dividends payable included in other current liabilities.

## 22 Derivative financial instruments

The Group enters into a variety of derivative financial instruments to manage its exposure to interest rate, foreign exchange rate risk and commodity risk, including foreign exchange forward contracts and options, interest rate swaps, cross-currency swaps, commodity options and swaps, and energy purchase and sale contracts. Further details of derivative financial instruments are disclosed in note 34.

Derivatives are initially recognized at fair value at the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in financial income or expense immediately unless the derivative is designated and effective as a hedging instrument, in which the timing of the recognition in profit or loss depends on the nature of the hedge relationship. The Group designates certain derivatives as either hedges of the fair value of recognized assets or liabilities or firm commitments (fair value hedges), hedges of highly probable forecast transactions or hedges of foreign currency risk of firm commitments (cash flow hedges), or hedges of net investments in foreign operations.

A derivative with a positive fair value is recognized as a financial asset whereas a derivative with a negative fair value is recognized as a financial liability. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not expected to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

## 23 Hedge accounting

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, energy risk and CO<sub>2</sub> emissions rights, as either fair value hedges, cash flow hedges, or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedge relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

Note 34 sets out details of the fair values of the derivative instruments used for hedging purposes.

### Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the income statement relating to the hedged item.

Hedge accounting is discontinued when the Group revokes the hedging relationship, the hedging instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting.

### Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the "Other financial gains and losses" line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the income statement as the recognized hedged item. However, when the hedged forecast transaction results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Hedge accounting is discontinued when the Group revokes the hedging relationship, the hedging instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

### Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in other comprehensive income and accumulated in the foreign currency translation reserve. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the "Other financial gains and losses" line item.

Gains and losses on the hedging instrument relating to the effective portion of the hedge accumulated in the foreign currency translation reserve are reclassified to profit or loss in the same way as exchange differences relating to the foreign operation as described in note 8 above.

## 24 Shareholder' equity

### Share capital

Ordinary shares are classified as equity. Mandatorily redeemable preference shares are classified as liabilities.

Incremental costs directly attributable to the issue of new ordinary shares or options are shown in equity as a deduction, net of tax, from the proceeds.

### Reserves

The reserves include:

- retained earnings;
- the effects of the revaluation of derivatives assigned to cash flow hedges and net investments in accordance with IAS 21;
- the effects of the revaluation of available-for-sale financial assets in accordance with IAS 39, as these are unrealised gains and losses;
- equity instruments similar to deeply subordinated bonds, whose characteristics allow recognition in shareholders' equity (IAS 32): no maturity, interest is payable annually but can be deferred indefinitely;
- unrealised currency translation differences from the consolidation process relating to the translation of the financial statements of foreign subsidiaries prepared in a currency other than the Euro;
- treasury shares;
- impact of hyperinflation accounting;
- actuarial gains and losses related to post-employment benefits.

### Non-controlling interests

Non-controlling interests represent the share in the net assets and net earnings of a subsidiary of the Group. This share represents the interests that are not held directly by the parent company or indirectly through subsidiaries.

They are measured either at fair value or at the non-controlling interest's proportionate share of the recognised amounts of acquiree's identifiable net assets.

## 25 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

### Onerous contracts

Present obligations arising under onerous contracts are recognized and measured as provisions. An onerous contract is considered to exist where the Group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it.

### Restructurings

A restructuring provision is recognized when the Group has developed a detailed formal plan for the restructuring and has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement the plan or announcing its main features to those affected by it. The measurement of a restructuring provision includes only the direct expenditures arising from the restructuring, which are those amounts that are both necessarily entailed by the restructuring and not associated with the ongoing activities of the entity.

### Environmental liabilities

Solvay periodically analyzes all its environmental risks and the corresponding provisions. Solvay measures these provisions to the best of its knowledge of applicable regulations, the nature and extent of the pollution, clean-up techniques and other available information.

Changes in discount rates are recognized in the financial result.

## 26 Reporting in hyperinflationary economies

The Venezuelan economy being considered as a hyperinflationary economy, the Group has applied the hyperinflationary accounting requirements of IAS 29 Financial Reporting in Hyperinflationary Economies to its Venezuelan operations. The financial statements are based on the historical cost convention and have been restated to take account of the effects of inflation in accordance with IAS 29.

The index used to reflect current values is the inflation rate published by Banco Central de Venezuela.

	At 31/12/2013
Index at year end	1,264
Movement of the year	56.2%

## 27 Segment information

An Operating Segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, whose operating results are regularly reviewed by the entity's chief operating decision maker and for which discrete financial information is available. The Solvay group's chief operating decision maker is the Chief Executive Officer.

## 28 Revenue recognition

Net sales and other revenue are measured at the fair value of the consideration received or receivable, net of returns, rebates and trade benefits granted and sales tax.

Net sales comprise the sales of goods (goods and goods for resale) and value-added services corresponding to Solvay's know-how.

Other revenue primarily includes commodity and utility trading transactions and other revenue deemed as incidental by the Group (e.g. temporary contracts following the sale of businesses).

Net sales and other revenue are recognized when all the following conditions have been satisfied:

- the entity has transferred to the buyer the significant risks and rewards of ownership of the goods or, with respect to the rendering of services, the stage of completion can be measured reliably;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;

- the amount of revenue can be measured reliably;
- it is probable that the future economic benefits associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

## 29 Non-current assets held for sale and discontinued operations

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. For a sale to be highly probable, management should be committed to a plan to sell the asset (or disposal group), an active program to locate a buyer and complete the plan should be initiated, and the asset (or disposal group) should be actively marketed at a price which is reasonable in relation to its current fair value, and the sale should be expected to be completed within one year from the date of classification.

A discontinued operation is a component of an entity which the entity has disposed of or which is classified as held for sale, which represents a separate major line of business or geographical area of operations and which can be distinguished operationally and for financial reporting purposes.

When the Group is committed to a sale plan involving loss of control of a subsidiary, all of the assets and liabilities of that subsidiary are classified as held for sale when the criteria described above are met, regardless of whether the Group will retain a non-controlling interest in its former subsidiary after the sale.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell. Any excess of the carrying amount over the fair value less costs to sell is included as an impairment loss. Depreciation of such assets is discontinued as from their classification as held for sale. Comparative balance sheet information for prior periods is not restated to reflect the new classification in the statement of financial position (balance sheet).

### 30 Finance income and costs

Finance costs comprise:

- the interest on borrowings calculated using the effective interest method;
- the systematic amortization of transaction costs relating to credit lines;
- borrowing prepayment or credit line cancellation costs;
- the cost of the reverse discounting of non-current non-financial liabilities; and
- the impact of change in discounting rates.

Finance income comprises the interest income on plan assets, cash income and dividends.

Net foreign exchange gains or losses on financial items and the changes in fair value of derivatives are presented respectively in finance income or costs, with the exception of changes in fair value of derivatives which are recognized on the same line item as the hedged transaction.

All interest on borrowings is recognized in finance costs as incurred, with the exception of interest arising from the acquisition, construction and production of an eligible intangible asset or item of property, plant and equipment that is capitalized in the cost of the asset in accordance with the alternative treatment authorized by IAS 23 Borrowing Costs.

### 31 Share-based payments

Solvay has set up compensation plans, including equity-settled, shared-based compensation plans.

The fair value of services rendered by employees in consideration for the granting of equity-instruments represents an expense. This expense is recognized on a straight-line basis in the income statement over the vesting periods relating to these equity-instruments with the recognition of a corresponding adjustment in equity.

The fair value of services rendered is measured in reference to the fair value of the equity-instruments on the grant date.

At each balance sheet date, the Group re-estimates the number of options likely to be vested. The impact of the revised estimates is recognized in profit or loss against a corresponding adjustment in equity.

### 32 Statement of Comprehensive Income

In accordance with IAS 1 Presentation of Financial Statement, an entity can elect to present either a single statement of comprehensive income or two statements, *i.e.* an income statement immediately followed by a comprehensive income statement. The Group elected to do the latter.

The components of other comprehensive income (OCI) are presented before related tax effects with one amount shown for the aggregate amount of income tax relating to those components.

### 33 Contingencies

Contingent assets are not recognized in the financial statements. They are disclosed if the outflow of economic benefits is probable.

Contingent liabilities are not recognized in the financial statements, except if they arise from a business combination. They are disclosed unless the possibility of a loss is remote.

### 34 Events after the reporting period

Events after the reporting period which provide additional information about the Group's position at the closing date (adjusting events) are reflected in the financial statements. Events after the reporting period which are not adjusting events are disclosed in the notes if material.

### 35 Non IFRS metrics

Financial communication puts emphasis on two non IFRS metrics:

- a. REBITDA which consists of IFRS EBIT excluding:
  - recurring amortization and depreciation,
  - non-recurring items (see 10),
  - operating revenues/expenses not taken into account by management when assessing segment performances;
- b. adjusted net income which corresponds to IFRS net income adjusted for amortization and depreciation resulting from Purchase Price Accounting when material.



## Critical accounting judgments and key sources of estimation uncertainty

### Impairment

The Group performs annual impairment tests on goodwill and on cash-generating units for which there are indicators that the carrying amount might be higher than the recoverable amount. This analysis requires management to estimate the future cash flows expected to arise from the cash-generating units and a suitable discount rate in order to calculate present value.

Further details are provided in note 26.

### Deferred tax assets

The carrying amount of a deferred tax asset is reviewed at each statement of financial position (balance sheet) date. The carrying amount of a deferred tax asset is reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized. Any such reduction is reversed to the extent that it becomes probable that sufficient taxable profit will be available.

The corporate tax competence center, which has the overview of the Group deferred tax situation, is systematically involved in assessing deferred tax assets.

Further details are provided in note 8.B.

### Employment benefits provisions

The actuarial assumptions used in determining the pension obligation at December 31 as well as the annual cost can be found in note 32. All main employee benefits plans are assessed annually by independent actuaries. Discount rates and inflation rates are defined globally by management; the other assumptions (such as future salary increases and expected rates of medical care cost increases) are defined at a local level. All plans are supervised by the Group's central human resources department with the help of one central actuary to check the acceptability of the results and assure uniformity in reporting.

### Environmental Provisions

Environmental provisions are managed and coordinated jointly by an Environmental Remediation competence center and the finance department.

The forecasts of expenses are discounted to present value in accordance with IFRS rules.

The discount rates fixed by geographical area correspond to average risk-free rate on 10-year government bonds. These rates are set

annually by Solvay's Finance department and can be revised based on the evolution of economic parameters of the country involved.

To reflect the passage of time, the provisions are increased each year on a prorated basis at the discount rates defined above. Further details are provided in note 32.

### Provisions for litigation

All significant legal litigation<sup>(1)</sup> (or threat of litigation) is reviewed by Solvay's in-house lawyers with the support, when appropriate, of external counsels at least every quarter. This review includes an assessment of the need to recognize provisions or adapt existing provisions together with Solvay's Corporate Finance department and the Insurance department. The resulting report is submitted to the Executive Committee by the Group General Counsel and thereafter to the Audit Committee and to the Board of Directors.

### Fair value adjustments for business combinations

In accordance with IFRS 3 "Business Combinations", the Group remeasures the assets, liabilities and contingent liabilities acquired through a business combination to fair value. Where possible, fair value adjustments are based on external appraisals or valuation models, e.g. for contingent liabilities and intangible assets which were not recognized by the acquiree. Internal benchmarks are often used for valuing specific production equipment. All of these valuation methods rely on various assumptions such as estimated future cash flows, remaining useful economic life etc.

### Classification as Held for sale

Assets are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset is available for immediate sale in its present condition. Management must be committed to the sale which should be expected to qualify for recognition as a completed sale within one year from the date of classification. However, an asset may remain in this categorization for longer than one year if it remains unsold due to events or circumstances beyond the Group's control.

Chlorovinyls business has been reclassified as a disposal group held for sale. The scope of the assets and liabilities to be contributed by Solvay in a 50/50 joint venture is still subject to some uncertainties.

(1) A similar procedure is implemented for tax litigation.

## General description of the segments

Effective January 1, 2013, Solvay is organized into five Operating Segments.

**Advanced Formulations** serves the consumer products markets. Its growing product offering is directed at societal megatrends: demographic growth, the increasing purchasing power of emerging markets, the appearance of new modes of consumption, and a demand for safer, more sustainable products and renewable materials-based solutions. After the acquisition of Chemlogics and the consequent relative increase of the Oil & Gas end market compared to Consumer Goods, beginning of 2014 the Consumer Chemicals segment was renamed “**Advanced Formulations**”.

**Advanced Materials** offers ultra-high-performance applications for aerospace, high-speed trains, health, low-energy tires, automotive emission control, smartphones and hybrid vehicle batteries.

**Performance Chemicals** operates in mature and resilient markets, where success is based on economies of scale, competitiveness and quality of service.

**Functional Polymers** include polyamide based solutions serving mainly the automotive, construction, electrical/electronic and different consumer goods markets.

**Corporate & Business Services** includes the Energy Services GBU and Corporate Functions such as Business Services. Energy Services’ mission is to optimize energy consumption and reduce emissions.

## Notes to the income statement

### NOTE 1 Financial data by segment (Income statement per segment after reclassification in discontinued operations for Chlorovinyls and Solvay Indupa)

Information per segment for 2013 is presented below:

2013 € million	Advanced Formulations	Advanced Materials	Performance Chemicals	Functional Polymers	Corporate & Business Services	Group total
<b>Income statement items</b>						
Net sales	2,436	2,566	3,167	1,856	67	10,092
■ Inter-segment sales	(4)	(15)	(42)	(93)		(154)
External sales	2,432	2,551	3,125	1,763	67	9,938
Gross margin	535	847	687	171	85	2,325
<b>REBIT</b>	<b>211</b>	<b>451</b>	<b>512</b>	<b>(29)</b>	<b>(259)</b>	<b>886</b>
<i>Of which earnings from associates and joint ventures</i>	22	5	74	(6)	(4)	91
Depreciation and amortization	144	195	212	111	91	752
Adjustments for KPI monitored by Management	14			11		25
<b>REBITDA</b>	<b>369</b>	<b>646</b>	<b>724</b>	<b>93</b>	<b>(169)</b>	<b>1,663</b>
Non-recurring items	(15)	(27)	(73)	(28)	(97)	(239)
<b>EBIT</b>	<b>196</b>	<b>424</b>	<b>440</b>	<b>(57)</b>	<b>(356)</b>	<b>647</b>
Net financial charges						(210)
Income taxes						(187)
Result from discontinued operations						65
<b>Net income</b>						<b>315</b>

Statement of financial position and other items	Advanced Formulations	Advanced Materials	Performance Chemicals	Functional Polymers	Corporate & Business Services	Group total
Capital expenditures (continuing operations)	136	213	187	74	99	708
Capital expenditures (discontinued operations)				102		102
Investments (continuing operations)	881	1	18	86	13	999
Working capital						
Inventories	281	489	264	217	16	1,267
Trade receivables	295	327	468	201	31	1,322
Trade liabilities	286	240	384	232	212	1,353

Capital expenditures are related to fixed assets (tangible and intangible) and investments in subsidiaries and other investments.

Information per segment for 2012 is presented below:

2012 € million Income statement items	Advanced Formulations	Advanced Materials	Performance Chemicals	Functional Polymers	Corporate & Business Services	Group total
Net sales	2,573	2,779	3,189	1,970	157	10,667
■ Inter-segment sales	(8)	(36)	(27)	(82)		(152)
External sales	2,565	2,743	3,162	1,888	157	10,515
Gross margin	571	818	695	149	131	2,364
<b>REBIT</b>	<b>388</b>	<b>403</b>	<b>541</b>	<b>(15)</b>	<b>(190)</b>	<b>1,127</b>
<i>Of which earnings from associates and joint ventures</i>	129	5	53	2	(6)	183
Depreciation and amortization	130	196	209	115	74	724
Adjustments for KPI monitored by Management		28			17	45
<b>REBITDA</b>	<b>518</b>	<b>627</b>	<b>750</b>	<b>100</b>	<b>(99)</b>	<b>1,896</b>
Non-recurring items	0	(15)	122	98	(149)	55
<b>EBIT</b>	<b>388</b>	<b>388</b>	<b>663</b>	<b>83</b>	<b>(339)</b>	<b>1,181</b>
Net financial charges						(361)
Income taxes						(241)
Result from discontinued operations						2
<b>Net income</b>						<b>580</b>

Statement of financial position and other items	Advanced Formulations	Advanced Materials	Performance Chemicals	Functional Polymers	Corporate & Business Services	Group total
Capital expenditures (continuing operations)	115	198	201	65	61	640
Capital expenditures (discontinued operations)				145		145
Investments (continued operations)	4	16	12		9	41
Working capital						
Inventories	250	507	267	373	25	1,422
Trade receivables	267	357	500	491	43	1,657
Trade liabilities	280	246	349	533	208	1,617

External net sales by cluster are presented below:

€ million	2013	2012
<b>Advanced Formulations</b>	<b>2,432</b>	<b>2,565</b>
Novecare	1,581	1,684
Aroma Performance	365	376
Coatis	486	506
<b>Advanced Materials</b>	<b>2,551</b>	<b>2,743</b>
Specialty Polymers	1,288	1,348
Silica	416	382
Rare Earth Systems	298	434
Special Chemicals	549	579
<b>Performance Chemicals</b>	<b>3,125</b>	<b>3,162</b>
Essential Chemicals	1,756	1,811
Acetow	658	616
Eco Services	288	314
Emerging Biochemicals	424	421
<b>Functional Polymers</b>	<b>1,763</b>	<b>1,888</b>
Polyamides	1,557	1,688
Chlorovinyls	206	200
<b>Corporate &amp; Business Services</b>	<b>67</b>	<b>157</b>
Energy Services	67	154
Other Corporate and Business Services	0	3
<b>TOTAL</b>	<b>9,938</b>	<b>10,515</b>

**NOTE 2 Sales by country and region (continuing operations)**

Group sales by market location are as follows:

€ million	2013	%	2012	%
Belgium	126	1%	141	3%
Germany	929	9%	962	9%
Italy	490	5%	519	6%
France	812	8%	832	10%
United Kingdom	271	3%	329	3%
Spain	277	3%	283	3%
European Union – other	641	6%	645	8%
<b>European Union</b>	<b>3,545</b>	<b>34%</b>	<b>3,711</b>	<b>42%</b>
<b>Other Europe</b>	<b>263</b>	<b>3%</b>	<b>197</b>	<b>2%</b>
United States	2,095	20%	2,325	18%
Canada	108	1%	133	1%
<b>North America</b>	<b>2,203</b>	<b>21%</b>	<b>2,458</b>	<b>19%</b>
Brazil	883	9%	914	7%
Mexico	114	1%	117	1%
Latin America – other	172	2%	180	2%
<b>Latin America</b>	<b>1,170</b>	<b>11%</b>	<b>1,211</b>	<b>10%</b>
Russia	173	2%	158	1%
Turkey	81	1%	79	1%
China	757	7%	793	6%
India	176	2%	173	1%
Japan	349	3%	402	3%
South Korea	350	3%	342	3%
Thailand	406	4%	440	3%
Egypt	55	1%	55	0%
Other	837	8%	892	7%
<b>Asia and Rest of the World</b>	<b>3,186</b>	<b>31%</b>	<b>3,334</b>	<b>27%</b>
<b>TOTAL</b>	<b>10,367</b>	<b>100%</b>	<b>10,910</b>	<b>100%</b>

Net sales by destination proforma Chemlogics, as if the acquisition of Chemlogics had occurred on January 1, 2013, are presented in the pages “Group Profile”.



## Invested capital and capital expenditures by country and region

Invested capital and capital expenditures by country and region for continuing operations are shown below:

€ million	Invested capital				Capital Expenditures			
	2013	%	2012	%	2013	%	2012	%
Belgium	2,554	21%	3,579	29%	(21)	1%	(32)	9%
Germany	688	6%	968	8%	(45)	3%	(57)	8%
Italy	678	6%	707	6%	(62)	4%	(61)	8%
France	2,531	21%	2,000	16%	(200)	12%	(192)	31%
United Kingdom	86	1%	205	2%	(8)	0%	(7)	1%
Spain	225	2%	274	2%	(16)	1%	(10)	2%
European Union – other	201	2%	233	2%	(34)	2%	(7)	1%
<b>European Union</b>	<b>6,963</b>	<b>58%</b>	<b>7,967</b>	<b>64%</b>	<b>(386)</b>	<b>23%</b>	<b>(366)</b>	<b>59%</b>
<b>Other Europe</b>	<b>3</b>	<b>0%</b>	<b>(10)</b>	<b>0%</b>	<b>(5)</b>	<b>0%</b>	<b>0</b>	<b>0%</b>
United States	2,356	20%	1,689	14%	(998)	58%	(105)	13%
Canada	2	0%	1	0%	0	0%	0	0%
<b>North America</b>	<b>2,358</b>	<b>20%</b>	<b>1,690</b>	<b>14%</b>	<b>(998)</b>	<b>58%</b>	<b>(105)</b>	<b>13%</b>
Brazil	475	4%	834	7%	(39)	2%	(55)	9%
Argentina	68	1%	71	1%	0	0%	0	1%
Latin America – other	68	1%	45	0%	(1)	0%	(1)	0%
<b>Latin America</b>	<b>611</b>	<b>5%</b>	<b>951</b>	<b>8%</b>	<b>(40)</b>	<b>2%</b>	<b>(56)</b>	<b>9%</b>
Russia	413	3%	380	3%	(91)	5%	(1)	0%
Turkey	0	0%	0	0%	0	0%	0	0%
Thailand	404	3%	483	4%	(11)	1%	(44)	5%
China	581	5%	467	4%	(98)	6%	(69)	8%
South Korea	174	1%	139	1%	(24)	1%	(10)	1%
India	167	1%	210	2%	(6)	0%	(11)	1%
Singapore	32	0%	34	0%	(8)	0%	0	0%
Japan	53	0%	59	0%	(3)	0%	(1)	0%
Egypt	106	1%	109	1%	(10)	1%	(12)	1%
Other	60	1%	32	0%	(27)	2%	(6)	1%
<b>Asia and Rest of the World</b>	<b>1,990</b>	<b>17%</b>	<b>1,913</b>	<b>15%</b>	<b>(278)</b>	<b>16%</b>	<b>(154)</b>	<b>19%</b>
<b>TOTAL</b>	<b>11,924</b>	<b>100%</b>	<b>12,510</b>	<b>100%</b>	<b>(1,707)</b>	<b>100%</b>	<b>(681)</b>	<b>100%</b>

Invested capital includes the non-current assets (excluding the deferred taxes), inventory and trade receivables and payables. Capital Expenditures include tangible, intangible and investments expenditures.

**NOTE 3 REBITDA (non IFRS metrics)**

REBITDA for continuing operations is the non IFRS metrics used by management to monitor segment performances and to allocate resources. REBITDA is computed as follows:

€ million	2013	2012
<b>EBIT IFRS</b>	<b>647</b>	<b>1,181</b>
Non-recurring items	239	(55)
<b>REBIT</b>	<b>886</b>	<b>1,127</b>
Adjustment of Rhodia inventories at fair value (PPA)	0	45
Equity Earnings RusVinyl (pre-operational stage)	11	0
Adjustment of Chemlogics retention plan	1	0
Adjustment of Chemlogics inventories at fair value (PPA)	13	0
Recurring IFRS depreciation and amortization	752	724
<b>REBITDA (INCOME STATEMENT KPI MONITORED BY MANAGEMENT)</b>	<b>1,663</b>	<b>1,896</b>

In a challenging macro environment and against demanding comparables, **REBITDA** came at € 1,663 million (€ 1,896 million last year), primarily flat considering last year's exceptionals of € 190 million (CER phase out and native guar) and temporary adverse developments at guar derivatives.

Pricing power was satisfactory in a deflationary raw material context: the reduction of our selling prices of € (202) million was more than offset by savings in raw material and energy costs of € 205 million. By Operating Segment, pricing power at Advanced Materials and at Engineering Plastics (within Functional Polymers) was able to

offset major margin squeeze at our guar derivatives business (within Advanced Formulations). Excellence initiatives across business and functions helped significantly to compensate for the inflation component of the Group's fixed cost base

The year on year REBITDA evolution per operating segment broke down as follows: Advanced Formulations (29%), Advanced Materials 3%, Performance Chemicals (3%) and Functional Polymers (7%).

The Group's REBITDA margin on net sales came of 16.7% compared with 18.0% last year.

**NOTE 4 Other operating gains and losses (included in REBITDA)**

€ million	2013	2012
Income from investments and interest on loans to joint ventures and non-consolidated companies	7	8
Start-up, formation and preliminary study costs	(24)	(35)
Recurring capital gain on sales of fixed assets	10	7
Net foreign exchange gain and losses	4	0
Amortization of intangible resulting from PPA Rhodia	(148)	(131)
Balance of other gains and losses	57	54
<b>Other operating gains and losses</b>	<b>(94)</b>	<b>(97)</b>

In 2013 the balance of other gains and losses includes mainly the realignment of insurance policies of the Group which led to the reversal of provisions for € 22 million.

## NOTE 5 Earnings from Associates and Joint Ventures accounted for using the equity method (included in REBITDA)

The net income of the joint ventures and associates is part of the Group REBIT and amounts to € 92 million in 2013 against € 183 million in 2012. The main decrease relates to the net income generated by the guar activity of Hindustan Gum & Chemicals Ltd in India.

## NOTE 6 Non-recurring items

Non-recurring items mainly include:

- gains and losses on the sale of subsidiaries, joint-ventures, associates accounted for under the equity method that do not qualify as discontinued operations;
- acquisition costs of new business;

Non-recurring items for continuing operations break down as follows:

€ million	2013	2012
Restructuring	(115)	(110)
Costs related to non ongoing activities	(32)	(7)
M&A costs and capital gains/losses	(22)	53
Major litigations	(5)	(25)
Impairment	(65)	144
<b>Non-recurring items</b>	<b>(239)</b>	<b>55</b>

In 2013, the non recurring items are mainly related to:

- restructuring costs (€ (115) million) related mainly to Rhodia integration (€ (46) million) and Soda Ash Europe (€ (45) million);
- impairment Plextronics (€ (30) million) and Benvic (€ (32) million);
- litigation and environmental costs of non ongoing activities (€ (25) million).

In 2012, the non recurring items are mainly related to:

- the impairment loss on Soda Ash CGU booked in 2010 has been partially reversed (€ 149 million);

- gains and losses on the sale of real estate not directly linked to an operating activity;
- major restructuring charges;
- impairment losses resulting from the shutdown of an activity or a plant;
- impairment losses resulting from testing Cash-Generating Units for impairment (a CGU includes tangible assets, intangible assets and allocated goodwill if any);
- the impact of significant litigation;
- the remediation costs not generated by on-going production facilities (shut-down sites, discontinued activities...);
- other material operating income or expenses resulting from unusual events and likely to distort the analysis and comparability of the Group's performance.

- restructuring costs (€ (110) million) of which Rhodia integration costs for € (92) million (social costs and consulting fees);
- capital gains Pipelife joint venture (€ 70 million);
- capital gain corporate buildings Solvay SA (€ 28 million);
- litigation and environmental costs of non ongoing activities (€ (40) million).

**NOTE 7 Net financial charges**

€ million	2013	2012
Cost of borrowings – Interest expense on financial liabilities at amortized cost	(187)	(167)
Interest income on cash and cash equivalents	24	14
Interest income on other current receivables – Financial instruments	1	2
Other gains and losses on net indebtedness	(2)	(8)
Cost of discounting provisions	(87)	(200)
<b>Net financial charges</b>	<b>(250)</b>	<b>(358)</b>

*Details on “Other current receivables – financial instruments” and on “Cash and cash equivalents” are included in note 33.*

Net financial charges at the end of 2012 and 2013 does not include the net financial charges for Indupa and for the Chlorovinyls activities included in the proposed joint venture with Ineos, recorded in discontinued operations.

Net financial charges were € 250 million at the end of 2013 compared to € 358 million at the end of 2012.

At the end of 2013, charges and income for ~€ 9 million were recorded respectively in “Cost of borrowings” and in “Interest income on cash and cash equivalents”. They are related to investments made in treasury instruments valued at amortized cost under IFRS. The amortization was recorded in charges and was compensated by the share of accrued interest recognized in interest income.

The evolution of the cost of borrowings at the end of 2013 compared to 2012 is also partly explained by the fact that the 2012 financial charges included € 17 million one-off non cash income related to the decision to exercise the call option in 2014 related to the € 500 million Rhodia senior bond maturing in 2018.

Other gains & losses on net debt indebtedness decreased from € (8) million at the end of 2012 to € (2) million at the end of 2013.

At the end of 2013, they included a net positive income related to the mark-to-market of an interest rate swap (€ 5.2 million) that was traded early 2013 to secure a potential funding in 2014, however no longer needed as per management decision. This income was offset by financial losses (see note 34 Interest rate risk).

The cost of discounting provisions decreased from € 200 million at the end of 2012 to € 87 million at the end of 2013. This decrease (€ (113) million) is mainly due to the sum of the three following impacts:

- in 2012 a one off cost resulting from decrease in discount rates for environmental provisions (€ 49 million), mainly in the Eurozone and in Brazil;
- in 2013 a one off gain resulting from increase in discount rates for environmental provisions (€ 41 million), mainly in Brazil and to a lower extent in the UK and in North America;
- lower discount rate to compute net interest costs in 2013 (vs 2012) on post-employment benefit (€ 21 million).

## NOTE 8 Income taxes and deferred taxes

### 8.A. Income taxes

#### Components of the tax charge

The tax charge breaks down as follows:

€ million	2013	2012
Current taxes related to current year	(154)	(232)
Current taxes related to prior years	(36)	7
Deferred income tax	6	4
Tax effect of changes in the nominal tax rates on deferred taxes	(4)	(20)
<b>TOTAL</b>	<b>(187)</b>	<b>(241)</b>

€ million	2013	2012
Income tax on items allocated directly to equity	(34)	50
<b>TOTAL</b>	<b>(34)</b>	<b>50</b>

#### Reconciliation of the tax charge

The effective tax charge has been reconciled with the theoretical tax charge obtained by applying to the pre-tax profit of each Group entity the nominal tax rate prevailing in the country in which it operates.

€ million	2013	2012
<b>Earnings before taxes</b>	<b>437</b>	<b>819</b>
<b>Reconciliation of the tax charge</b>		
Total tax charge of the Group entities computed on the basis of the respective local nominal rates	(125)	(241)
Weighted average nominal rate	29%	29%
Tax effect of permanent differences	(58)	115
Tax effect of changes in tax rates	(4)	(20)
Tax effect of current and deferred tax adjustments related to prior years	15	6
Unrecognized deferred tax assets	(15)	(101)
<b>Effective tax charge</b>	<b>(187)</b>	<b>(241)</b>
<b>Effective tax rate*</b>	<b>43%</b>	<b>29%</b>

\* Tax charge (+)/tax credit (-).

The Group's effective tax rate (43%) is substantially higher than the weighted average nominal rate (29%), resulting mainly due to unsheltered non-recurring expenses (see note 6: impairments and restructuring costs without tax credit).



**8.B. Deferred taxes in the statement of financial position (balance sheet)**

The deferred taxes recorded in the statement of financial position (balance sheet) fall into the following categories:

2013 € million	Closing balance	Recognized in income statement	Recognized in OCI	Exchange rate effect	Acquisition/ Disposal	Other	Transfer to assets held for sale	Closing balance
<b>Temporary differences</b>								
Employee benefits obligations	731	(15)	(41)	(6)	(1)		(29)	639
Provisions other than employee benefits	367	(37)		(16)			(25)	289
Tangible assets	(635)	(23)		28	(2)		86	(546)
Goodwill	47	(8)						39
Tax losses	1,644	119		(22)	(1)		(90)	1,649
Tax credits	127	4		(1)			(4)	126
Assets held for sale	(55)	-6			5	16	40	0
Other	(37)	(4)	(8)	(1)		3	22	(26)
<b>Total (net amount)</b>	<b>2,187</b>	<b>30</b>	<b>(49)</b>	<b>(18)</b>	<b>2</b>	<b>19</b>	<b>0</b>	<b>2,172</b>
Unrecognized deferred tax assets – Continuing operations	(2,194)	(44)	10	27			62	(2,139)
Unrecognized deferred tax assets – Assets held for sale	45	16			(5)	7	(62)	0
<b>Total unrecognized deferred tax assets</b>	<b>(2,149)</b>	<b>(28)</b>	<b>10</b>	<b>26</b>	<b>(5)</b>	<b>7</b>	<b>0</b>	<b>(2,139)</b>
<b>TOTAL</b>	<b>38</b>	<b>2</b>	<b>(38)</b>	<b>8</b>	<b>(3)</b>	<b>25</b>	<b>0</b>	<b>33</b>
Deferred tax assets in statement of financial position	527							502
Deferred tax liabilities in statement of financial position	(489)							(469)

2012 € million	Closing balance	Recognized in income statement	Recognized in OCI	Exchange rate effect	Other	Closing balance	Reclassi- fication*	Adjusted closing balance
<b>Temporary differences</b>								
Employee benefits obligations	673	(107)	118	1		685	46	731
Provisions other than employee benefits	336	(27)		(8)		301	66	367
Tangible assets	(710)	29		14	(2)	(669)	33	(635)
Goodwill	60	(11)				49	(1)	47
Tax losses	1,613	202		(4)		1,811	(167)	1,644
Tax credits	124	(16)				108	19	127
Assets held for sale	0	(17)			(37)	(54)	(1)	(55)
Other	22	10	(8)	3		27	(65)	(37)
<b>Total (net amount)</b>	<b>2,118</b>	<b>62</b>	<b>110</b>	<b>6</b>	<b>(39)</b>	<b>2,258</b>	<b>(70)</b>	<b>2,187</b>
Unrecognized deferred tax assets – Continuing operations	(2,034)	(149)	(65)	2	2	(2,244)	50	(2,194)
Unrecognized deferred tax assets – Assets held for sale	0	39			5	44	1	45
<b>Total unrecognized deferred tax assets</b>	<b>(2,034)</b>	<b>(110)</b>	<b>(65)</b>	<b>2</b>	<b>7</b>	<b>(2,200)</b>	<b>51</b>	<b>(2,149)</b>
<b>TOTAL</b>	<b>84</b>	<b>(47)</b>	<b>45</b>	<b>8</b>	<b>(32)</b>	<b>58</b>	<b>(20)</b>	<b>38</b>
Deferred tax assets in statement of financial position	796					547	(20)	527
Deferred tax liabilities in statement of financial position	(712)					(489)		(489)

\* The reclassification at year-end 2012 corresponds to:

- reclassification due to recognition of temporary differences (€ (50) million) neutralized by allowances (€ + 50 million));
- reclassification between deferred and current taxes for € 20 million

## Other information

All the Group's tax loss carried forwards have generated deferred tax assets, except some of which that have not been recognized. The carried-forward tax losses generating deferred tax assets are given below by expiration date.

€ million	2013	2012
Within 1 year	39	2
Within 2 years	33	0
Within 3 years	44	0
Within 4 years	14	0
Within 5 or more years	146	239
No time limit	554	622
<b>TOTAL</b>	<b>830</b>	<b>863</b>

## NOTE 9 Net income

Net income amounts to € 315 million versus € 580 million in 2012. This decrease in net income results mainly from:

- lower REBITDA (€ (233) million);
- non-recurring items (€ (239) million in 2013 compared to € 55 million in 2012);
- lower discounting costs in financial expenses (€ +113 million);
- higher result from discontinued operations (€ +64 million).

## NOTE 10 Adjusted net income (non IFRS metrics)

Adjusted net income excludes from the IFRS net income the main impact of the Rhodia Purchase Price Accounting related to the amortization of intangible assets (after taxes).

Adjusted net income is computed as follows:

€ million	2013	2012
<b>NET INCOME IFRS</b>	<b>315</b>	<b>580</b>
<b>Adjustments to IFRS net income</b>		
Adjustment of Rhodia inventories at fair value (PPA)	0	45
Amortization of PPA on intangible fixed assets	148	131
Tax on adjustments	(41)	(50)
<b>ADJUSTED NET INCOME</b>	<b>422</b>	<b>707</b>

## NOTE 11 Earnings per share

	2013	2012
Number of shares (in thousands)		
Weighted average number of ordinary shares (basic)	83,151	82,305
Dilution effect of subscription rights	692	391
Weighted average number of ordinary shares (diluted)	83,843	82,696

	2013		2012	
	Basic	Diluted	Basic	Diluted
Net income of the year (Solvay share) including discontinued operations (in thousands)	270,477	270,477	563,036	563,036
Net income of the year (Solvay share) excluding discontinued operations (in thousands)	205,345	205,345	516,804	516,804
Earnings per share (including discontinued operations) (in €)	3.25	3.23	6.84	6.81
Earnings per share (excluding discontinued operations) (in €)	2.47	2.45	6.28	6.25

The basic earnings per share amount are obtained by dividing net income by the number of shares.

The diluted earnings per share amount is obtained by dividing net income by the number of shares, increased by the number of potentially diluting shares attached to the issue of share options. For the purpose of calculating diluted earnings per share, there were no adjusting elements to net income of the year (Solvay share).

Full data per share, including dividend per share, can be found in the management report.

The average closing price during 2013 was € 109.96 per share (2012: € 87.92 per share). The following share options were out of the money, and therefore antidilutive, for the period presented, but could potentially dilute basic earnings per share in the future (see note 24 "Options and acquisition/sale of treasury shares").

Antidilutive share options	Date granted	Exercise price	Number granted	Number outstanding
Share option plan 2013	25/03/2013	111.01	405,716	405,716

## NOTE 12 Personnel expenses

€ million	2013	2012
Wages/salaries and direct social benefits	(1,376)	(1,366)
Employer's contribution for social insurance	(322)	(306)
Pensions & Insurance benefits	(215)	(116)
Other Personnel expenses	(103)	(113)
Personnel benefits provisions	(127)	(220)
<b>TOTAL</b>	<b>(2,143)</b>	<b>(2,122)</b>

## NOTE 13 Discontinued operations and assets held for sale

Following the filing of Chlorovinyls joint venture plan for EU clearance, Solvay is presenting since September 30, 2013 the associated activities in discontinued operations.

On May 6, 2013 Solvay and Ineos signed a Letter of Intent to combine their European chlorovinyls activities in a 50-50 joint venture. The joint venture would pool both groups' assets across the entire chlorovinyls chain, including PVC, caustic soda and chlorine derivatives. RusVinyl, Solvay's Russian joint venture in chlorovinyls with Sibur, is excluded from

the transaction. In September 2013, Solvay and Ineos submitted their application for competition clearance with the European Commission. Subject to obtaining antitrust clearance, the joint venture will be formed in the first half of 2014.

Indupa (Chlorovinyls South America) remains classified in discontinued operations as closing is expected in 2014 after the signing in December 2013 of a Share Purchase Agreement with Braskem. The closing of the transaction contingent upon the approval of the Brazilian antitrust authorities.

Benvic (PVC compound) is an asset held for sale and is not in discontinued operations as not a major line of business.

### 13.A. Discontinued operations (Pharma, Chlorovinyls and Solvay Indupa)

€ million	2013	2012
Sales	2,510	2,462
Breakdown discontinued operations		
Loss recognised as result of remeasurement to fair value less costs to sell	(68)	(102)
EBIT Pharma (post closing litigation)	105	102
EBIT Chlorovinyls	80	89
EBIT Solvay Indupa		(28)
Financial charges Pharma	0	3
Financial charges Chlorovinyls	(11)	(18)
Financial charges Solvay Indupa		(26)
Tax Chlorovinyls	(42)	(31)
Tax Solvay Indupa		11
<b>TOTAL RESULT FROM DISCONTINUED OPERATIONS</b>	<b>65</b>	<b>1</b>
attributed to:		
■ owners of the parent	65	46
■ non-controlling interests	0	(45)

Discontinued operations include:

- Pharma post closing adjustments (mainly insurers indemnity in 2012, mainly milestone in 2013).
- Solvay Indupa in 2012 net income (€ (43) million) and impairment loss resulting from remeasurement to fair value at year end 2012 (€ (102) million).

Solvay Indupa in 2013 discontinued operations net income results from impairment loss related to change in fair value after signing

the share purchase agreement with Braskem in December 2013 (€ (68) million in 2013).

The CTA related to Solvay Indupa and its parent company Solvay Argentina amounts to € (51) million at the end of 2013 and will be recycled through income statement at the closing date.

Chlorovinyls Europe net income amounts to € 27 million in 2013 and € 41 million in 2012.

### 13.B. Assets held for sale (Chlorovinyls, Solvay Indupa and PVC compound Benvic)

€ million	2013	2012
Property, plant and equipment	763	225
Goodwill	142	0
Other intangible assets	7	0
Investments	14	18
Inventories	216	52
Trade and other receivables	469	120
Cash and cash equivalent	11	10
<b>Assets held for sale</b>	<b>1,621</b>	<b>425</b>
Non-current liabilities	422	102
Trade and other payables	527	235
<b>Liabilities associated with assets held for sale</b>	<b>949</b>	<b>337</b>
<b>NET ASSETS DIRECTLY ASSOCIATED WITH DISPOSAL GROUP</b>	<b>672</b>	<b>88</b>
<i>Included in other comprehensive income</i>		
Currency translation differences <sup>(1)</sup>	(61)	(24)
Defined benefit pension plan <sup>(2)</sup>	(27)	(1)
<b>RESERVE OF DISPOSAL GROUP CLASSIFIED AS HELD FOR SALE</b>	<b>(88)</b>	<b>(25)</b>

(1) Including € (51) million for the Solvay share in Solvay Indupa CTA in 2013.

(2) Mainly related to Chlorovinyls in 2013.

Assets held for sale at year end 2013 includes:

- Chlorovinyls book value for net assets for € 657 million;
- Benvic (PVC compound) net assets for € 17 million;
- Indupa net asset close to zero due to remeasurement to fair value in December 2013.

In 2012 the assets held for sale were mainly related to Indupa (€ 80 million).

Indupa fair value in 2012 was based on the share price at Buenos Aires Stock Exchange. In December 2013, the fair value less costs to sell results from the sale agreement signed with Braskem for the Solvay's interests and for the conditions expected to prevail for the regulated tender offer related to the minority interests.

Benvic fair value is based on the expected purchase price within the framework of negotiations with potential buyers.

## Notes to the statement of comprehensive income

## NOTE 14 Consolidated statement of comprehensive income

## Presentation of the tax effect relating to each component of other comprehensive income

€ million	2013			2012		
	Before-tax amount	Tax expense(-)/benefit (+)	Net-of-tax amount	Before-tax amount	Tax expense(-)/benefit (+)	Net-of-tax amount
Gains and losses on remeasuring hyperinflation	30	(10)	20			0
Recycling of hyperinflation			0			0
Recycling of hyperinflation impaired in the year*			0			0
<b>Hyperinflation</b>	<b>30</b>	<b>(10)</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>
Gains and losses on remeasuring available-for-sale financial assets	(3)		(3)	12		12
Recycling of available-for-sale financial assets disposed of in the year*	(20)		(20)			0
Recycling of available-for-sale financial assets impaired in the year*			0	2		2
<b>Available-for-sale financial assets</b>	<b>(23)</b>	<b>0</b>	<b>(23)</b>	<b>14</b>	<b>0</b>	<b>14</b>
Effective portion of gains and losses on hedging instruments in a cash flow hedge	35		35	24	(5)	19
Recycling to the income statement*	(44)		(44)	(13)	(3)	(16)
Recycling to the initial carrying amounts of hedged items*			0			0
<b>Cash flow hedges</b>	<b>(9)</b>	<b>0</b>	<b>(9)</b>	<b>11</b>	<b>(8)</b>	<b>3</b>
Currency translation differences arising during the year	(356)		(356)	(129)	(1)	(130)
Recycling of currency translations differences relating to foreign investments disposed of in the year			0			0
<b>Currency translation differences on foreign operations</b>	<b>(356)</b>	<b>0</b>	<b>(356)</b>	<b>(129)</b>	<b>(1)</b>	<b>(130)</b>
<b>Unrecognized actuarial gains and losses on defined benefit pension plans</b>	<b>109</b>	<b>(28)</b>	<b>81</b>	<b>(419)</b>	<b>53</b>	<b>(366)</b>
<b>Other comprehensive income</b>	<b>(249)</b>	<b>(38)</b>	<b>(287)</b>	<b>(523)</b>	<b>44</b>	<b>(478)</b>

\* See note 34.

## Hyperinflation

The Venezuelan economy being considered as a hyperinflationary economy, the Group has applied the hyperinflationary accounting requirements of IAS 29 Financial Reporting in Hyperinflationary Economies to its Venezuelan operations. The financial statements are based on the historical cost convention and have been restated to take account of the effects of inflation in accordance with IAS 29 (€ 20 million after taxes).

## Available-for-sale financial assets

The recycling of available-for-sale financial assets (€ (20) million after taxes) disposed during the year concerns the sale of all the shares AGEAS held by the Group.

## Cash flow hedges

(see note 34: € (9) million)

The gain (€ 35 million after taxes) is related to the effective portion of change in fair value for cash flow hedges (currency cash flow hedges for € 29 million).

The recycling of cash flow hedge (€ (44) million after taxes) corresponds mainly to € (43) million of currency cash flow hedges.

## Currency Translation differences

The total difference amounts to € (356) million of which € (315) million for the Group's share, increasing the balance from € (423) million at the end of 2012 to € (780) million at the end of 2013.

The main variances are linked to the depreciation of USD (€ (86) million), BRL (€ (71) million), THB (€ (36) million), RUB (€ (47) million), ARS (€ (38) million) and INR (€ (25) million) compared to EUR.

## Notes to the statement of cash flows (continuing and discontinued operations)

### NOTE 15 Depreciation, amortization and impairments

In 2013 total depreciation, amortization and impairment losses amount to € (929) million, of which:

- normal straight-line depreciation and amortization € 838 million (€ 603 million for continuing operations, € 148 million for PPA Rhodia amortization and € 86 million for discontinued operations);
- net impairment loss amounted to € 91 million (€ 22 million for continuing operations and € 68 million for discontinued operations).

### NOTE 16 Income tax

**Income tax expense** in 2013 (€ 232 million) includes € 45 million for discontinued operations.

**Income tax paid** in 2013 amounted to € 262 million of which € 11 million for discontinued operations.

### NOTE 17 Changes in working capital

The change in working capital amounted to € 54 million in 2013, of which € (29) million for continuing operations and € +83 million for discontinued operations, mainly due to Chlorovinyls.

### NOTE 18 Changes in provisions

The amount (€ (245) million) includes:

- the cash-out for € (433) million: total of € (617) million (see uses in note 32) minus the settlement of H<sub>2</sub>O<sub>2</sub> anti-trust case for € 175 million, as this amount was already placed in escrow;
- the additions (€ 440 million) and reversals (€ (243) million) presented in the note 32.

### NOTE 19 Other non-operating and non-cash items

The other non-operating and non-cash items for 2013 (€ 20 million) include: impairment of non-current financial assets, gains and losses on sales of fixed assets and other non-cash income and expense such as the costs of share options.

### NOTE 20 Cash flows linked to the acquisition/disposal of assets and investments

#### 2013

€ million

	Acquisitions	Disposals	Total
Subsidiaries	(878)	(6)	(884)
Associates and joint ventures	(104)		(104)
Available-for-sale investments	(10)	50	40
Other	(7)		(7)
Total investments	(999)	44	(955)
Tangible/intangible assets	(810)	33	(777)
<b>TOTAL</b>	<b>(1,809)</b>	<b>77</b>	<b>(1,732)</b>

#### 2012

€ million

	Acquisitions	Disposals	Total
Subsidiaries	(2)		(2)
Associates and joint ventures		180	180
Available-for-sale investments	(9)	1	(8)
Other	(30)	9	(21)
Total investments	(41)	191	149
Tangible/intangible assets	(785)	109	(676)
<b>TOTAL</b>	<b>(826)</b>	<b>300</b>	<b>(526)</b>



**The acquisition of subsidiaries** (€ 878 million) is mainly related to the acquisition of Chemlogics and it is composed of the total consideration transferred in cash (€ 888 million), net of the cash held by the Company at acquisition (€ 7 million).

**Disposal of investments** in 2013 refers to the sale of the AGEAS shares (€ 50 million).

**The acquisition of associates and joint ventures** (€ 104 million) mainly relates to the capital increase in the RusVinyl PVC Joint venture (€ 86 million) and in the Hydrogen Peroxide Joint venture with Sadara in Saudi Arabia (€ 24 million).

**The acquisition of tangible/intangible assets** in 2013 (€ (810) million) relates to various projects, many of them extending over several years:

- Novecare's expansion of ethoxylation capacity in Asia and the US;
- Novecare's new surfactant plant in Germany;
- Doubling of Aroma Performance's production capacity for specialty fluorinated derivatives at its plant in Salindres (France);
- The investment in Specialty Polymers in China (Changshu);
- Silica: build-up of a new Highly Dispersible Silica (HDS) plant in Poland.

The acquisition of tangible and intangible assets related to discontinued operations amounts to € (102) million.

## NOTE 21 Proceed from Bond issuance classified as equity

Following the acquisition of Chemlogics and to strengthen Solvay's capital structure, a hybrid bond has been issued for a worth of € 1.2 billion. This bond qualifies as Equity Instrument as IAS 32 criteria are fulfilled. The amount reported in the cash flow statement is the cash received after deduction of the fees incurred at issue.

The classification of the Hybrid Bonds in equity is based on IAS 32, mainly because of the discretionary nature of all payments:

- no maturity (perpetual bond) as the issuer has a call option at every reset date to redeem the instrument;
- at the option of the issuer interest payments can be deferred indefinitely.

The coupons related to the € 1.2 billion Hybrid Bonds issued at the end of 2013 (€ 700 million NC5.5 at 4.199% and € 500 million NC10 at 5.425%) and treated as equity under IFRS are reported as dividends upon declaration (see statement of change in equity).

## NOTE 22 Others cash flow from financing activities

The Other Cash flows from financing activities (€ (61) million) includes the payments for the liquidity clause related to share based payments signed as part of the Rhodia acquisition (€ (32) million)

## NOTE 23 Cash flows from discontinued operations

The 2013 cash flow from discontinued operations (€ 213 million) results from the cash in of the Androgel milestone and insurance indemnities, related to the disposal of the pharma business (€ 128 million) and the total cash flow of the Indupa business in Latin America (€ 6 million) and Chlorovinyls reclassified as discontinued operations (€ 80 million).

## NOTE 24 Options and acquisition/sale of treasury shares

At the end of 2012, the Group held 1,735,010 treasury shares, to cover the share options offered to Group executives. At the end of December 2013, the Group held 1,529,870 treasury shares, which have been deducted from consolidated shareholders' equity.

As it has in every year since 1999, the Board of Directors renewed the share option plan offered to executive staff (around 73 persons) with a view to involving them more closely in the long-term development of the Group. The majority of the managers involved subscribed the options offered them in 2013 with an exercise price of € 111.01, representing the average stock market price of the share for the 30 days prior to the offer.

The 3-year vesting period is followed by a 5-year exercise period, at the end of which any unexercised options expire. The settlement method is in equity.

Share options	2002	2005	2006	2007	2008
Number of share options granted and still outstanding at 31/12/2012	21,700	372,900	498,100	457,200	228,450
Granted share options					
Forfeitures of rights and expiries			(2,000)		
Share options exercised	(21,700)	(253,460)	(87,900)	(151,900)	(81,550)
Number of share options at 31/12/2013	0	119,440	408,200	305,300	146,900
Share options exercisable at 31/12/2013	0	119,440	408,200	305,300	146,900
Exercise price (in €)	63.76	97.30	109.09	96.79	58.81
Fair value of options at measurement date (in €)	9.60	10.12	21.20	18.68	14.95

Share options	2009	2010	2011	2012	2013
Number of share options granted and still outstanding at 31/12/2012	555,600	431,900	414,750	781,347	
Granted share options					405,716
Forfeitures of rights and expiries		(1,500)	(1,500)	(1,500)	
Share options exercised	(305,300)				
Number of share options at 31/12/2013	250,300	430,400	413,250	779,847	405,716
Share options exercisable at 31/12/2013	274,100	0	0	0	0
Exercise price (in €)	72.34	76.49	65.71	88.71	111.01
Fair value of options at measurement date (in €)	19.85	15.58	13.54	22.53	21.32

	2013		2012	
	Number of share options	Weighted average exercise price	Number of share options	Weighted average exercise price
At January 1	3,761,947	84.92	3,654,073	82.18
Granted during the year	405,716	111.01	781,347	88.71
Forfeitures of rights and expiries during the year	(6,500)	86.85	(5,500)	82.88
Exercised during the year	(901,810)	85.63	(667,973)	74.36
At December 31	3,259,353	87.97	3,761,947	84.92
Exercisable at December 31	1,253,940		1,578,350	

The share options resulted in a charge in 2013 of € 10.5 million calculated by a third party according to the Monte Carlo model and recorded in the income statement under commercial and administrative costs.

The model places a value on the options taking into account the fact that some of them will be exercised before the option maturity.

The value of the option is based on:

- the price of the underlying asset (Solvay share): € 106.85 at March 25, 2013;

- the time outstanding until the option maturity: exercisable from January 1, 2017;
- the option exercise price: € 111.01;
- the risk-free return: 1.313%;
- the volatility of the underlying yield, implies from option price: 28.00%.
- based on a Divided Yield of 2.880%.

The model places a value on the options taking into account the fact that some of them will be exercised before the option maturity.

Weighted average remaining contractual life:

In years	2013	2012
Share option plan 2002	0.0	0.9
Share option plan 2005	4.8	3.7
Share option plan 2006	2.7	3.5
Share option plan 2007	4.0	4.8
Share option plan 2008	3.0	4.0
Share option plan 2009	3.9	4.9
Share option plan 2010	5.0	6.0
Share option plan 2011	5.9	6.9
Share option plan 2012	6.1	7.1
Share option plan 2013	7.2	-

## Notes to the statement of financial position

## NOTE 25 Intangible assets

€ million	Development costs	Patents and trademarks	Other intangible assets	Total
<b>Gross carrying amount</b>				
<b>At December 31, 2011</b>	<b>134</b>	<b>934</b>	<b>946</b>	<b>2,014</b>
Capital expenditures	24	4	21	49
Disposals		(3)		(3)
Currency translation differences	(1)	(13)	(3)	(17)
Other	(10)	24	(22)	(7)
Transfer to assets held for sale		(13)		(13)
<b>At December 31, 2012</b>	<b>147</b>	<b>933</b>	<b>941</b>	<b>2,022</b>
Capital expenditures	42	1	27	70
Disposals	(11)	(5)		(16)
Increase through business combinations	30	1	289	319
Currency translation differences	(2)	(25)	(9)	(36)
Other	1	9	(54)	(45)
Transfer to assets held for sale	(2)	(8)	5	(4)
<b>AT DECEMBER 31, 2013</b>	<b>205</b>	<b>906</b>	<b>1,199</b>	<b>2,310</b>
<b>Accumulated amortization</b>				
<b>At December 31, 2011</b>	<b>(41)</b>	<b>(285)</b>	<b>(69)</b>	<b>(395)</b>
Amortization	(16)	(71)	(111)	(198)
Disposals and closures		2		2
Currency translation differences		4	3	7
Other	5	5	2	12
Transfer to assets held for sale		13		13
<b>At December 31, 2012</b>	<b>(53)</b>	<b>(332)</b>	<b>(175)</b>	<b>(559)</b>
Amortization	(18)	(78)	(117)	(213)
Disposals and closures		4	(6)	(2)
Currency translation differences		10	3	13
Other	12	8	53	73
Transfer to assets held for sale		4	(6)	(2)
<b>AT DECEMBER 31, 2013</b>	<b>(58)</b>	<b>(384)</b>	<b>(248)</b>	<b>(690)</b>
<b>Net carrying amount</b>				
At December 31, 2011	93	649	877	1,619
At December 31, 2012	94	601	766	1,462
<b>AT DECEMBER 31, 2013</b>	<b>146</b>	<b>522</b>	<b>951</b>	<b>1,620</b>

The carrying amount of intangible assets as of December 31, 2011 consists mainly of acquired customer relationship (€ 696 million included in other intangible assets) and of technologies (€ 555 million) related to Rhodia. The average amortization of these assets is 11 years.

**NOTE 26 Goodwill**

€ million	Total
<b>Gross carrying amount</b>	
<b>At December 31, 2011</b>	<b>2,717</b>
Arising on acquisitions	1
Other	(1)
<b>At December 31, 2012</b>	<b>2,717</b>
Arising on acquisitions	533
Impairments	(4)
Currency translation differences	(9)
Transfer to assets held for sale	(141)
<b>AT DECEMBER 31, 2013</b>	<b>3,096</b>

In 2013, the goodwill increased by € 383 million following:

- the acquisition of Chemlogics on October 31, 2013 which generated a new goodwill for € 529 million;
- the change of control of the Landsol company, which generated a new goodwill for € 4 million;
- the qualification of Chlorchemicals activities as "Held for sale", which triggered the transfer of the existing goodwills allocated to the CGUs "Chlorovinyls Europe", "Olefins" and to the segment "Functional Polymers", to the line "Assets held for sale" for € 141 million;
- the impairment of the existing goodwill in the CGU Plastics Integration for € 4 million, following the qualification of the Benvic activities as Assets held for sale.

**Purchase Price Allocation related to the acquisition of Chemlogics**

On October 31, 2013, Solvay acquired 100% of the privately-held Chemlogics, a company offering products to ease frictions in drilling. This acquisition enables Solvay's Novecare business unit to become a leader with an extensive portfolio of tailored chemical solutions for the fast-growing oil & gas market.

The acquisition of Chemlogics will generate significant synergies. Synergies will come from an extended client base and thanks to a comprehensive offering of innovative products and technologies enabling oilfield service players worldwide to competitively and safely extract oil and gas while reducing water consumption. The goodwill of € 529 million arising from the acquisition reflects those synergies expected from the acquisition and the potential of growth.

This goodwill is expected to be deductible for US income tax purposes over 15 years.

The following table summarizes the consideration paid for Chemlogics and the amounts of assets and liabilities assumed recognized provisionally at the acquisition date.

€ million	
<b>TOTAL CONSIDERATION TRANSFERRED (CASH)</b>	<b>888</b>
<b>Recognised amounts of identifiable assets acquired and liabilities assumed</b>	<b>359</b>
Tangible fixed assets	30
Intangible fixed assets	317
Inventories	56
Non industrial working capital	(6)
Accounts receivable and payable	22
Net debt	(60)
<b>GOODWILL</b>	<b>529</b>

The fair value of Intangible assets mainly corresponds to customer relationships.

The revenue included in the consolidated statement of comprehensive income since October 31, 2013 contributed by Chemlogics was € 58 million. Chemlogics also contributed operational profit (REBIT) for € 7 million over the same period.

Had Chemlogics been consolidated from January 1, 2013, the consolidated statement of comprehensive income would have included revenue of € 10,258 million and operational profit (REBIT) for € 962 million.

Contingent consideration (€ 60 million) is included in the acquisition price and is related to the achievement of performance targets.

The sale agreement contains a retention plan of € 17 million for key employees subject to future services. This cost is recognized in the REBIT over the 3 year-vesting period.

Acquisition costs amounted to € 5 million and are recorded in the non-recurring items.

The amount paid for the acquisition is € 881 million after deducting € 7 million of cash acquired.

### Goodwill by cash-generating unit (CGU)

Goodwill acquired in a business combination is allocated on acquisition to the cash-generating units (CGU) or groups of CGUs (Operating Segments) that are expected to benefit from that business combination.

The carrying amounts of goodwill and related impairment have been allocated as follows:

€ million	2012			2013				
	At the beginning of the period	Movements of the period	At the end of the period	Transfer to asset held for sale	Acquisition and divestment	Impairment	Currency translation differences	At the end of the period
<b>Groups of CGUs (Operating Segments)</b>								
Advanced Formulations	221		221					221
Advanced Materials	485		485					485
Performance Chemicals	166		166					166
Functional Polymers	9		9	(9)				0
<b>Cash generating units*</b>								
Novecare	477	1	478		529		(6)	1,001
Polyamides	170		170					170
Rare Earth Systems	161		161					161
Specialty Polymers	186		186				(1)	185
Acetow	120		120					120
Soda ash and derivatives EMEA	120		120					120
Chlorovinyls Europe	122		122	(122)				0
Coatis	82		82					82
Silica	72		72					72
Aroma Performance	49		49					49
Energy Services	49		49					49
Fluorochemicals	50		50		4		0	53
Eco Services	42		42					42
Soda ash and derivatives NAFTA	42		42					42
Hydrogen Peroxyde Europe	20		20					20
Emerging Biochemicals	20		20					20
Hydrogen Peroxyde Mercosul	14		14					14
Olefins	11		11	(11)				0
Hydrogen Peroxyde Nafta	7		7					7
Hydrogen Peroxyde Asia	11		11				(1)	10
PCC	4		4					4
Plastics Integration	4		4			(4)		0
PVC Mercosur	2		2				0	2
<b>TOTAL GOODWILL</b>	<b>2,716</b>	<b>1</b>	<b>2,717</b>	<b>(141)</b>	<b>533</b>	<b>(4)</b>	<b>(8)</b>	<b>3,096</b>

\* Following the Rhodia integration and the Horizon restructuring plan the scope of some CGUs has been reviewed, which reduce the number of CGUs.

### Impairment tests

In accordance with the methodology adopted by the Group for the implementation of impairment tests (see 7 of IFRS accounting principles), the recoverable amount of cash-generating units (CGUs) or groups of CGUs corresponds to their value in use, which is defined as equal to the sum of net cash flows from the latest forecasts for each CGU or group of CGUs and determined using the following methods:

- 5-year business plan prepared by management based on growth and profitability assumptions, taking into account past performances, forecast changes in the economic environment and expected market development;

- consideration of a terminal value determined by capitalizing a standard cash flow obtained by extrapolating the most recent cash flow of the explicit business plan period, affected by a long-term growth rate deemed appropriate for the activity and the location of the assets;
- discounting of expected cash flows at a rate determined using the weighted average capital cost formula.

The main assumptions used in 2013 for annual impairment tests on goodwill are as follows:

#### Discount rate

The weighted average cost of capital used to discount future cash flows was set at 8.2% in 2013 (8.7% in 2012).

#### Long-term growth rates

The long-term growth rate was set between 1% and 4% depending of the CGU.

Other key assumptions are specific to each CGU (energy price, selling price, currency, inflation, ...).

The impairment tests performed at December 31, 2013 did not lead to any impairment of goodwill, as the recoverable amounts of the groups of CGUs were significantly higher than their carrying amounts.

A reasonable change in a key assumption on which the recoverable amount of the CGUs is based, would not cause an impairment loss on the related CGUs.

The difference between the CGU carrying amount and its value in use represents in all cases more than 10% of the carrying amount.

## NOTE 27 Tangible assets (including finance leases)

€ million	Land & Buildings	Fixtures & Equipment	Other tangible assets	Properties under construction	Total
<b>Gross carrying amount</b>					
<b>At December 31, 2011</b>	<b>3,119</b>	<b>12,325</b>	<b>323</b>	<b>719</b>	<b>16,486</b>
Capital expenditures	34	187	3	515	739
Disposals and closures	(74)	(99)	(23)		(197)
Increase through business combinations	1	7	(6)	(2)	(1)
Currency translation differences	(35)	(181)	(4)	(8)	(229)
Other	70	550	(44)	(654)	(78)
Transfer to assets held for sale	(88)	(551)		(34)	(672)
<b>At December 31, 2012</b>	<b>3,026</b>	<b>12,238</b>	<b>248</b>	<b>536</b>	<b>16,048</b>
Capital expenditures	5	78	4	654	741
Disposals and closures	(39)	(195)	(29)	(14)	(277)
Increase through business combinations	14	18	5	9	45
Currency translation differences	(90)	(441)	(13)	(20)	(564)
Other	97	299	215	(600)	11
Transfer to assets held for sale	(348)	(2,272)	(45)	(30)	(2,694)
<b>AT DECEMBER 31, 2013</b>	<b>2,665</b>	<b>9,725</b>	<b>385</b>	<b>536</b>	<b>13,311</b>
<b>Accumulated depreciation</b>					
<b>At December 31, 2011</b>	<b>(1,647)</b>	<b>(8,910)</b>	<b>(254)</b>	<b>(34)</b>	<b>(10,846)</b>
Depreciation	(76)	(537)	(16)	1	(628)
Impairment	(15)	(98)		(2)	(115)
Reversal of impairment	48	68		32	148
Disposals and closures	41	93	23		158
Currency translation differences	12	89	3		105
Other	8	24	43	2	76
Transfer to assets held for sale	42	405			447
<b>At December 31, 2012</b>	<b>(1,588)</b>	<b>(8,865)</b>	<b>(200)</b>	<b>(2)</b>	<b>(10,655)</b>
Depreciation	(66)	(594)	(26)		(685)
Impairment	(16)	(33)			(48)
Reversal of impairment		1			1
Disposals and closures	30	196	28		254
Currency translation differences	33	277	11		321
Other	5	146	(154)	2	(1)
Transfer to assets held for sale	246	1,895	39		2,181
<b>AT DECEMBER 31, 2013</b>	<b>(1,354)</b>	<b>(6,976)</b>	<b>(302)</b>	<b>0</b>	<b>(8,632)</b>
<b>Net carrying amount</b>					
<b>At December 31, 2011</b>	<b>1,472</b>	<b>3,415</b>	<b>69</b>	<b>685</b>	<b>5,640</b>
<b>At December 31, 2012</b>	<b>1,438</b>	<b>3,374</b>	<b>47</b>	<b>534</b>	<b>5,393</b>
<b>AT DECEMBER 31, 2013</b>	<b>1,311</b>	<b>2,749</b>	<b>84</b>	<b>536</b>	<b>4,679</b>



## Finance leases

€ million	Land and buildings	Fixtures and equipment	Total
Net carrying amount of finance leases included in the table above	1	6	7

The carrying amount of lease obligations approximates their fair value.

## Finance lease obligations

€ million	Minimum lease payments		Present value of minimum lease payments	
	2013	2012	2013	2012
Amounts payable under finance leases:				
Within one year	1	2	1	2
In years two to five inclusive	2	2	2	1
Beyond five years	0	1	0	1
Less: future finance charges	(1)	(1)	(1)	(1)
<b>Present value of minimum lease payments of finance leases</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>3</b>
Less: Amount due for settlement within 12 months			0	2
<b>Amount due for settlement after 12 months</b>			<b>2</b>	<b>1</b>

## Operating lease obligations

€ million	2013	2012
Total minimum lease payments under operating leases recognized in the income statement of the year	84	71

€ million	2013	2012
Within one year	80	75
In years two to five inclusive	245	253
Beyond five years	95	148
<b>TOTAL OF FUTURE MINIMUM LEASE PAYMENTS UNDER NON-CANCELLABLE OPERATING LEASES</b>	<b>420</b>	<b>476</b>

Operating leases are mainly related to logistics.

## NOTE 28 Available-for-sale investments

€ million	2013	2012
<b>CARRYING AMOUNT AT JANUARY 1</b>	<b>66</b>	<b>80</b>
Acquisition of New Business Development ("NBD")	10	9
Gains and losses on remeasuring available-for-sale financial assets	(3)	13
Available-for-sale financial assets disposed of in the year	(35)	0
Available-for-sale financial assets impaired in the year	0	(4)
Transfer of Plextronics to associates	0	(31)
<b>CARRYING AMOUNT AT DECEMBER 31</b>	<b>38</b>	<b>66</b>
Of which recognized directly in equity	(23)	16

In 2013, the disposal of available-for-sale financial assets is related to sale of all the shares AGEAS held by the Group.

In 2012, the gain on remeasuring available-for-sale financial assets (€ +12 million) was mainly related to the mark-to-market variance for AGEAS.

## NOTE 29 Investments in associates and joint ventures

€ million	2013	2012
<b>CARRYING AMOUNT AT JANUARY 1</b>	<b>869</b>	<b>704</b>
Capital increase/decrease	104	0
Reversal impairment Soda Ash JV	0	34
Net income from associates and joint ventures	93	183
Dividend received from associates and joint ventures	(83)	(53)
Transfer Plextronics from available for sale	0	31
Impairment of Plextronics	(14)	0
Transfer from other investments	5	0
Transfer to assets held for sale	0	(18)
Currency translation differences	(88)	(10)
Other	3	(2)
<b>CARRYING AMOUNT AT DECEMBER 31</b>	<b>889</b>	<b>869</b>
Of which:		
Investments in associates	496	594
Investments in joint ventures	393	275

In 2013 the capital increase relates mainly to the investment in RusVinyl (€ 86 million) and in Saudi Hydrogen Peroxyde (€ 24 million). The currency translation differences relate mainly to the depreciation of the RUB, THB, BRL and INR compared to EUR.

## NOTE 30 Other investments

€ million	2013	2012
<b>CARRYING AMOUNT AT JANUARY 1</b>	<b>123</b>	<b>123</b>
Disposed of during the year	(3)	(8)
Acquired during the year	0	19
Capital increase/decrease	7	0
Changes of consolidation method	(5)	(1)
Changes in consolidation scope	(5)	0
Transfer to assets held for sale	(1)	0
Liquidations	0	0
Impairments	(8)	(8)
Reversal of impairments	4	0
Other	(1)	(1)
<b>CARRYING AMOUNT AT DECEMBER 31</b>	<b>111</b>	<b>123</b>

## NOTE 31 Inventories

€ million	2013	2012
Finished goods	760	848
Raw materials and supplies	518	592
Work in progress	45	36
Other inventories	0	7
<b>TOTAL</b>	<b>1,323</b>	<b>1,483</b>
Write-downs	(55)	(61)
<b>NET TOTAL</b>	<b>1,267</b>	<b>1,422</b>

## NOTE 32 Provisions

€ million	Employee benefits	Restructuring	Environment	Litigation	Other	Total
<b>At December 31, 2012*</b>	<b>2,986</b>	<b>63</b>	<b>800</b>	<b>544</b>	<b>113</b>	<b>4,506</b>
Additions	77	113	86	144	19	440
Reversals	(1)	(23)	(56)	(124)	(39)	(243)
Uses	(214)	(54)	(80)	(252)	(17)	(617)
Increase through time value of money	108		(11)	3	(2)	97
Actuarial gains and losses recognized in equity	(109)					(109)
Currency translation differences	(20)		(30)	(10)	(4)	(64)
Transfer to liabilities associated with assets held for sale	(148)	(3)	(65)	(1)	(2)	(220)
Other	5	12	(15)	7	(5)	6
<b>AT DECEMBER 31, 2013</b>	<b>2,684</b>	<b>108</b>	<b>629</b>	<b>312</b>	<b>63</b>	<b>3,796</b>
Of which current provisions	0	101	126	93	19	339

\* All presented figures include the impact of IAS-19 Revised.

In total, provisions decreased by € 710 million.

The main events of 2013 are:

- the favorable employee benefits assets performance with a positive impact in equity of € 90 million;
- settlement of H<sub>2</sub>O<sub>2</sub> anti-trust case for € 175 million, with neither income nor cash impact, as this amount was already provisioned and deposited;
- the implementation of the following restructuring plans:
  - Rhodia Integration for a total impact in P&L of € 46 million,
  - Soda Ash reorganization for a total impact in P&L of € 37 million.
- the increase in discount rates used for the computation of environmental liabilities in UK, US and Brazil for a total P&L impact of € (41) million;
- the classification as “Held for Sale” of Chlorovynils activities, resulting in a decrease of provisions for € 242 million.

Management expects provisions (other than Employee benefits) to be used (cash outlays) as follows:

€ million	up to 5 years	between 5 and 10 years	beyond 10 years	Total
Total provisions for environment	321	137	171	629
Total provisions for litigation	274	38		312
Total other provisions	125	18	28	171
<b>TOTAL</b>	<b>720</b>	<b>194</b>	<b>199</b>	<b>1,112</b>

## 32.A. Provisions for employee benefits

## Overview

All 2012 comparative figures are restated according to IAS 19 Revised.

The end-of-year provisions for employee benefits are composed of the following:

€ million	2013	2012
Post-employment benefits	2,538	2,832
Other long-term benefits	68	76
Benefits not valued according to IAS 19	36	26
Termination benefits	42	53
<b>EMPLOYEE BENEFITS</b>	<b>2,684</b>	<b>2,986</b>

Post-employment benefit plans are classified into defined contribution and defined benefit plans.

**Defined contribution plans**

Defined contribution plans are those for which the Company pays fixed contributions into a separate entity or fund in accordance with the provisions of the plan. Once these contributions have been paid, the Company has no further obligation.

For defined contribution plans, Solvay pays contributions to publicly or privately administered pension funds or insurance companies. For 2013, the expense amounted to € 16 million compared to € 15 million for 2012.

**Defined benefit plans**

All plans which are not defined contribution plans are deemed to be defined benefit plans. These plans can be either funded *via* outside pension funds or insurance companies ("funded plans") or financed within the Group ("unfunded plans"). All main plans are assessed annually by independent actuaries.

The figures presented as Termination Benefits are mainly composed of prepension schemes in Belgium and Germany.

**Multiemployer Plans**

Solvay contributes in the USA to four multiemployer pension plans under collective bargaining agreements that cover certain of its union-represented employees.

Each of the multiemployer plans is a defined benefit pension plan. None of the multiemployer plans provide an allocation of its assets, liabilities, or costs among contributing employers. None of the multiemployer plans provides sufficient information to permit Solvay, or other contributing employers, to account for the multiemployer plan as a defined benefit plan. Accordingly, the Company accounts for its participation in each of the multiemployer plans as if it were a defined contribution plan.

For multiemployer plans, during 2013, Solvay paid as yearly contributions less than € 1 million.

**Provisions for post-employment benefits**

The net liability results from the net of the provisions and the capitalized pensions assets.

€ million	2013	2012
Provisions	2,538	2,832
Capitalized pensions assets	(3)	(3)
<b>Net liability</b>	<b>2,535</b>	<b>2,829</b>
Operational expense	57	46
Financial expense	94	115

**Management of risk**

Over the last years, the Group has reduced its exposure to defined-benefit plans by converting existing plans into pension plans with a lower risk profile for future services (hybrid plans, cash balance plans and defined contribution plans) or by closing them to new entrants.

Solvay keeps a constant follow up over group risk/exposure, having a specific focus on the following risks:

**Asset volatility**

Equities, though expected to outperform corporate bonds in the long-term, create volatility and risk in the short-term. To mitigate this risk, the global objective for funded schemes is to invest in a balanced proportion between equities and bonds. The allocation to equities is monitored to ensure it remains appropriate given the respective schemes' and Company's long term objectives.

**Changes in bond yields**

A decrease in corporate bond yields will increase the value placed on the schemes' liabilities for accounting purposes. For funded schemes this will be partially offset by an increase in the value of the schemes' bond holdings.

**Inflation risk**

The benefit obligations are linked to inflation, and higher inflation will lead to higher liabilities (although, in most cases, caps on the level of inflationary increases are in place to protect against extreme inflation). A limited part of the assets are either unaffected by or only loosely correlated with inflation, meaning that an increase in inflation will also increase the deficit.

**Life expectancy**

The majority of the schemes' obligations are to provide benefits for the life of the member. Increases in life expectancy will therefore result in an increase in the liabilities.

**Currency risk**

This risk is limited, as major plans in foreign currency are funded and most of their assets are denominated in the currency in which benefit payments will take place.

**Regulatory risk**

For partly or fully unfunded plans, the Group is exposed to the risk of external funding following regulatory constraints. This should not impact the defined benefit obligation but could expose the Group to a potential significant cash outlay.

For more information about Solvay group risk management, please refer to the section "Management of Risks".

**Description of obligations**

The provisions have been set up primarily to cover post-employment benefits granted by most Group companies in line, either with local rules and customs, or with established practices which generate constructive obligations.

The largest post-employment plans in 2013 are in the United Kingdom, France, the United States, Germany and Belgium. These five countries represent 94% of the total defined benefit obligation.

	2013	2012
United Kingdom	32%	28%
France	25%	25%
USA	15%	16%
Germany	14%	15%
Belgium	8%	10%
Other countries	6%	6%

### United Kingdom

Solvay sponsors a few defined benefit plans in the UK; the largest one is the Rhodia UK Ltd plan. This is a funded pension plan, with entitlement to a salary percentage acquisition rate per year of service. It was closed to new entrants in 2003 and replaced by a defined contribution plan.

The plan functions in and complies with a large regulatory framework (e.g. Pension Plans Act 1993, Pension Act 1995, Finance act 2004, Pensions Act 2004, Pensions Act 2007, and Pensions Act 2008). UK legislation requires that pension plans are funded prudently.

Broadly, about 9% of the liabilities are attributable to current employees, 23% to former employees and 68% to current pensioners.

### France

Solvay sponsors different defined benefit plans in France: the French compulsory retirement indemnity plan but also two closed and one open top hat plans.

The main plan is for all current and retired employees who contributed to the plan prior to its closure in the 1970s. It offers a full benefit guarantee compared with the end-of-career salary. This plan is unfunded.

Broadly, about 92% of the liabilities are attributable to current pensioners.

### United States

Solvay sponsors three different defined benefit plans in the US of which two are closed to new entrants and one is open, which is a cash balance plan. All these plans are funded.

### Germany

Solvay sponsors four different defined benefit plans in Germany, of which two are closed to new entrants and two are open. As commonly in Germany, all these plans are unfunded. Under these plans, employees are entitled to annual pensions on retirement based on their service and salary.

### Belgium

Solvay sponsors two defined benefit plans in Belgium. These are funded pension plans which are closed for future accrual since end of 2006 for the one in favor of the executives and since end of 2004 for the one in favor of the White and Blue collars. The benefits provided under these plans are adapted each year considering annual salary increase and inflation ("Dynamic management"). As often in Belgium, because of favorable retirement lump sum taxation, most benefits are paid as lump sum.

Furthermore, Solvay sponsors two open defined contribution plans. These are funded pension plans which are open since beginning of 2007 for the one in favor of the executives and since beginning of 2005 for the one in favor of the White and Blue collars. Participants may choose to invest their contributions amongst different four investment funds (from "Prudent" to "Dynamic"). However, regardless of their choices, the Belgian law foresees that the employer must guarantee a 3.25% return on Employer contribution and 3.75% on personal contribution, creating that way a potential liability for the Company.

The defined benefit obligation is equal to the maximum between the actual accounts and the account balances calculated with the minimum guaranteed return.

The majority of the obligations relate to pension plans. In some countries (mainly the United States), there are also post-retirement medical plans, which represent less than 5% of the total defined benefit obligation.

## Movements of the year

### Net expense

The amounts charged to income in respect of these plans are:

€ million	2013	2012
Current service cost: employer	48	46
Interest cost	177	209
Interest income	(83)	(94)
Administrative expenses paid	10	6
Past service cost (including curtailments)	(1)	2
Settlements losses/gains (-)	0	(8)
<b>NET EXPENSE RECOGNIZED IN INCOME STATEMENT - DEFINED BENEFIT PLANS</b>	<b>151</b>	<b>161</b>
Remeasurements	(109)	423
<b>REMEASUREMENTS RECOGNIZED IN OTHER COMPREHENSIVE INCOME</b>	<b>(109)</b>	<b>423</b>

The cost of these benefit plans is charged variously to cost of sales, commercial and administrative costs, research & development costs, other financial or operating gains and losses and non-recurring items.

In 2012, a settlement on the US Pension plan towards the deferred participants has taken place, resulting in a positive net result of € 8 million (decrease of the defined benefit obligation and plan assets for € 30 million and € 22 million respectively).

### Net liability

The amounts recorded in the statement of financial position in respect of defined benefit plans are:

€ million	2013	2012
Defined benefit obligations – funded plans	2,562	2,762
Fair value of plan assets at end of period	(1,907)	(1,931)
<b>DEFICIT FOR FUNDED PLANS</b>	<b>655</b>	<b>831</b>
Defined benefit obligations – unfunded plans	1,880	1,997
<b>DEFICIT/SURPLUS (-)</b>	<b>2,535</b>	<b>2,828</b>
Amounts not recognized as asset due to asset ceiling	0	1
<b>NET LIABILITY (ASSET) IN BALANCE SHEET</b>	<b>2,535</b>	<b>2,829</b>
Provision recognized in the balance sheet	2,538	2,832
Asset recognized in the balance sheet	(3)	(3)

The decrease of the net liability of € 294 million between 2012 and 2013 is mainly explained by:

- the favorable performance of plan assets;

- the classification as “Held for Sale” of Chlorovynils activities for € (126) million

Defined benefit obligations evolved as follows:

€ million	2013	2012
<b>DEFINED BENEFIT OBLIGATION AT BEGINNING OF PERIOD</b>	<b>4,759</b>	<b>4,259</b>
Current service cost: employer	48	46
Interest cost	177	209
Actual employee contributions	4	4
Past service cost (including curtailments)	(1)	2
Settlements	0	(30)
Remeasurements recognized in other comprehensive income	(19)	532
<i>Actuarial gains and losses due to changes in demographic assumptions</i>	46	
<i>Actuarial gains and losses due to changes in economic assumptions</i>	(35)	
<i>Actuarial gains and losses due to experience</i>	(30)	
Actual benefits paid	(256)	(276)
Currency translation differences	(89)	(7)
Reclassification	(4)	22
Transfer to assets held for sale	(178)	(4)
<b>DEFINED BENEFIT OBLIGATION AT END OF PERIOD</b>	<b>4,442</b>	<b>4,759</b>
Defined benefit obligations – funded plans	2,562	2,762
Defined benefit obligations – unfunded plans	1,880	1,997

In 2012, a settlement on the US Pension plan towards the deferred participants has taken place, resulting on a decrease of the defined benefit obligation by € 30 million.

In 2013 the classification as “Held for Sale” of Chlorovynils activities, lead to a decrease of the defined benefit obligation by € 173 million.



The fair value of plan assets evolved as follows:

€ million	2013	2012
<b>FAIR VALUE OF PLAN ASSETS AT BEGINNING OF PERIOD</b>	<b>1,931</b>	<b>1,818</b>
Finance income	83	94
Remeasurements recognized in other comprehensive income	90	106
<i>Return on plan assets (excl. amounts in net interests)</i>	90	-
Actual employer contributions	185	212
Actual employee contributions	4	4
Administrative expenses paid	(10)	(6)
Settlements	0	(22)
Actual benefits paid	(256)	(276)
Currency translation differences	(72)	(8)
Reclassification	1	10
Transfer to assets held for sale	(48)	0
<b>FAIR VALUE OF PLAN ASSETS AT END OF PERIOD</b>	<b>1,907</b>	<b>1,931</b>
Actual return on plan assets	172	200

The total return on plan assets amounts to € 172 million. This relatively good result comes from the better market conditions which impact positively the asset portfolio during the year.

In 2012, a settlement on the US Pension plan towards the deferred participants has taken place, resulting on a decrease of plan assets by € 22 million.

In 2013, the classification as "Held for Sale" of Chlorovynils activities, lead to a decrease of plan assets by € 48 million.

The Group cash contributions (including direct benefit payments) for 2013 amounted to € 185 million, of which € 82 million of contributions to funds and € 103 million of direct benefits payments.

Except for significant changes in the regulatory environment (see "regulatory risk" above), the Group cash contributions in 2014 will be in line with 2013.

The main categories of plan assets are:

	2013	2012
	% of Total	% of Total
Equity	40%	36%
Government bonds	13%	16%
Corporate bonds	24%	25%
Properties	2%	2%
Cash and cash equivalents	1%	1%
Derivatives	0%	0%
Investments funds	8%	9%
Insurance contracts	1%	0%
Structured debt (LDI)	8%	9%
Other	2%	2%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>

As of December 31, 2012 and 2013 the proportion of non-quoted plan assets is negligible.

With respect to the invested assets, it should be noted that these assets do not contain any direct investment in Solvay group shares

or in property or other assets occupied or used by Solvay. This does not exclude Solvay shares being included in mutual investment fund type investments.

Changes in net liability during the period:

€ million	2013	2012
<b>Net amount recognized at beginning of period</b>	<b>2,829</b>	<b>2,446</b>
Net expense recognized in profit & loss – Defined benefit plans	151	161
Actual employer contributions/direct actual benefits paid	(185)	(212)
Remeasurements	(109)	423
Reclassification	(4)	12
Currency translation differences	(17)	2
Transfer to assets held for sale	(130)	(4)
<b>Net amount recognized at end of period</b>	<b>2,535</b>	<b>2,829</b>

#### Assets Ceiling

€ million	2013	2012
<b>Effect of the limit in paragraph 58(b) and IFRIC 14 at beginning of year</b>	<b>1</b>	<b>4</b>
Interest expense on the effect of the limit in paragraph 58(b) and IFRIC 14	0	0
Variation of the effect of the limit in paragraph 58(b) and IFRIC 14	(1)	(3)
<b>Effect of the limit in paragraph 58(b) and IFRIC 14 at end of year</b>	<b>0</b>	<b>1</b>

The impact of changes in asset ceiling recognized through OCI amount to € 1 million. These impacts concern the plans of Brazil, Portugal and Switzerland.

#### Actuarial assumptions

##### Actuarial assumptions

Assumptions used in determining the benefit obligation at December 31.

These assumptions are not related to a specific segment.

	Eurozone		UK		USA	
	2013	2012	2013	2012	2013	2012
Discount rates	3.25%	3.25%	4.50%	4.25%	4.75%	3.75%
Expected rates of future salary increases	2.50%-4.50%	2.50%-4.50%	3.50%-3.75%	3%-3.25%	2.75%-4.25%	3%-4.50%
Inflation rates	2%	2%	3.25%	2.50%	2.50%	2.50%
Expected rates of pension growth	0%-2%	0%-2%	3.25%	2.50%	NA	NA
Expected rates of medical care cost increases	2%	2%	6.4%	6.5%	4.75%-7.25%	5%-7.50%

##### Actuarial assumptions used in determining the annual cost

These assumptions are not related to a specific segment

	Eurozone		UK		USA	
	2013	2012	2013	2012	2013	2012
Discount rates	3.25%	4.75%	4.25%	4.75%	3.75%	4.75%
Expected rates of future salary increases	2.50%-4.50%	3%-4.50%	3%-3.25%	3.25%	3%-4.50%	4.5%
Inflation rates	2%	2%	2.50%	2.75%	2.50%	2.50%
Expected rates of pension growth	0%-2%	0%-2%	2.50%	2.75%	NA	NA
Expected rates of medical care cost increases	2%	2%	6.5%	6.5%	5%-7.50%	5%-7.50%

The assumptions used in determining the benefit obligation at December 31 are based on the following employee benefits liabilities durations:

	Eurozone	UK	USA
Duration (in years)	11.5	15.3	11.1

**Sensitivities**

Sensitivity to a change of percentage in the discount rates on the defined benefits obligation is as follows:

€ million	0.25% increase	0.25% decrease
Eurozone	(68)	72
UK	(49)	52
USA	(20)	21
Other	(7)	7
<b>TOTAL</b>	<b>(144)</b>	<b>152</b>

Sensitivity to a change of percentage in the inflation rates on the defined benefits obligation is as follows:

€ million	0.25% increase	0.25% decrease
Eurozone	71	(67)
UK	41	(39)
USA	(6)	6
Other	(2)	1
<b>TOTAL</b>	<b>105</b>	<b>(98)</b>

Sensitivity to a change of percentage in salary growth rate on the defined benefits obligation is as follows:

€ million	0.25% increase	0.25% decrease
Eurozone	23	(22)
UK	4	(3)
USA	2	(2)
Other	2	(2)
<b>TOTAL</b>	<b>30</b>	<b>(29)</b>

**32.B. Restructuring provisions**

These provisions stand at € 108 million, compared with € 63 million at the end of 2012.

The main provisions at the end of 2013 serve to cover:

- the costs of restructuring the functions and the Back & Front Office following the Integration of Rhodia (€ 48 million);
- the costs linked to the restructuring of the Soda Ash activities to address structural overcapacity in Europe (€ 36 million).

**32.C. Environmental provisions**

These provisions stand at € 629 million, compared with € 800 million at the end of 2012.

These are intended to cover the liabilities and charges of the following main problem areas:

- mines and drilling operations to the extent that legislation and/or operating permits in relation to quarries, mines and drilling operations contain requirements to pay compensation to third parties. These provisions, based on local expert advice, can be expected to be used over a 1-20 year horizon and amount to € 124 million;
- provisions related to the cessation of mercury electrolysis activities: forecast expenditure is staggered over time as a result of the expected reutilization of the sites, national regulations on the management of contaminated soils and the state of contamination

of soils and groundwater. Most of these provisions can be expected to be used over a 10-20 year time horizon;

- dikes, dump sites and land: the provisions relate mainly to soda plant dikes, old lime dikes and land and dump sites linked to activities at certain industrial sites; these provisions have a horizon of 1 to 20 years;
- Provisions linked to various type of pollution (organic, inorganic) coming from miscellaneous specialty chemical productions; these provisions are mainly covering stopped activities or closed plants; most of these provisions have an horizon of 1 to 20 years.

The estimated amounts are discounted based on the probable date of disbursement. As well as being updated annually, provisions are adjusted every year to reflect the increasing proximity of such disbursement.

**32.D. Provisions for litigation**

Provisions for litigation stand at € 312 million at the end of 2013 compared with € 544 million at the end of 2012.

The main provisions at the end of 2013 serve to cover:

- risks related to the sale of the Pharmaceuticals segment for which the Group may remain liable (€ 14 million);
- tax risks (€ 192 million) ;
- legal claims (€ 106 million).

### NOTE 33 Net indebtedness

The Group's net indebtedness is the balance between its financial debts and other current receivables – financial instruments and cash and cash equivalents. It amounted to a net indebtedness of € 1,102 million at the end of 2013 compared to € 1,125 million at the end of 2012.

€ million	2013	2012
Financial debt	3,515	3,652
■ Other current receivables – Financial instruments	(481)	(758)
■ Cash and cash equivalents	(1,932)	(1,768)
<b>NET INDEBTEDNESS</b>	<b>1,102</b>	<b>1,125</b>

Liabilities (+)/Assets (-)

Solvay's long term rating has been confirmed by two rating agencies: at BBB+ (stable outlook) at Standard and Poors and Baa1 (negative outlook) at Moody's.

### Financial debt

€ million	2013	2012
Subordinated loans	498	504
Bonds	1,839	2,366
Long-term finance lease obligations	3	3
Long-term debts to financial institutions	300	366
Other long-term debts	105	82
Amount due within 12 months (shown under current liabilities)	519	60
Other short-term borrowings (including overdrafts)	250	271
<b>TOTAL FINANCIAL DEBT (SHORT AND LONG-TERM)</b>	<b>3,515</b>	<b>3,652</b>

### Borrowings and credit lines

The largest borrowings maturing after 2013 are:

€ million (except where indicated)	Nominal amount	Coupon	Maturity	Secured	2013		2012	
					Amount at amortized cost	Fair value	Amount at amortized cost	Fair value
EMTN bonds issued by Solvay SA (Belgium)	500	4.99%	2014	No	500	500	496	520
EMTN bonds issued by Solvay SA (Belgium)	500	300	4.75%	No	490	567	490	558
		200 (tap)	5.71%					
Retail	500	5.01%	2015	No	499	530	499	548
European Investment Bank	300	3.90%	2016	No	300	327	300	336
Deeply subordinated debt issued by Solvay Finance SA (France) with support from Solvay SA (Belgium)	500	(1)	6.375%	No	498	530	497	538
Senior note Rhodia	500	(2)	7.00%	No	521	528	530	559
Senior note Rhodia (US\$ 400 million)	303	(2)(3)	6.875%	No	330	327	350	346
<b>TOTAL</b>	<b>3,103</b>				<b>3,138</b>	<b>3,308</b>	<b>3,162</b>	<b>3,405</b>

(1) Rating agencies Moody's and Standard & Poors have treated this issue as part equity (50%), part debt (50%). In IFRS, however, it must be treated 100% as debt. This debt is subordinated to the other debts of the Group and is listed in Luxembourg. The coupon carries a fixed rate for the first ten years. In 2016 the coupon converts to a floating rate (3-month Euribor +335 basis points) until maturity in 2104. Solvay has an option to redeem this issue at par from 2016 onward. The issuer has a coupon nonpayment option governed by the rules of the coupon carry-forward mechanism.

(2) The € 500 million 7.00% Senior Notes due 2018 and the US\$ 400 million 6.875% (both callable respectively in 2014 and 2015) were consolidated in Solvay group account at their market price at the time of the acquisition (September 2011); In 2012 management has decided to exercise in 2014 the call on the € 500 million Senior note Rhodia.

(3) Equivalent to US\$ 400 million; 1 EUR = 1.3791 USD (Dec 31, 2013).

There is no default on the above-mentioned financial debt. There are no financial covenants on Solvay SA, on Rhodia SA and on any of the Group's holding financial vehicles.

Both Solvay's and Rhodia's senior unsecured bonds outstanding are "BBB+", according to S&Ps. According to Moody's, there is one notch difference between the ratings of Solvay's unsecured bonds (Baa1) and Rhodia's unsecured bonds (Baa2).

Management considers that the fair value of the floating rate debt (€ 358 million) is not significantly different from its face value (€ 358 million – see also note 34 managing interest rate risk). Long-term debt is measured at amortized cost. The fair value is based on the quoted market price at the end of 2013.

In November 2013, following the acquisition of Chemlogics for US\$ 1,345 million financed with available cash, the Group issued € 1.2 billion hybrid bonds (treated as equity under IFRS) with the aim to further strengthen the Group's balance sheet ahead of its refinancing of debt maturities from 2014 onwards.

### Other current receivables – financial instruments and cash and cash equivalents

The total cash available, cumulating the "Other current receivables – financial instruments" and "cash and cash equivalents", amounted to € 2,413 million at the end of 2013 compared to € 2,526 million at the end of 2012. Cash and cash equivalents include an amount of € 17 million which is restricted in the context of the Chemlogics acquisition.

At the end of 2013, part of this cash is invested by Solvay SA and Solvay CICC according to specific criteria in the following instruments:

- other current receivables – financial instruments for € 481 million (including Money Market Funds (MMF) for € 366 million);
- cash and cash equivalents for € 1,932 million, including Bonds and treasury bills of less than three months maturity (€ 632 million).

### Other current receivables – financial instruments:

€ million	Classification	2013	2012
Money Market Fund	Assets available for sale	366	663
Bonds and Treasury Bills of more than 3 months	Assets held to maturity	95	0
Other current financial asset		20	95
<b>OTHER CURRENT RECEIVABLES – FINANCIAL INSTRUMENTS</b>		<b>481</b>	<b>758</b>

The "Other current receivables – financial instruments" included "Money Market Funds", "Bonds and Treasury Bills with maturity of more than three months maturity" and "Other Current Financial Assets".

The underlying instruments in the Money Market Funds are valued on a daily basis but the funds are managed in such a way that the overall net asset value of each fund is stable.

The Other Current Financial Assets mainly includes financial assets at fair value through profit and loss. It includes since 2012 the "Interests to be received".

The management has opted to consider the Bonds and Treasury Bills of more than three months maturity as assets held to maturity, which are therefore not marked to market.

### Cash and cash equivalents

Cash and cash equivalents amounted to € 1,932 million at the end of 2013 compared to € 1,768 million at the end of 2012.

€ million	Classification	2013	2012
Marketable securities	Available for sale	27	291
Term deposits	Loans and Receivables	381	378
Bonds and Treasury Bills of less than 3 months	Held to maturity	632	137
Cash	Loans and Receivables	892	961
<b>CASH AND CASH EQUIVALENTS</b>		<b>1,932</b>	<b>1,768</b>

The carrying amount is the fair value of the shares, fixed income securities and term deposits.

Management has opted to classify the Bonds and Treasury Bills of less than three months maturity as assets held to maturity, which are therefore not marked to market.

## NOTE 34 Financial instruments and financial risk management

The fair value of Intangible assets mainly corresponds to customer relationships.

### 34.A. Overview of financial instruments

The following table gives an overview of the carrying amount of all financial instruments by class and by category as defined by IAS 39 – Financial Instruments: Recognition and Measurement.

	2013	2012
€ million	Carrying amount	Carrying amount
Held for trading	31	54
Cash flow hedges	22	21
Available-for-sale investments – New Business Development/AGEAS	38	66
Loans and receivables (including trade receivables, loans and other non-current assets except pension fund surpluses)	1,689	2,078
Other current receivables – financial instruments (classification: see previous page)	481	758
Cash and cash equivalents (classification: see previous page)	1,932	1,768
<b>TOTAL FINANCIAL ASSETS</b>	<b>4,192</b>	<b>4,745</b>
Held for trading	(3)	(50)
Cash flow hedges	(12)	(6)
Financial liabilities measured at amortized cost (includes long-term financial debt, other non-current liabilities, short-term financial debt, trade liabilities and dividends payable included in other current liabilities)	(5,146)	(5,589)
Financial lease liabilities	(3)	(3)
<b>TOTAL FINANCIAL LIABILITIES</b>	<b>(5,165)</b>	<b>(5,647)</b>

The financial assets classified as held for trading and designed as hedge accounting relationships are presented in “Other current receivables – Other”.

### 34.B. Fair value of financial instruments

#### Valuation techniques and assumptions used for measuring fair value

Solvay's New Business Development (NBD) activity has built a Corporate Venturing portfolio which is made of direct investments in start-up companies and of investments in Venture Capital funds. All these investments are related to the NBD. They are all valued at fair market value according to the valuation guidelines published by the European Private Equity and Venture Capital Association.

The fair values of financial assets and financial liabilities with standard terms and conditions and traded on active liquid markets are quoted market prices.

The fair values of derivative instruments are calculated using quoted prices. Where such prices are not available, a discounted cash flow analysis is performed using the applicable yield curve for the duration of the instruments for non-optional derivatives, and option pricing models for optional derivatives.

Foreign currency forward contracts are measured using quoted forward exchange rates and yield curves derived from quoted interest rates matching maturities of the contracts.

Interest rate swaps are measured at the present value of future cash flows estimated and discounted based on the applicable yield curves derived from quoted interest rates.

Fixed for floating energy price swaps and options are measured using quoted forward energy prices and yield curves derived from quoted

interest rates matching the maturities of the swaps. Options are valued based on the present value of probability weighted expected future payoffs, using market reference formulas.

The fair values of other financial assets and financial liabilities (other than those described above) are determined in accordance with generally accepted pricing models based on discounted cash flow analysis.

The following table provides an analysis of financial instruments that are measured subsequently to initial recognition at fair value, grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (*i.e.* as prices) or indirectly (*i.e.* derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

In accordance with the Group internal rules, the responsibility for measuring the fair value level lies to treasury department for the derivatives financial instruments and the financial debt, to Energy Services business unit for the energy derivatives financial instruments and to the finance department for financial assets.



## Fair value of financial instruments measured at amortized cost

€ million	2013		2012		Fair value level
	Carrying amount	Fair value	Carrying amount	Fair value	
<b>Loans and receivables</b>					
Loans and receivables (including trade receivables, loans and other non-current assets except pension fund surpluses)	1,689	1,689	2,078	2,078	2
<b>Other current receivables – financial instruments</b>					
Bonds and treasury bills of more than 3 months	95	95	0	0	1
Other current financial assets	20	20	95	95	2
<b>Cash and cash equivalents</b>					
Term deposits	381	381	378	378	2
Bonds and Treasury Bills of less than 3 months	632	632	137	137	1
Cash	892	892	961	961	2
<b>TOTAL FINANCIAL ASSETS</b>	<b>3,709</b>	<b>3,709</b>	<b>3,649</b>	<b>3,649</b>	
Subordinated loans and bonds	(2,838)	(2,981)	(2,427)	(2,609)	1
Long and short-term financial debt	(677)	(704)	(1,225)	(1,284)	2
Other non-current liabilities, trade liabilities and dividends payable included in other current liabilities	(1,631)	(1,631)	(1,938)	(1,938)	2
Financial lease liabilities	(3)	(3)	(3)	(3)	2
<b>TOTAL FINANCIAL LIABILITIES</b>	<b>(5,149)</b>	<b>(5,319)</b>	<b>(5,592)</b>	<b>(5,834)</b>	

**Financial instruments measured at fair value in the consolidated statement of financial position (balance sheet)**

2013				
€ million	Level 1	Level 2	Level 3	Total
<b>Held for trading</b>				
■ Foreign exchange contracts		2		2
■ Energy swaps, futures and forward contracts		3		3
■ CO <sub>2</sub> certificates futures and forward contracts	3	2		5
■ Interest rate swaps		5		5
■ Solvay share price swaps		15		15
<b>Cash flow hedges</b>				
■ Foreign exchange contracts and swaps		18		18
■ Energy swaps and futures contracts		2		2
■ CO <sub>2</sub> certificates futures and forward contracts				
■ Solvay share price swaps		1		1
<b>Available-for-sale investments</b>				
■ New Business Development			38	38
■ Other current receivables – financial instruments (Money Market Funds)	366			366
<b>Cash and cash equivalents</b>				
■ Marketable securities	27			27
<b>TOTAL FINANCIAL ASSETS</b>	<b>397</b>	<b>49</b>	<b>38</b>	<b>484</b>
<b>Held for trading</b>				
■ Foreign exchange contracts				
■ Energy swaps, futures and forward contracts				
■ CO <sub>2</sub> certificates futures and forward contracts	(1)	(1)		(3)
<b>Cash flow hedges</b>				
■ Foreign exchange contracts and swaps		(5)		(5)
■ Energy swaps and futures contracts	(1)			(1)
■ CO <sub>2</sub> certificates futures and forward contracts	(6)			(6)
<b>TOTAL FINANCIAL LIABILITIES</b>	<b>(8)</b>	<b>(7)</b>		<b>(16)</b>

2012				
€ million	Level 1	Level 2	Level 3	Total
<b>Held for trading</b>				
■ Foreign exchange contracts and swaps		3		3
■ Energy swaps, futures and forward contracts			5	5
■ CO <sub>2</sub> certificates futures and forward contracts		39	7	46
<b>Cash flow hedges</b>				
■ Foreign exchange contracts and swaps		20		20
■ Interest rate swaps		1		1
<b>Available-for-sale investments</b>				
■ New Business Development			31	31
■ AGEAS (former Fortis)	35			35
■ Other current receivables – financial instruments (Money Market Funds)	663			663
<b>Cash and cash equivalents</b>				
■ Marketable securities	291			291
<b>TOTAL FINANCIAL ASSETS</b>	<b>989</b>	<b>63</b>	<b>43</b>	<b>1,095</b>
<b>Held for trading</b>				
■ Foreign exchange contracts and swaps		(6)		(6)
■ Energy swaps and futures contracts		(1)		(1)
■ CO <sub>2</sub> certificates futures and forward contracts		(26)	(18)	(43)
<b>Cash flow hedges</b>				
■ Foreign exchange contracts and swaps		(6)		(6)
<b>TOTAL FINANCIAL LIABILITIES</b>		<b>(39)</b>	<b>(18)</b>	<b>(56)</b>

The category “Held for trading” usually contains financial instruments that are used for treasury management, foreign exchange rate, commodity or carbon instrument risk management, but which are

not documented in a way which allows them to be treated as hedging instruments.

## Movements of the period

### Reconciliation of level 3 fair value measurements of financial assets and liabilities

€ million	2013				
	At fair value through profit or loss		Available-for-sale		Total
	Derivatives	Non-derivatives	Shares	Other	
Opening balance at January 1	(7)		31		24
Total gains or losses					
■ Recognized in the income statement	7				7
■ Recognized in other comprehensive income			(3)		(3)
Acquisitions			10		10
Closing balance at December 31	0		38		38

€ million	2012				
	At fair value through profit or loss		Available-for-sale		Total
	Derivatives	Non-derivatives	Shares	Other	
Opening balance at January 1	(11)		61		50
Total gains or losses					
■ Recognized in the income statement	4		(8)		(4)
■ Recognized in other comprehensive income					
Acquisitions			9		9
Reclassification from available-for-sale financial assets to investment in associate			(31)		(31)
Closing balance at December 31	(7)		31		24

## Income and expenses of financial instruments recognized in the income statement and in equity

Income and expenses on financial instruments recognized in the income statement break down as follows:

€ million	2013	2012
<b>Recognized in the income statement</b>		
Recycling from equity of currency cash flow hedges*	38	(14)
Recycling from equity of energy cash flow hedges*	(1)	27
Changes in the fair value of financial instruments held for trading (energy/CO <sub>2</sub> emission rights)	(5)	0
<b>Recognized in the gross margin</b>	<b>31</b>	<b>13</b>
Interest on loans and receivables	96	1
Ineffective portion of the changes in the fair value of financial instruments held for trading (energy/CO <sub>2</sub> emission rights)	1	0
Changes in the fair value of financial instruments held for trading (energy/CO <sub>2</sub> emission rights)	(2)	4
Changes in the fair value of financial instruments held for trading (currency)	5	0
Recycling from equity of currency cash flow hedges*	5	0
Recycling from equity of energy cash flow hedges*	(3)	0
Ineffective portion of the changes in fair value of cash flow hedges (currency)	1	0
<b>Recognized in other operating gains and losses</b>	<b>103</b>	<b>5</b>
Changes in the fair value of financial instruments held for trading (energy/CO <sub>2</sub> emission rights)	(4)	0
Changes in the fair value of financial instruments held for trading (Solvay share price swaps)	1	0
<b>Recognized in non recurring gains and losses</b>	<b>(2)</b>	<b>0</b>
Cost of borrowings – Interest expense on financial liabilities at amortized cost	(187)	(167)
Interest income on cash and cash equivalents	24	16
Interest income on other current receivables – financial instruments	1	2
Other gains and losses on net indebtedness	(2)	(8)
<b>Recognized in charges on net indebtedness</b>	<b>(163)</b>	<b>(157)</b>
<b>Income/loss from available-for-sale investments</b>	<b>2</b>	<b>0</b>
<b>Capital gain on available-for-sale investment posted directly to the income statement</b>	<b>16</b>	<b>0</b>
<b>Recycling from equity of unrecognized gain and losses related to disposed of available-for-sale financial assets*</b>	<b>20</b>	<b>0</b>
<b>Recycling from equity of impairment losses on available-for-sale financial assets*</b>	<b>0</b>	<b>(2)</b>
<b>Net result from equity method</b>	<b>92</b>	<b>184</b>
<b>TOTAL RECOGNIZED IN THE INCOME STATEMENT</b>	<b>99</b>	<b>43</b>

\* See next table.

The currency cash flow hedge corresponds to forward contracts aimed at hedging forecasted flows in currencies, mainly USD, JPY, BRL, RUB and KRW.

The financial instruments held for trading (currency) refer to forward exchange contracts related to the management of the Group's exchange exposure which have not been qualified as "hedge".

Income and expenses on financial instruments recognized in equity break down as follows:

€ million	Continuing operations	
	2013	2012
Net change in the fair value of available-for-sale financial assets	(3)	12
Recycling to the income statement of unrecognized gain and losses related to disposed of available-for-sale financial assets	(20)	0
Recycling to the income statement of impairment losses on available-for-sale financial assets	0	2
<b>Total available-for-sale financial assets</b>	<b>(23)</b>	<b>14</b>
Effective portion of changes in fair value of cash flow hedge	35	24
Recycling to the income statement of currency cash flow hedges	(43)	14
Recycling to the income statement of energy cash flow hedges	4	(27)
Recycling to the income statement of interest rate swaps cash flow hedges	(5)	0
<b>Total cash flow hedges</b>	<b>(9)</b>	<b>11</b>
<b>TOTAL</b>	<b>(32)</b>	<b>25</b>

For available-for-sales financial assets, the changes mainly relate to AGEAS shares.

In 2013, the recycling to the income statement of the unrecognized gain and losses related to disposed of available-for-sale financial assets is linked to the disposal of the AGEAS shares.

In 2012, the net change in the fair value of available-for-sale financial assets recognized directly in equity relates mainly to the AGEAS shares.

### 34.C. Capital management

See item 2 in the Corporate Governance section.

### 34.D. Financial risk management

The Group is exposed to market risks from movements in exchange rates, interest rates and other market prices (energy prices, carbon credits and equity prices). The Solvay group uses derivatives to hedge clearly identified foreign exchange, interest rate, energy and carbon credit price risks (hedging instruments). However, the required criteria to apply hedge accounting according to IFRS are not met in all cases. This means that this form of accounting cannot always be applied when the Group covers its economic risks. The Group's foreign exchange risk hedging policy is based essentially on the principles of financing its activities in local currency, systematically hedging transactional (see below) exchange risk at the time of invoicing (risks which are certain) and monitoring and hedging where appropriate exchange rate positions generated by the Group's activities, based on expected cash flows.

Furthermore, the Group is also exposed to liquidity risks and credit risks.

The Group does not enter into or trade financial instruments, including derivative financial instruments, for speculative purposes.

### Foreign currency risks

See item Foreign exchange risk in the Management of Risks section of this report.

The Group undertakes transactions denominated in foreign currencies; consequently, exposures to exchange rate fluctuations arise. Exchange rate exposures are managed within approved policy parameters utilizing forward foreign exchange contracts or other derivatives like currency options.

The Group's currency risk can be split into two categories: translation and transactional risk.

#### Translation risk

The translation exchange risk is the risk affecting the Group's consolidated accounts related to subsidiaries operating in a currency other than the EUR (the Group's functional currency), the main other currency being the US Dollar, Chinese Yuan, Brazilian Real and Russian Ruble.

Exchange rate fluctuations, particularly of the US Dollar and Brazilian Real, can affect earnings. In the course of 2013 the EUR/USD exchange rate moved from 1.3194 at the start of January to 1.3791 at the end of December. In the course of 2012 the EUR/USD exchange rate moved from 1.2935 at the start of January to 1.3194 at the end of December.

During 2013 and 2012, the Solvay group did not hedge the currency risk of foreign operations.

#### Transactional risk

The transactional risk is the exchange risk linked to a specific transaction, such as a Group company buying or selling in a currency other than its functional currency.

The Group manages the transactional risk on receivables and borrowings at the level of Solvay CIOCC in Belgium and locally for Brazilian and South Korean affiliates.

The choice of borrowing currency depends mainly on the opportunities offered by the various markets. This means that the selected currency is not necessarily that of the country in which the funds will be invested. Nonetheless, operating entities are financed essentially in their own local currencies, with this currency being obtained, where appropriate, by currency swaps against the currency held by the financing company. The cost of these currency swaps is included under the cost of borrowing. These enable us to limit the exchange risk both in the financial company and in the Company finally using the funds.

In emerging countries it is not always possible to borrow in local currency, either because local financial markets are too narrow or funds are not available, or because the financial conditions are too onerous. In such a situation the Group has to borrow in a different currency. Nonetheless the Group has taken advantage of any opportunities to refinance its borrowing in emerging countries with local currency debt.

The Group's foreign exchange position is centralized at Solvay CICC. This centralized exchange position is then managed under rules and specific limits which have been set by the Group.

The main financial instruments used are the spot and forward purchase and sale of currencies; forward currency sales and the purchase of options.

#### Cash Flow Hedge

The Group uses derivatives to hedge clearly identified foreign exchange rate risks (hedging instruments). At the end of 2013 for future exposure, the Group had hedged forecasted sales in a nominal amount of US\$ 693 million on sales and US\$ 26 million on purchases (€ 521 million) and ¥ 12,599 million (€ 87 million).

#### Held for trading

The daily management of the transactional risk is mainly done at Solvay CICC either via spot or forward contracts. Those forward contracts are classified as held for trading.

The following table details the forward exchange contracts outstanding at the end of the period:

€ million	Notional amount		Fair value assets		Fair value liabilities	
	2013	2012	2013	2012	2013	2012
<b>Held for trading</b>						
■ Forward exchange contracts	177	684	2	3	0	(6)
<b>Cash flow hedges</b>						
■ Forward exchange contracts	608	682	18	20	(5)	(6)
<b>TOTAL</b>	<b>785</b>	<b>1,366</b>	<b>20</b>	<b>23</b>	<b>(6)</b>	<b>(12)</b>

The following table details the Group's sensitivity in profit or loss and equity to a 10% increase and decrease in EUR against USD and JPY as well as in BRL against USD.

10% represents the management's assessment of a reasonably possible change in foreign exchange rates. The sensitivity analysis includes only outstanding foreign currency denominated assets and liabilities and adjusts their translation at the period end for a 10% change in foreign currency rates. The sensitivity analysis includes external loans as well as loans to foreign operations within the Group

where the denomination of the loan is in a currency other than the functional currency of the lender or the borrower. It includes also the foreign exchange derivatives (not designated for hedging).

A positive number below indicates an increase in profit or equity when EUR strengthens 10% against USD or JPY (same for BRL against USD).

For a 10% weakening of EUR against USD or JPY, there would be a comparable impact on the profit or equity (the balances would be negative) (same for BRL against USD).

€ million	Strengthening of EUR vs USD		Strengthening of EUR vs JPY		Strengthening of BRL vs USD	
	2013	2012	2013	2012	2013	2012
Profit or loss	8	7	0	0	0	0
Equity	30	37	9	10	12	17



### Interest rate risks

See item "Interest rate risks" in the Management of Risks section of this report.

Interest rate risk is managed at Group level.

The Group is exposed to interest rate risk because entities in the Group borrow funds at both fixed and floating interest rates. Interest rate risk is managed at Group level by maintaining an appropriate mix between fixed and floating rate borrowings.

At December 31, 2013, around € 3.1 billion of the Group's gross debt was at fixed-rate: mainly:

- the bond issues (EMTN) € 500 million maturing 2018 (carrying amount € 490 million) and € 500 million maturing 2014 (carrying amount € 500 million) and retail: € 500 million (carrying amount € 499 million) maturing 2015;

- deeply subordinated issue placed on the market 2006 (€ 500 million maturing 2104 – carrying amount: € 498 million) carries a fixed coupon until 2016 and floating thereafter;
- European Investment Bank € 300 million maturing in 2016.
- Senior Note HY € 500 million maturing in 2018 (carrying amount € 521 million);
- Senior Note HY US\$ 400 million maturing in 2020 (carrying amount € 330 million);

In November 2013, following the acquisition of Chemlogics for US\$ 1,345 million financed with available cash, the Group issued € 1.2 billion hybrid bonds (treated as equity under IFRS) with the aim to further strengthen the Group's balance sheet ahead of its refinancing of debt maturities from 2014 onwards.

Interest rate exposure by currency is summarized below:

€ million Currency	At 31/12/2013			At 31/12/2012		
	Fixed rate	Floating rate	Total	Fixed rate	Floating rate	Total
<b>Financial liabilities</b>						
EUR	(2,814)	(206)	(3,020)	(2,801)	(227)	(3,028)
USD	(332)	(11)	(343)	(304)	(122)	(426)
JPY		(1)	(1)			0
BRL	(1)	(34)	(36)		(54)	(54)
Other	(9)	(106)	(115)	(18)	(126)	(144)
<b>Total</b>	<b>(3,157)</b>	<b>(358)</b>	<b>(3,515)</b>	<b>(3,123)</b>	<b>(529)</b>	<b>(3,652)</b>
<b>Cash and cash equivalents</b>						
EUR		1,217	1,217		542	542
USD		287	287		699	699
JPY		28	28		26	26
BRL		96	96		137	137
Other		303	303		365	365
<b>Total</b>	<b>0</b>	<b>1,932</b>	<b>1,932</b>	<b>0</b>	<b>1,768</b>	<b>1,768</b>
<b>Other current financial assets</b>						
EUR		480	480		1,186	1,186
USD			0		(72)	(72)
JPY			0		(246)	(246)
BRL			0			0
Other		1	1		(110)	(110)
<b>Total</b>	<b>0</b>	<b>481</b>	<b>481</b>	<b>0</b>	<b>758</b>	<b>758</b>
<b>TOTAL</b>	<b>(3,157)</b>	<b>2,056</b>	<b>(1,102)</b>	<b>(3,123)</b>	<b>1,997</b>	<b>(1,125)</b>

In 2013 90% of financial debt is contracted at an average fixed rate of 5.58% with duration below ~3 years; the first significant maturity for debt reimbursement will occur in 2014. Including the issuance of the € 1.2 billion hybrid bonds (treated as equity under IFRS), the average fixed rate equals to 5.34% with a duration of ~4 years.

In 2012 86% of financial debt was contracted at an average fixed rate of 5.58% with duration of below four years.

The sensitivity analyses below have been determined based on the exposure to interest rates for both derivative and non-derivative instruments at the end of the reporting period. For floating rate liabilities, the analysis is prepared assuming the amount of the liability outstanding at the end of the reporting period was outstanding for the whole year. A 1% increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management assessment of the reasonably possible change in interest rates.

Impact of interest rate changes at the end of 2013:

- on borrowing charges: if interest rates had been 1% higher/lower and with all other variables remaining constant, these would have increased/decreased by € 5 million (2012: increase/decrease by € 8 million). This is mainly attributable to the Group's exposure to interest rates on its variable rate borrowings;
- on cash and cash equivalents and other current financial assets:
  - if interest rates had been 1% higher and with all other variables remaining constant, income would have increased by € 21 million (2012: € +23 million),

- if interest rates had been 1% lower and with all other variables remaining constant, income would have decreased by € 16 million (2012: € (14) million).

Early 2013, the Group entered into interest rate swaps designated for hedging purposes. The initial target was to secure a potential funding in 2014, which became no longer needed following the issuance of the € 1.200 million hybrid bonds at the end of 2013. At the end of 2013, the mark-to-market of the interest rate swaps (€ +5.2 million) is included in the net financial charges.

€ million	Notional amount		Fair value assets		Fair value liabilities	
	2013	2012	2013	2012	2013	2012
<b>Held for trading</b>						
■ Interest rate instruments (Swap)	500	0	5	0	0	0

A sudden 1% fluctuation in interest rate at the year end would have no material impact on profit or loss, since the other variables are considered to be constant.

## Other market risks

### Energy price risks

The Group purchases a large portion of its coal, gas and electricity needs in Europe and the US based on fluctuating liquid market indices. In order to reduce the cost volatility, the Group has developed a policy for exchanging variable price against fixed price through financial swap contracts. Most of these hedging contracts meet the criteria to apply hedge accounting as defined by IFRS. Hedging performed through the purchase of physical energy at fixed price is qualified as "own use". Similarly the Group exposure to CO<sub>2</sub> price is partly hedged by forward purchase of EUA, which meet hedge accounting or "own-use" exemption criteria.

Finally some exposure to gas-electricity or coal-electricity spreads may arise from the production of electricity on Solvay sites (mostly from cogeneration units in Europe), which can be hedged by forward purchases and forward sales or optional schemes.

### Energy Services

Financial hedging of energy and CO<sub>2</sub> risks is managed centrally by Energy Services on behalf of the Group entities.

Energy Services also carry out trading transactions energy and CO<sub>2</sub>, whose residual price exposure is also maintained close to zero.

The following tables detail the notional principal amounts and fair values of energy price swaps and CO<sub>2</sub> derivatives outstanding at the end of the reporting period:

€ million	Notional amount		Fair value assets		Fair value liabilities	
	2013	2012	2013	2012	2013	2012
<b>Held for trading</b>						
■ - Energy swaps, futures and forward contracts	254	44	3	5	0	(1)
■ CO <sub>2</sub> options	0	86	0	0	0	0
■ CO <sub>2</sub> certificates futures and forward contracts	170	208	5	46	(3)	(43)
<b>Cash flow hedge*</b>						
■ Energy swaps and futures contracts	26	48	2	0	(1)	0
■ CO <sub>2</sub> certificates futures and forward contracts	28	24	0	0	(6)	0
<b>TOTAL</b>	<b>479</b>	<b>410</b>	<b>11</b>	<b>51</b>	<b>(10)</b>	<b>(44)</b>

\* Less than one year.

### Credit risk

See item “Counterparty risk” in the Management of Risks section of this report

The carrying value of the trade receivables is a good approximation of the fair value at statement of financial position (balance sheet) closing date.

There is no significant concentration of credit risk at Group level to the extent that the receivables risk is spread over a large number of customers and markets.

The ageing of trade receivables, other current receivables – other, loans and other non-current assets is as follows:

2013 € million	Total	With write-down	Of which receivables without write-down				
			Not past due	Less than 30 days past due	Between 30 & 60 days past due	Between 60 & 90 days past due	More than 90 days past due
Trade receivables	1,322	56	1,062	135	35	5	29
Other current receivables – other	582	26	320	119	21	5	91
Loans and other non-current assets	257	36	221				
<b>TOTAL</b>	<b>2,161</b>	<b>118</b>	<b>1,602</b>	<b>254</b>	<b>57</b>	<b>10</b>	<b>120</b>

2012 € million	Total	With write-down	Of which receivables without write-down				
			Not past due	Less than 30 days past due	Between 30 & 60 days past due	Between 60 & 90 days past due	More than 90 days past due
Trade receivables	1,657	47	1,489	68	9	1	43
Other current receivables – other	685	4	662	10	3		5
Loans and other non-current assets	424	39	385				
<b>TOTAL</b>	<b>2,766</b>	<b>91</b>	<b>2,536</b>	<b>78</b>	<b>12</b>	<b>1</b>	<b>49</b>

Other current receivables – other’ consists essentially of other receivables, deferred charges and accrued income.

Other non-current assets consist essentially of pension fund surpluses and other amounts receivable after more than one year. This balance includes a cash deposit made as a guarantee for the good execution of the fine imposed by the European Commission in connection with antitrust rules.

For credit risk regarding other financial assets, we refer to the note 33.

### Liquidity risk

See item “Liquidity risk” in the Management of Risks section of this report.

Liquidity Risk relates to Solvay’s ability to service and refinance its debt (including notes issued) and to fund its operations.

This depends on its ability to generate cash from operations and not to over-pay for acquisitions.

The Finance Committee gives its opinion on the appropriate liquidity risk management for the Group’s short-, medium and long-term funding and liquidity management requirements.

The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecasted and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

The Group staggers the maturities of its financing sources over time in order to limit amounts to be refinanced each year.

In 2013, including the issuance of the € 1.2 billion hybrid bonds (treated as equity under IFRS), the average duration was ~4 years.

The following tables detail the Group’s remaining contractual maturity for its financial liabilities with agreed repayment periods. The tables have been drawn up using the undiscounted cash flows of financial liabilities based on the earliest date on which the Group can be required to pay. The tables include both interest and principal cash flows. To the extent that interest flows are floating rate, the undiscounted amount is derived from interest rate curves at the end of the reporting period. The contractual maturity is based on the earliest date on which the Group may be required to pay.

2013 € million	Total	On demand or within one year	In year two	In years three to five	Beyond five years
<b>Outflows of cash related to financial liabilities:</b>	<b>5,766</b>				
Other non-current liabilities	166	166			
Short-term financial debt	769	769			
Trade liabilities	1,353	1,353			
Income tax payable	17	17			
Dividends payables	112	112			
Other current liabilities	602	602			
Long-term financial debt	2,745		533	1,852	361
<b>TOTAL FINANCIAL DEBT (SHORT AND LONG-TERM)</b>	<b>3,515</b>	<b>769</b>	<b>533</b>	<b>1,852</b>	<b>361</b>

2012 € million	Total	On demand or within one year	In year two	In years three to five	Beyond five years
<b>Outflows of cash related to financial liabilities:</b>	<b>6,425</b>				
Other non-current liabilities	216	216			
Short-term financial debt	331	331			
Trade liabilities	1,617	1,617			
Income tax payable	69	69			
Dividends payables	103	103			
Other current liabilities	768	768			
Long-term financial debt	3,321		1,067	1,339	915
<b>TOTAL FINANCIAL DEBT (SHORT AND LONG-TERM)</b>	<b>3,652</b>	<b>331</b>	<b>1,067</b>	<b>1,339</b>	<b>915</b>

In addition to the above-mentioned financing sources, the Group also has access to the following instruments:

- a Belgian Treasury Bill program in an amount of € 1 billion or as an alternative a US commercial paper program in an amount of US\$ 500 million. They were both unused at the end of 2013 and
- a € 1 billion and a € 550 million multilateral credit lines, maturing respectively in 2015 and in 2018; as well as bilateral credit lines (€ 300 million). They were all unused at the end of 2013 and 2012.

2012. The two programs are covered by back-up credit lines (see below);

## Notes to the statement of changes in equity

### Currency translation differences

The total difference amounts to € (356) million of which € (315) million for the Group's share, increasing the balance from € (423) million at the end of 2012 to € (780) million at the end of 2013.

The main variances are linked to the depreciation of USD, BRL, THB, RUB and INR compared to EUR.

### Revaluation reserve

These differences represent the marking to market of available-for-sale investments and financial derivatives used for hedging purposes.

In 2013, the negative variation of € (23) million related to available-for-sale investment is mainly related to the disposal AGEAS shares.

The fair value differences also include the marking to market of financial instruments accounted for according to IAS 39 as cash flow

hedges. Only the effective part of the hedge is recognized in equity, with the balance being taken directly into income. The variation in this effective part, recognized among fair value differences, amounted to € +6 million at the end of 2013.

When the financial instrument designated as a hedge matures, its value recognized in equity is recycled to the income statement.

### Defined Benefit pension plan

The increase in equity related to defined benefit pension plan refers to change in actuarial assumption (change in discount rate and to a lower extent difference between actual and expected return on plan assets).

### Number of shares (in thousands)<sup>(1)</sup>

Information on the dividend proposed to the Shareholders' Meeting can be found in the management report.

	2013	2012
Shares issued and fully paid in at January 1	84,701	84,701
Capital increase	0	0
Shares issued and fully paid in at December 31	84,701	84,701
Treasury shares held at December 31	1,530	1,735
<b>PER VALUE</b>	<b>€ 15/SHARE</b>	<b>€ 15/SHARE</b>

(1) See the consolidated data per share in the financial information per share found in the management report.

## Miscellaneous notes

### NOTE 35 Commitments to acquire tangible and intangible assets

€ million	2013	2012
Commitments for the acquisition of tangible and intangible assets	161	76
of which: Joint ventures	13	8

### NOTE 36 Dividends proposed for distribution but not yet recognized as a distribution to equity holders

The Board of Directors will propose to the General assembly of the shareholders a gross dividend of € 3.20. Taking into account the dividend advance payment distributed in January 2014 the dividends proposed for distribution but not yet recognized as a distribution to equity holders amount to € 156 million.

### NOTE 37 Contingent liabilities

€ million	2013	2012
Liabilities and commitments of third parties guaranteed by the Company	946	783
Environmental contingent liabilities	216	170
Litigation and other major commitments	21	2

The liabilities and commitments of third parties guaranteed by the Company relate mainly to guarantees given in the framework of:

- the joint venture project with Sadara for the construction and operation of an hydrogen peroxide plant in Saudi Arabia. A construction funding guarantee has been granted by Solvay to its partner to guarantee its share of the funding obligations of the project. In parallel, a similar guarantee for the funding obligations of the project by the partners has been granted to Solvay;
- the joint venture project with SIBUR for the construction and operation of a PVC plant in Russia. A guarantee of € 445 million on a several basis by each Sponsor SolVin and Sibur, which corresponds for each of 50% of the amount in principal of RusVinyl project finance of € 750 million equivalent plus interests and costs;

- VAT payment (€ 185 million).

Within the framework of the annual review of contingent liabilities, environmental contingent liabilities for a total amount of € 216 million have been identified. The risk related to these contingencies is considered as remote.

### NOTE 38 Joint ventures and associates

The Joint Ventures and associates are consolidated according to the equity method of accounting. The table below presents the summary balance sheet of the joint-ventures and associates as if they were proportionately consolidated.

€ million	2013			2012		
	Joint Ventures	Associates	Total	Joint Ventures	Associates	Total
Non-current assets	326	825	1,151	618	125	743
Current assets	290	209	498	242	112	355
Non-current liabilities	98	396	493	9	116	125
Current liabilities	125	143	267	31	73	104
Sales	410	314	724	531	196	727
Net result	79	13	92	159	60	218



**NOTE 39 Related parties**

Balances and transactions between Solvay SA and its subsidiaries, which are related parties of Solvay SA, have been eliminated on consolidation and are not disclosed in this note. Details of transactions between the Group and other related parties are disclosed below.

**Trading transactions**

€ million	Sale of goods		Purchase of goods	
	2013	2012	2013	2012
Joint ventures	7	132	44	236
Associates	24	53	22	32
Other related parties	10	5	18	4
<b>TOTAL</b>	<b>41</b>	<b>190</b>	<b>84</b>	<b>272</b>

€ million	Amounts owed by related parties		Amounts owed to related parties	
	2013	2012	2013	2012
Joint ventures	5	75	43	57
Associates	1	13	2	21
Other related parties	20	2	9	0
<b>TOTAL</b>	<b>26</b>	<b>90</b>	<b>55</b>	<b>78</b>

**Loans to related parties**

€ million	2013	2012
Loans to key management personnel	0	0
Loans to joint ventures	0	0
Loans to associates	50	37
Loans to other related parties	32	51
<b>TOTAL</b>	<b>82</b>	<b>88</b>

**Compensation of key management personnel**

Amounts due in respect of the year (salary) or obligations existing at the end of the year (other elements):

€ million	2013	2012
Wages, charges and short-term benefits	2	3
Long term benefits	20	21
<b>TOTAL</b>	<b>21</b>	<b>24</b>
Total number stock subscription options and free shares granted	497,157	746,427

Amounts paid during the year:

€ million	2013	2012
Wages, charges and short-term benefits <sup>(1)</sup>	9	9
Long term benefits <sup>(1)</sup>	1	17
<b>TOTAL</b>	<b>10</b>	<b>25</b>
Expenses related to stock subscription options and free shares granted	2	2

<sup>(1)</sup> Excluding employer social charges and taxes.

#### NOTE 40 Events after the reporting period

The recent significant devaluation of the Argentina Pesos (ARS) will have an additional negative impact on the result of the sale of Solvay Indupa.

Early 2014 a process to explore the divestment of Eco Services (Performance Chemicals) has been initiated. Eco Services is active in the recycling of sulfuric acid in the US oil and gas business.

There were no other material events after the reporting period.

#### NOTE 41 Policy in respect of capital

See item 2 in the Corporate Governance section of this report

## 2013 Consolidation Scope

The Group consists of Solvay SA and a total of 367 subsidiaries and associated companies in 56 countries.

Of these, 204 are fully consolidated, 4 are proportionately consolidated and 27 is accounted for under the equity method, whilst the other 132 do not meet the criteria of significance.

In accordance with the principle of materiality, certain companies which are not of significant size have not been included in the consolidation scope. Companies are deemed not to be significant when they do not exceed during two consecutive years any of the three following thresholds in terms of their contribution to the Group's accounts:

- sales of € 20 million;
- total assets of € 10 million;
- headcount of 150 persons.

Companies that do not meet these criteria are, nevertheless, consolidated where the Group believes that they have a potential for rapid development, or where they hold shares in other companies that are consolidated under the above criteria.

Globally, the non-consolidated companies have no material impact on the consolidated data of the Group, their overall impact on the Group net profit being of the order of 0.1%.

The full list of companies is filed with the National Bank of Belgium as an attachment to the annual report, and can be obtained from the Company head office.

## List of companies included in the consolidation

### List of companies entering or leaving the Group

#### Companies entering the Group

Country	Company	Comments
<b>GERMANY</b>	Solvin GmbH & Co. KG – PVDC	new company
	Solvay Energy Services Deutschland GmbH	new company
<b>CHINA</b>	Solvay High Performance Materials R&D (Shanghai) Co., Ltd., Shanghai	meets the consolidation criteria
	Solvay (Beijing) Energy Technology Co., Ltd	meets the consolidation criteria
	Zhejiang Lansol Fluorchem Co., Ltd	meets the consolidation criteria
<b>SPAIN</b>	Solvay Energy Services Iberica, S.L.	meets the consolidation criteria
<b>ITALY</b>	Solvay Energy Services Italia S.r.l.	new company
<b>POLAND</b>	Solvay Advanced Silicas Poland Sp. z o.o.	new company
<b>SINGAPORE</b>	Solvay Fluor Holding (Asia-Pacific) Pte. Ltd.	meets the consolidation criteria
<b>THAILAND</b>	Solvay Asia Pacific Company Ltd	meets the consolidation criteria
<b>SAUDI ARABIA</b>	Saudi Hydrogen Peroxide Co	new company
<b>VIETNAM</b>	Rhodia Nuoc Trong Biogas LLC	meets the consolidation criteria

#### Companies leaving the Group

Country	Company	Comments
<b>BELGIUM</b>	Peptisyntha SA	sold to CordenPharma
<b>FRANCE</b>	Solvay Organics France SAS	sold to Melchior investissement et industries
<b>CHINA</b>	Guangxi Laibin Bioqi New Energy Co.Ltd	sold to Guangxi Bijia Biological Technology Co., Ltd.
<b>ITALY</b>	Solvay Specialty Polymers Management S.r.l.	merged into Solvay SA
	Solvay Finanziaria S.p.A.	merged into Solvay SA
	Solvay Fluor Italia S.p.A.	merged into Solvay Specialty Polymers Italy S.p.A.
<b>UNITED STATES</b>	Rhodia Funding Inc.	merged into Solvay Inc.

## List of fully consolidated Group companies

Indicating the percentage holding.

It should be noted that the percentage of voting rights is very close to the percentage holding.

<b>BELGIUM</b>	
Carrières les Petons S.P.R.L., Walcourt	100
Financière Solvay SA, Brussels	99.9
Rhodia Belgium SA, Brussels	100
Solvay Benvic & Cie Belgium S.N.C., Brussels	100
Solvay Chemicals International SA, Brussels	100
Solvay Chimie SA, Brussels	100
Solvay Coordination Internationale des Crédits Commerciaux SA, Brussels	100
Solvay Energy SA, Brussels	100
Solvay Nafta Development and Financing SA, Brussels	100
Solvay Participations Belgique SA, Brussels	100
Solvay Pharmaceuticals SA – Management Services, Brussels	100
Solvay Specialty Polymers Belgium SA/NV	100
Solvay Stock Option Management S.P.R.L., Brussels	100
Solvic SA, Brussels	75
Solvin SA, Brussels	75
<b>LUXEMBOURG</b>	
Caredor SA, Strassen	100
Solvay Finance (Luxembourg) SA, Luxembourg	100
Solvay Hortensia SA, Luxembourg	100
Solvay Luxembourg S.a.r.l., Luxembourg	100
<b>NETHERLANDS</b>	
Rhodia International Holdings B.V., Den Haag	100
Solvay Chemicals and Plastics Holding B.V., Linne-Herten	100
Solvay Chemie B.V., Linne-Herten	100
Solvay Holding Nederland B.V., Linne-Herten	100
Solvin Holding Nederland B.V., Linne-Herten	59.4
<b>FRANCE</b>	
Cogénération Chalampe SAS., Puteaux	100
RHOD V S.N.C., Courbevoie	100
RHOD W S.N.C., Courbevoie	100
Rhodia Chimie SAS., Aubervilliers	100
Rhodia Energy GHG SAS., Puteaux	100
Rhodia Finance SAS., Courbevoie	100
Rhodia Laboratoire du Futur SAS., Pessac	100
Rhodia Operations SAS., Aubervilliers	100
Rhodia Participations S.N.C., Courbevoie	100
Rhodia SA, Courbevoie	100
Rhodianyl SAS., Saint-Fons	100
Solvay – Carbonate – France SAS., Paris	100
Solvay – Electrolyse – France SAS., Paris	100
Solvay – Fluorés – France SAS., Paris	100
Solvay – Olefines – France SAS., Paris	100
Solvay – Spécialités – France SAS., Paris	100
Solvay Benvic Europe – France SAS., Paris	100
Solvay Energie France SAS., Paris	100
Solvay Energy Services SAS., Puteaux	100
Solvay Finance France SA, Paris	100
Solvay Finance SA, Paris	100
Solvay Participations France SA, Paris	100
Solvay Speciality Polymers France SAS., Paris	100
Solvin France SA, Paris	75

<b>ITALY</b>	
SIS Italia S.p.A., Bollate	100
Società Elettrochimica Solfuri e Cloroderivati (ELESO) S.p.A., Bollate	100
Società Generale per l'Industria della Magnesia (SGIM) S.p.A., Angera	100
Solvay Bario e Derivati S.p.A., Massa	100
Solvay Benvic Europe – Italia S.p.A, Ferrara	100
Solvay Chimica Bussi S.p.A., Rosignano	100
Solvay Chimica Italia S.p.A., Milano	100
Solvay Energy Services Italia S.r.l.	100
Solvay Solutions Italia S.p.A., Milano	100
Solvay Specialty Polymers Italy S.p.A., Milano	100
Solvin Italia S.p.A., Ferrara	75
<b>GERMANY</b>	
Girindus AG, Hannover	82
Horizon Immobilien AG, Hannover	100
Salzgewinnungsgesellschaft Westfalen mbH & Co KG, Hannover*	65
Solvay Acetow GmbH, Freiburg	100
Solvay Chemicals GmbH, Hannover	100
Solvay Energy Services Deutschland mbH, Hannover	100
Solvay Fluor GmbH, Hannover	100
Solvay GmbH, Hannover	100
Solvay Holding GmbH, Freiburg	100
Solvay Infra Bad Hoenningen mbH, Hannover	100
Solvay Organics GmbH, Hannover	100
Solvay P&S GmbH, Freiburg	100
Solvay Specialty Polymers Germany GmbH, Hannover	100
Solvay Verwaltungs-und Vermittlungs GmbH, Hannover	100
Solvin GmbH & Co KG, Hannover	75
Solvin GmbH & Co. KG – PVDC, Rheinberg	75
Solvin Holding GmbH, Hannover	75
<b>SPAIN</b>	
Solvay Quimica S.L., Barcelona	100
Solvay Ibérica S.L., Barcelona	100
Solvin Spain S.L., Martorell	75
Solvay Benvic Europe – Iberica SA, Barcelona	100
Solvay Energy Services Iberica, S.L., Madrid	100
Solvay Solutions Espana S.L., Madrid	100
<b>SWITZERLAND</b>	
Solvay (Schweiz) AG, Bad Zurzach	100
Solvay Vinyls Holding AG, Bad Zurzach	100
Sopargest – Société de participation et de gestion SA, Fribourg	100
<b>PORTUGAL</b>	
3S Solvay Shared Services-Sociedade de Serviços Partilhados Unipessoal Lda, Carnaxide	100
Solvay Interlox – Produtos Peroxidados SA, Povoá	100
Solvay Portugal – Produtos Quimicos SA, Povoá	100
<b>AUSTRIA</b>	
Solvay Österreich GmbH, Wien	100

\* German limited partnership, which makes use of the exemption offered by Section 264 (b) of the German Commercial Code, not to publish their annual financial statements.

## UNITED KINGDOM

Holmes Chapel Trading Ltd, Watford	100
McIntyre Group Ltd, Watford	100
Rhodia Holdings Ltd, Watford	100
Rhodia International Holdings Ltd, Oldbury	100
Rhodia Limited, Watford	100
Rhodia Organique Fine Ltd, Watford	100
Rhodia Overseas Ltd, Watford	100
Rhodia Pharma Solutions Holdings Ltd, Cramlington	100
Rhodia Pharma Solutions Ltd, Cramlington	100
Rhodia Reorganisation, Watford	100
Rhodia UK Ltd, Watford	100
Solvay Chemicals Ltd, Warrington	100
Solvay Interlox Ltd, Warrington	100
Solvay Speciality Chemicals Ltd, Warrington	100
Solvay UK Holding Company Ltd, Warrington	100

## IRELAND

Solvay Finance Ireland Unlimited, Dublin	100
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## FINLAND

Solvay Chemicals Finland Oy, Voikkaa	100
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## POLAND

Rhodia Polyamide Polska Sp z o.o., Gorzow Wielkopolski	100
Solvay Advanced Silicas Poland Sp. z o.o.	100

## BULGARIA

Solvay Bulgaria EAD, Devnya	100
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## RUSSIA

Sertow OOO, Serpukhov Khimi	100
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## EGYPT

Solvay Alexandria Sodium Carbonate Co, Alexandria	100
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## UNITED STATES

Alcolac Inc., Cranbury	100
American Soda LLP, Parachute, CO	100
Ausimont Industries, Inc., Wilmington, DE	100
Girindus America Inc., Cincinnati, OH	82.1
Heat Treatment Services Inc., Cranbury	100
Peptisyntha, Inc., Torrance, CA	100
Rhodia India Holding Inc., Cranbury	100
Rocky Mountain Coal Company, LLC, Houston, TX	100
Solvay America Holdings, Inc., Houston, TX	100
Solvay America Inc., Houston, TX	100
Solvay Chemicals, Inc., Houston, TX	100
Solvay Finance (America) LLC, Houston, TX	100
Solvay Financial Services INC., Wilmington	100
Solvay Fluorides, LLC., Greenwich, CT	100
Solvay Holding INC., Cranbury	100
Solvay Information Services NAFTA, LLC, Houston, TX	100
Solvay Soda Ash Expansion JV, Houston, TX	80
Solvay Soda Ash Joint Venture, Houston, TX	80
Solvay Specialty Polymers USA, LLC, Alpharetta, GA	100
Solvay USA INC., Cranbury	100

## CANADA

Rhodia Canada Inc., Toronto	100
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**MEXICO**

Rhodia de Mexico SA de CV, Mexico	100
Rhodia Especialidades SA de CV, Mexico	100
Solvay Fluor Mexico SA de C.V., Ciudad Juarez	100
Solvay Mexicana S. de R.L. de C.V., Monterrey	100
Solvay Quimica Y Minera Servicios SA de CV, Monterrey	100
Solvay Quimica Y Minera Ventas SA de CV, Monterrey	100

**BRAZIL**

Cogeracao de Energia Electrica Paraíso SA, Brotas	100
Rhodia Brazil Ltda, Sao Paulo	100
Rhodia Energy Brazil Ltda, Paulinia	100
Rhodia Poliamida Brasil Ltda, Sao Paulo	100
Rhodia Poliamida e Especialidades Ltda, Sao Paulo	100
Rhopart-Participacoes Servidos e Comercio Ltda, Sao Paulo	100
Solvay do Brasil Ltda, Sao Paulo	100
Solvay Indupa do Brasil SA, Sao Paulo	69.9

**ARGENTINA**

Solvay Argentina SA, Buenos Aires	100
Solvay Indupa SAI.C., Bahia Blanca	69.9
Solvay Quimica SA, Buenos Aires	100

**VENEZUELA**

Rhodia Silices de Venezuela C.A., Barquisimeto	100
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**URUGUAY**

Alaver SA, Montevideo	100
Fairway Investimentos SA, Montevideo	100
Zamin Company S/A, Montevideo	100

**AUSTRALIA**

Rhodia Chemicals Pty Ltd, Sydney	100
Solvay Interlox Pty Ltd, Banksmeadow	100

**NEW ZEALAND**

Solvay New Zealand Ltd, Auckland	100
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**JAPAN**

Anan Kasei Co Ltd, Anan City	67
Nippon Solvay KK, Tokyo	100
Rhodia Japan K.K., Tokyo	100
Rhodia Nicca Ltd, Tokyo	60
Solvay Specialty Polymers Japan KK, Minato Ku-Tokyo	100

**CHINA**

Baotou Solvay Rare Earths Company Ltd, Baotou	55
Beijing Rhodia Eastern Chemical Co., Ltd, Beijing	60
Liyang Solvay Rare Earth New Material Co., Ltd, Liyang City	96.3
Rhodia Hong Kong Ltd, Hong Kong	100
Solvay (Beijing) Energy Technology Co., Ltd, Beijing	100
Solvay (Shanghai) Engineering Plastics Co., Ltd	100
Solvay (Shanghai) International Trading Co., Ltd, Shanghai	100
Solvay (Shanghai) Ltd, Shanghai	100
Solvay (Zhangjiagang) Specialty Chemicals Co. Ltd, Suzhou	100
Solvay (Zhenjiang) Chemicals Co., Ltd, Zhenjiang New area	100
Solvay Biochemical (Taixing) Co. Ltd, Shanghai	59
Solvay Chemicals (Shanghai) Co. Ltd, Shanghai	100
Solvay China Co., Ltd, Shanghai	100
Solvay Fine Chemical Additives (Qingdao) Co., Ltd, Qingdao	100
Solvay Hengchang (Zhangjiagang) Specialty Chemical Co., Ltd, Zhangjiagang City	70
Solvay High Performance Materials R&D (Shanghai) Co., Ltd., Shanghai	100
Solvay Silica Qingdao Co., Ltd, Qingdao	100
Solvay Specialty Polymers (Changshu) Co. Ltd, Changshu	100
Zhejiang Lansol Fluorchem Co., Ltd, Zhejiang	55
Zhuhai Solvay Specialty Chemicals Co Ltd, Zhuhai City	100

#### THAILAND

Advanced Biochemical (Thailand) Company Ltd, Bangkok	58.8
Solvay (Bangpoo) Specialty Chemicals Ltd, Bangkok	100
Solvay Asia Pacific Company Ltd, Bangkok	100
Solvay Peroxythai Ltd, Bangkok	100
Vinythai Public Company Ltd, Bangkok	58.8

#### SINGAPORE

Rhodia Amines Chemicals Pte Ltd, Singapore	100
Solvay Fluor Holding (Asia-Pacific) Pte. Ltd., Singapore	100
Solvay Singapore Pte Ltd, Singapore	100
Solvay Specialty Chemicals Asia Pacific Pte. Ltd., Singapore	100
Vinythai Holding Pte Ltd., Singapore	58.8

#### INDIA

Rhodia Polymers & Specialties India Private Limited, Mumbai	100
Rhodia Specialty Chemicals India Limited, Mumbai	72.9
Solvay Specialties India Private Limited, Mumbai	100
Sunshield Chemicals Limited, Mumbai	62.4

#### CAYMAN ISLANDS

Blair International Insurance (Cayman) Ltd, Georgetown	100
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#### SOUTH KOREA

Daehan Solvay Special Chemicals Co., Ltd, Seoul	100
Solvay Chemicals Korea Co. Ltd, Seoul	100
Solvay Energy Services Korea Co. Ltd, Seoul	100
Solvay Korea Co. Ltd, Seoul	100
Solvay Silica Korea Co. Ltd, Incheon	100
Solvay Specialty Polymers Korea Company Ltd, Seoul	100

#### NAMIBIA

Okorusu Fluorspar (Pty) Ltd, Otjiwarongo	100
Okorusu Holdings (Pty) Ltd, Windhoek	100

### List of proportionately consolidated Group companies

#### FRANCE

Butachimie S.N.C., Courbevoie	50
Hexagas SAS., Puteaux	50

#### GERMANY

Warmeverbundkraftwerk Freiburg GmbH, Freiburg	49.9
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#### UNITED STATES

Primester, Kingsport TN	50
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## List of companies consolidated under the equity method

<b>BELGIUM</b>	
BASF Interlox H <sub>2</sub> O <sub>2</sub> Production NV, Brussels	50
<b>NETHERLANDS</b>	
MTP HP JV C.V., Weesp	50
MTP HP JV Management bv, Weesp	50
<b>FRANCE</b>	
GIE Chime Salindres, Salindres	50
GIE Osiris, Roussillon	34.8
<b>GERMANY</b>	
Solvay & CPC Barium Strontium GmbH & Co KG, Hannover	75
Solvay & CPC Barium Strontium International GmbH, Hannover	75
<b>AUSTRIA</b>	
Solvay Sisecam Holding AG, Wien	75
<b>POLAND</b>	
Zaklad Energoelctryczny Energo-Stil Sp. z o.o., Gorzow Wielkopolski	25
<b>BULGARIA</b>	
Deven AD, Devnya	75
Solvay Sodi AD, Devnya	75
<b>RUSSIA</b>	
Poligran OAO, Tver	50
RusVinyl OOO, Moscow	29.7
Soligran ZAO, Moscow Aptekars	50
<b>UNITED STATES</b>	
Plextronics, Inc., Pittsburgh	47.3
<b>MEXICO</b>	
Silicatos y Derivados SA DE C.V.	20
Solvay & CPC Barium Strontium Monterrey S. de R.L. de C.V., Monterrey	75
Solvay & CPC Barium Strontium Reynosa S. de R.L. de C.V., Reynosa	75
<b>BRAZIL</b>	
Dacarto Benvic SA, Santo André	50
Peroxidos do Brasil Ltda, Sao Paulo	69.4
<b>ARGENTINA</b>	
Solalban Energia SA, Bahia Blanca	40.5
<b>CHINA</b>	
Qingdao Hiwin Solvay Chemicals Co. Ltd, Qingdao	30
<b>THAILAND</b>	
MTP HP JV (Thailand) Ltd, Bangkok	50
<b>INDONESIA</b>	
Solvay Manyar P.T., Gresik	50
<b>INDIA</b>	
Hindustan Gum & Chemicals Ltd, New Delhi	50
<b>VIETNAM</b>	
Rhodia Nuoc Trong Biogas LLC, Ho Chi Minh City	75
<b>SAUDI ARABIA</b>	
Saudi Hydrogen Peroxide Co, Jubail	50

## Summary financial statements of Solvay SA

The annual financial statements of Solvay SA are presented in summary format below. In accordance with the Companies Code, the annual financial statements of Solvay SA, the management report and the statutory auditor's report will be deposited with the National Bank of Belgium.

These documents are also available free of charge on the internet or upon request from:

Solvay SA  
rue de Ransbeek 310  
B – 1120 Brussels

## Balance sheet of Solvay SA (summary)

€ million	2013	2012
<b>Assets</b>		
<b>Fixed assets</b>	<b>12,229</b>	<b>10,767</b>
Start-up expenses and intangible assets	102	93
Tangible assets	68	60
Financial assets	12,059	10,614
<b>Current assets</b>	<b>1,066</b>	<b>1,327</b>
Inventories	3	11
Trade receivables	194	148
Other receivables	735	613
Short-term investments and cash equivalents	115	529
Accruals	19	26
<b>TOTAL ASSETS</b>	<b>13,295</b>	<b>12,094</b>
<b>Shareholders' equity and liabilities</b>		
<b>Shareholders' equity</b>	<b>7,500</b>	<b>7,413</b>
Capital	1,271	1,271
Issue premiums	18	18
Reserves	1,948	1,948
Net income carried forward	4,262	4,175
Investment grants	1	1
<b>Provisions and deferred taxes</b>	<b>333</b>	<b>375</b>
<b>Financial debt</b>	<b>4,856</b>	<b>3,695</b>
■ due in more than one year	3,005	2,303
■ due within one year	1,851	1,392
<b>Trade liabilities</b>	<b>156</b>	<b>149</b>
<b>Other liabilities</b>	<b>336</b>	<b>346</b>
<b>Accruals and deferred income</b>	<b>114</b>	<b>116</b>
<b>TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES</b>	<b>13,295</b>	<b>12,094</b>

## Income statement of Solvay SA (summary)

€ million	2013	2012
<b>Operating income</b>	<b>1,000</b>	<b>798</b>
Sales	325	295
Other operating income	675	503
<b>Operating expenses</b>	<b>(1,202)</b>	<b>(1,010)</b>
<b>Operating profit/loss</b>	<b>(202)</b>	<b>(212)</b>
Financial gains/losses	422	1,274
<b>Current profit before taxes</b>	<b>220</b>	<b>1,062</b>
Extraordinary gains/losses	102	(149)
<b>Profit before taxes</b>	<b>322</b>	<b>913</b>
Income taxes	37	20
<b>Profit for the year</b>	<b>359</b>	<b>933</b>
Transfer to (-)/from (+) untaxed reserves		
<b>Profit available for distribution</b>	<b>359</b>	<b>933</b>

### 3 Statutory Auditor's report

Statutory auditor's report to the shareholders' meeting on the consolidated financial statements for the year ended December 31, 2013

To the shareholders

As required by law, we report to you in the context of our appointment as the company's statutory auditor. This report includes our report on the consolidated financial statements together with our report on other legal and regulatory requirements. These consolidated financial statements comprise the consolidated statement of financial position as at December 31, 2013, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, as well as the summary of significant accounting policies and other explanatory notes.

#### Report on the consolidated financial statements – Unqualified opinion

We have audited the consolidated financial statements of Solvay SA/NV ("the company") and its subsidiaries (jointly "the group"), prepared in accordance with International Financial Reporting Standards as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium.

The consolidated statement of financial position shows total assets of € 18,433 million and the consolidated income statement shows a consolidated profit (group share) for the year then ended of € 270 million.

#### Board of directors' responsibility for the preparation of the consolidated financial statements

The board of directors is responsible for the preparation and fair presentation of consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium, and for such internal control as the board of directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

#### Statutory auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing (ISA). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the statutory auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the statutory auditor considers internal control relevant to the group's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the group's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the board of directors, as well as evaluating the overall presentation of the consolidated financial statements. We have obtained from the group's officials and the board of directors the explanations and information necessary for performing our audit.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Unqualified opinion

In our opinion, the consolidated financial statements of Solvay SA/NV give a true and fair view of the group's net equity and financial position as of December 31, 2013, and of its results and its cash flows for the year then ended, in accordance with International Financial Reporting Standards as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium.

### Report on other legal and regulatory requirements

The board of directors is responsible for the preparation and the content of the directors' report on the consolidated financial statements.

As part of our mandate and in accordance with the Belgian standard complementary to the International Standards on Auditing applicable in Belgium, our responsibility is to verify, in all material respects, compliance with certain legal and regulatory requirements. On this basis, we make the following additional statement, which does not modify the scope of our opinion on the consolidated financial statements:

- The directors' report on the consolidated financial statements includes the information required by law, is consistent with the consolidated financial statements and is free from material inconsistencies with the information that we became aware of during the performance of our mandate.

Diegem, February 27, 2014

#### The statutory auditor

DELOITTE Bedrijfsrevisoren / Réviseurs d'Entreprises

BV o.v.v.e CVBA/ SC s.f.d. SCRL

Represented by **Éric Nys**



## 4 Declaration by the persons responsible

The Board of Directors hereby declares that, to the best of its knowledge:

- a) the financial statements, prepared in accordance with applicable accounting standards, give a true and fair view of the assets, liabilities, financial position and earnings of the issuer and the entities included in the consolidation;
- b) the management report includes an accurate review of the business developments, earnings and financial position of the issuer and the entities included in the consolidation, as well as a description of the main risks and uncertainties that these entities face.

For the Board of Directors,

**Nicolas Boël**

Chairman of the Board of Directors



**Jean-Pierre Clamadieu**

Chairman of the Executive Committee and CEO  
Director







→ In 2013, the emphasis has been placed on an extensive risk-profiling exercise, covering all Global Business Units and Functions. Furthermore, the treatment of risks assessed as falling outside the defined risk appetite is under way.



# Management of risks

# 2

This chapter is an annex to the Management Report

<b>1</b>	<b>Market and growth – Strategic risk</b>	<b>149</b>
<b>2</b>	<b>Supply chain and manufacturing risk</b>	<b>150</b>
<b>3</b>	<b>Regulatory, political and legal risk</b>	<b>151</b>
<b>4</b>	<b>Corporate governance and risk attached to internal procedures</b>	<b>152</b>
<b>5</b>	<b>Financial risk</b>	<b>153</b>
<b>6</b>	<b>Product risk</b>	<b>155</b>
<b>7</b>	<b>Risk to people</b>	<b>156</b>
<b>8</b>	<b>Environmental risk</b>	<b>158</b>
<b>9</b>	<b>Information and IT risk</b>	<b>159</b>
<b>10</b>	<b>Reputational risk</b>	<b>160</b>
<b>11</b>	<b>Important litigation</b>	<b>161</b>



# 2 Management of risks

Taking calculated risks while remaining in compliance with the Group's vision and Code of Conduct, and, also with laws and regulations, is an inherent aspect of the business and industrial activities of the Solvay group. The policy on ERM (Enterprise Risk Management) states that the Group will identify, quantify, assess and manage all potentially significant business risks and opportunities by applying systematic risk management integrated with strategy, business decisions and operations. Solvay is also monitoring the effects of climate change as related risks and opportunities may affect the Group's business objectives. Risk management is seen as an essential management tool and aid in making the decisions needed to achieve the Company's short-, medium- and long-term objectives.

During 2013, Solvay, drawing on the FERMA (Federation of European Risk Management Associations) Risk Management Standard, has continued its commitment to ensuring that a common approach to Risk Management permeates all levels of the organization. An ERM team within the Internal Audit and Risk Management department develops tools, provides advice and proposes strategies to help entities manage their risks more systematically.

During 2013, the emphasis has been on an extensive risk-profiling exercise, covering all business units and functions. Risk governance is strengthened by the Group Management Risk Committee.

For risks assessed as falling outside the defined risk appetite, actions are developed, implemented and monitored. Results are reported both

to the RM department and, together with the strategy, to the Executive Committee. Results are consolidated and further assessed to form a Group risk profile that is proposed to the Group Management Risk Committee.

The internal control process is applied to the most important corporate business processes. The methodology has the following steps: (i) risk analysis along the process by the process owner supported by experts from the Risk Management department, (ii) design of controls to reduce risks, (iii) deployment of controls and (iv) assessment of controls' effectiveness by Internal Audit. Efficient internal controls also reduce the risk of errors in financial reporting. Please refer to pages 188 and 189 of the 2013 Solvay annual report for a detailed description of the internal control system of the Solvay group.

Solvay activities are related to human rights subjects mostly through issues concerning work, health and safety (see 7 below). With its expanding operations in emerging countries, Solvay permanently reassesses its impact on human-rights matters.

In a context of global economic and political uncertainty, evolving power balances, different growth dynamics, shortening of market cycles, raw-material and energy volatility and quick technological evolution, Solvay believes that effective monitoring and management of risk is critical to ensure the sustainability and growth of the Company.

## Risk description in 10 risk categories

Solvay has defined 10 categories of risk:

- 1 Market and growth – Strategic risk**
- 2 Supply chain and manufacturing risk**
- 3 Regulatory, political and legal risk**
- 4 Corporate governance and risk attached to internal procedures**
- 5 Financial risk**
- 6 Product risk**
- 7 Risk to people**
- 8 Environmental risk**
- 9 Information and IT risk**
- 10 Reputational risk**

The purpose of this report is to describe the principal risks associated with each category and to outline the actions undertaken by the Group to reduce those risks. The order in which these risk categories are listed is not an indication of their importance or probability. The mitigation efforts described are no guarantee that risks will not materialize but demonstrates the Group's efforts to manage risk exposures in a proactive way.

## 1 Market and growth – Strategic risk

Strategic risk refers to Solvay's exposure to developments in its markets or its competitive environment as well as the risk of making erroneous strategic decisions. Examples of risks are technological leaps leading to the development of substitute products or more competitive manufacturing processes, economic downturn, drastic changes in energy and raw-material prices and availability, the lack of success of a new product, reduction of demand in the Group's main markets as a consequence of either new legislation or competitive actions, events affecting its most important customers, new entrants in a market, price war and significant imbalances between supply and demand in its markets.

The diverse businesses within Solvay generate a variety of risks, some of which could potentially affect the Group as a whole. But diversification contributes to the reduction of the overall risk as the Group's different businesses, processes, policies and structures offset some risks against each other merely through a balanced portfolio of products, end markets, industrial footprint and geographical reach.

### Prevention and mitigation efforts

The potential impact of adverse events is assessed and managed at both GBU and Corporate levels, and involves in particular:

- systematic and formal analysis of markets and marketing challenges in relation to our projects;
- maintenance of a balanced portfolio of products and geographic spread;
- diversification of the customer base in different market segments;
- adaptation of operations to the changing macroeconomic and market environment;
- selective vertical integration and diversified sourcing of raw material and energy;
- strict financial policy and allocation of resources;
- investment and innovation strategy;
- continuous monitoring of mitigation plans' progress;
- business planning and management cycles with both short term and long term horizons.

Sales development is an important driver of opportunities and risks for Solvay. The Group expects sustainable growth of its sales in the horizon of its strategic planning, notably driven by above-global-average growth in emerging and fast-developing regions. This creates opportunities that Solvay wants to seize by expanding its presence in these economies. For example in 2013, the Group announced investments in new PVDF and Vanillin plants in China, a new Silica plant in Poland, a new Bicarbonate plant in Thailand and a new alkoxylation plant in Singapore, and Solvay has under construction a new joint venture hydrogen peroxide plant in Saudi Arabia. However, potential risks associated with lasting lower global demand for chemicals, and increased competition drove Solvay to develop and announce plans to further streamline operations and accelerate growth with new products and markets.

Furthermore, the Group anticipates that cheap energy sources should continue to favor development in certain regions, as, for example, is the case with shale gas in the US, creating business opportunities and challenging energy-intensive peers in other regions. It is addressing these and other risks and opportunities through active portfolio management. For example, Solvay announced the plan to divest its PVC activities in South America and to put the European PVC business into a joint venture with INEOS. Also in 2013, the Group concluded the acquisition of Chemlogics, increasing its exposure to above-average profitable growth in the booming US shale gas industry. In this acquisition as in others, the evaluation of opportunities and risks was conducted as part of the due diligence. Through such operations the Group also achieves a more balanced geographic presence across Europe, North America and Asia, being able to minimize the global impact of any variation in the economic and political environment in any given region, and benefit from higher growth environments.

New products, technologies and activities are also developed by Research and Innovation activities to address attractive and growing markets and customer needs like light-weight materials, recycling technologies, crop protection and yield, sustainable mobility, etc.

## 2 Supply chain and manufacturing risk

Supply chain and manufacturing risk in production units and transportation refers to risks related to raw material, suppliers, production, storage units and inbound/outbound transportation. Risks include major equipment failure or damage, natural disasters, industrial and transportation accidents, strikes and drastic shortages of raw material, utilities or critical equipment.

The geographic distribution of production units around the world reduces the overall impact of one production unit being damaged or interrupted. Some specialty products are, however, produced only in one single plant.

### Prevention and mitigation efforts

Key risk areas are addressed with relevant dedicated policies and risk-control programs such as the property-loss prevention process, process safety management procedures, health and safety policies, the supplier qualification and assessment process, integrated resource planning and supply chain optimization systems, ERP (Emergency Response Plans), corporate and local crisis management procedures, business continuity planning (including for pandemic risk), and networking groups for manufacturing and supply chain managers.

Solvay buys insurance to reduce the financial impact of events potentially causing extensive damage and consequential business interruption. The property-loss prevention program is deployed with the support of a large network of risk engineers assigned by the insurers and focusing on the prevention and mitigation of damage to assets and loss of profit due to fire, explosion, accidental chemical release and other sudden adverse events. The program has been reinforced across the Group since January 2012 and includes:

- bi-annual engineering visits to all locations with a € 100 million worst-case risk scenario;
- quarterly monitoring and update on the status of agreed risk-improvement actions for all locations;
- business impact analysis;
- loss-prevention training of plant personnel.

In addition to owning several mines and quarries for extraction of fluor, trona, limestone, salt and celestite, Solvay reduces the risk of disruption of raw material supply (availability, reliability and price) by a combination of:

- use of flexible medium- and long-term contracts;
- diversification of the sources of raw materials;

- development of partnerships with preferred suppliers;
- when possible, integration of key suppliers in the property loss prevention program;
- implementing processes to ensure REACH compliance up the supply chain and/or substitution, to minimize the risk of raw materials disruption;
- implementing TfS (Together for Sustainability), an industry benchmark process for supplier assessments and audits aligned with the UN Global Compact reference.

In the field of energy supply, Solvay has consistently implemented programs to reduce its energy consumption for many years. While Solvay has industrial activities with high energy consumption, mainly in Europe (synthetic soda ash plants, chlorovinyls, polyamides), it also operates a range of industrial activities with a relatively low energy content as a percentage of sales price, particularly in the fluorinated polymers business of the Specialty Polymers GBU and in the Novecare GBU. The Group considers secure and reliable energy supplies to be particularly important and has taken the following strategic initiatives:

- technological leadership in processes and high-performance industrial operations to minimize energy consumption;
- diversification and flexible use of the different types and sources of primary energy;
- upstream integration in steam and electricity generation (gas cogeneration, biomass or secondary fuels cogeneration, etc.);
- periodic review of conditions of industrial sites' energy assets and connections;
- a strategy of supply coverage with long-term partnerships and medium- to long-term contracts with price-hedging protection mechanisms when needed;
- direct access to energy markets when possible (gas hubs, electrical grids, financial spot and futures exchanges);
- regular forecast reports on energy and raw-material price trends sent to business to anticipate sales prices realignments.

Solvay created Energy Services, aiming at optimizing energy cost and CO<sub>2</sub> emissions for the Group and third parties. Energy Services optimizes the energy purchasing and consumption for the Group and assists GBUs in their management of energy and CO<sub>2</sub> emissions.

The Solvay group is committed to ambitious CO<sub>2</sub> reduction targets.

### 3 Regulatory, political and legal risk

**Regulatory risk** refers to Solvay's exposure to changes in legislation and regulations. This could include events like governmental price regulations, taxation, tariff policies, or new regulations banning a product or imposing manufacturing, marketing and use restrictions making it unjustifiable to produce. Solvay could be exposed to important cost increases or business interruptions as a consequence of new legislation or regulations, or a more strict interpretation or application of current regulations by courts or authorities.

Solvay must obtain and maintain regulatory approval to operate its production facilities and sell its products. Given the international spread of the Group, these regulatory approvals emanate from authorities or agencies of many different countries. Withdrawal of any previously granted approval or failure to obtain an authorization may have an adverse effect on its business continuity and operating results.

For Europe in particular, all substances manufactured or used by Solvay require registration under the REACH Regulation and must meet the deadlines imposed by this regulation. This is in addition to other already existing requirements. By the second REACH registration deadline of June 1, 2013, 175 files were successfully registered with the European Chemical Agency; of these, 59 files were registered in 2012 and 116 files in 2013. The next REACH registration deadline is May 31, 2018.

**Political risk** refers to Solvay's exposure to circumstances where the normal exercise of public authority is disrupted. This could be the consequence of a social crisis, political instability, civil war, nationalization or terrorism in countries where the Group operates or sells products, resulting in delay or failure of delivery of products or unavailability of raw materials, utilities, logistic or transport facilities.

**Legal risk** refers to the exposure to actual and potential judicial and administrative proceedings. The simple fact of doing business exposes Solvay to disputes and litigation. Adverse outcomes of such disputes or litigation are always possible (see note on Important Litigation below). In the normal course of business the Group is or may become a party to judicial or administrative proceedings. See page 161 for an overview of the ongoing legal proceedings involving the Group that are considered to involve potentially significant risks. The Group is exposed to legal risk, particularly in the areas of product

liability, contractual obligations, antitrust laws, patent infringement, tax assessments and environmental matters.

The Group's operations depend on the control of its key technologies and on the capacity to innovate. The questioning by third parties of the right of Solvay to use certain technologies could have an impact on its operations. Furthermore, insufficient protection by Solvay of its innovations could limit its development potential.

The geographic spread of the Group around the world is a factor reducing the impact from adverse regulatory and political developments.

#### Prevention and mitigation efforts

Proper design and testing of products and their production processes contributes to the management of regulatory and legal risks, as do timely and thorough applications for necessary approvals.

Regulatory and political risk both within and outside the European Union is reduced through the continuous work of, and interactions with public authorities by, the Government and Public Affairs department and through the local Belgian Embassy.

To manage legal risk Solvay maintains in-house legal, intellectual property and regulatory resources, and relies on additional external professional resources as appropriate. In addition the Group makes appropriate financial provisions. Awareness of legal risks is raised by dedicated training, sharing of information, self-assessment procedures and internal audits.

In the chemical industry, technological know-how can remain protected by way of trade secret, which is often a good substitute for patent protection. However, Solvay patents new products and processes when appropriate and maintains continuous efforts to protect its proprietary information and its position as leader in technological know-how for its production processes. Solvay implements a policy to protect its innovations and its know-how, including taking specific precautions through its choice of partners in R&D and through choosing the locations of its research operations.

In respect of political risks, Solvay's actions include risk-sharing with local or institutional partners as well as monitoring of political developments in sensitive areas.



## 4 Corporate governance and risk attached to internal procedures

Solvay has adopted the 2009 Belgian Code of Corporate Governance.

In the field of corporate governance, each year Solvay publishes a corporate governance report relating to the application of the recommendations of this Code in accordance with the “comply or explain” principle (available on [www.solvay.com](http://www.solvay.com)).

Group-wide, Solvay has a Code of Conduct and adopts policies and procedures to enhance good governance of the Group.

The risk attached to internal procedures is Solvay’s exposure to failure to comply with the Solvay Code of Conduct and supporting policies and procedures. Examples of risks are failure to integrate an acquired company, failure to implement good governance in a joint venture, direct or indirect involvement in human-rights violations, failure to implement human resources strategies, loss of key personnel, errors in financial reporting, corruption and failure to apply internal control.

### Prevention and mitigation efforts

Solvay has a compliance organization in place under the leadership of the Group General Counsel to enhance a Group-wide ethics- and compliance-based culture and to promote and monitor compliance with applicable laws, the Group Code of Conduct and supporting policies and procedures. Compliance Officers have been appointed in all four zones in which the Group is active.

Training courses facilitated by the Legal & Compliance function are organized to ensure that ethical and compliant conduct is embodied in the way business is done at Solvay and to address behavioral risks in certain specific areas such as antitrust or corruption. Regular campaigns are organized to train new employees and to maintain the right level of awareness in the whole Group. The compliance department, in collaboration with Internal Audit, legal and other departments or functions, monitors compliance with applicable laws and Solvay’s Code of Conduct. Any violation of the Code will lead to sanctions in accordance with internal regulations and applicable law. Reporting of violations is encouraged and various avenues are offered to employees including contact with the Compliance Officers. In most countries in which Solvay operates, Solvay has introduced the Solvay Ethics Helpline, an external resource through which employees can report in their own language ethical or compliance concerns.

The internal-control process is applied to the most important business processes. The methodology has the following steps: (i) risk analysis along the process by the process owner supported by experts from the Risk Management department, (ii) design of controls to reduce risks, (iii) deployment of controls and (iv) assessment of controls’ effectiveness by Internal Audit. Efficient internal controls also reduce the risk of errors in financial reporting. Please refer to pages 188 and 189 of the 2013 annual report of Solvay for a detailed description of the internal-control system of the Solvay group.

## 5 Financial risk

Financial risk is Solvay's exposure to liquidity risk, foreign exchange risk, interest-rate risk, counterparty risk (credit risk), failure to fund pension obligations, and tax risk, mainly tax compliance risk and transfer-pricing risk.

**Liquidity risk** relates to Solvay's ability to service and refinance its debt (including notes issued) and to fund its operations, and depends on its ability to generate cash from operations and not to over-pay for acquisitions.

Solvay is exposed to **foreign-exchange risk** as a consequence of its international activities. In its present structure, the Group's exposure is mainly associated with the EUR/USD risk, as the Group's overall activities generate a net positive USD flow. Consequently, a depreciation of the USD will generally result in lower revenues for Solvay. To a lesser extent, the Group is also exposed to EUR/JPY and BRL/USD. A sensitivity analysis to those currencies is provided in the financial section of the annual report (see pages 124 and 125 of this report).

**Interest-rate risk** is Solvay's exposure to fluctuating interest rates.

Solvay is exposed to **counterparty risk** in its cash management and in its foreign-exchange risk and interest-rate risk management as well as in its commercial relationships with customers.

With regard to the **risk of under-funding pension obligations**, Solvay is exposed to a number of defined-benefit plans. Fluctuations in discount rates, salaries and social security, longevity and asset/liability matching can have a major impact on the liabilities of such pension plans. For funded plans, the risks related to investments need to be managed, taking into account the risk-return balance. If plans are under-funded Solvay is mostly exposed to inflation and interest-rate risk. Further information is provided in the note 32 to the consolidated financial statements in pages 110 to 112 of the present document.

### Prevention and mitigation efforts

Financial risks are analyzed, assessed and managed by the Corporate Finance function (Treasury and Tax). Loss prevention and mitigating efforts involve a number of activities, such as:

- maintaining a strong liquidity policy;
- maintaining a natural currency hedge;
- fixed interest rates;

- hybrid pension plans, cash balance plans and defined-contribution plans;
- internal controls dedicated to tax compliance processes;
- transfer-pricing documentation prepared in line with OECD (Organization for Economic Co-operation and Development) requirements;
- recourse to external tax expertise, should the need arises.

The Group is recognized as historically having a prudent financial profile, as illustrated by its BBB+ rating<sup>(1)</sup> (Standard & Poor's BBB+; Moody's Baa1). The liquidity profile is strong, mainly supported by long-term bond issuance (for a total of € 4.0 billion, with a first significant maturity of € 500 million in 2014 and € 1.2 billion hybrid bonds, treated as equity under IFRS) and substantial liquidity reserves (cash and committed credit lines, including two syndicated credit facilities of € 1 billion and € 550 million and a credit line of € 300 million with the European Investment Bank). In addition, the Group has also access to a Belgian Treasury Bill program in an amount of € 1 billion or as an alternative a US commercial paper program in an amount of \$ 500 million. The financial discipline remains conservative.

The geographic diversification of production and sales provides a natural currency hedge because of the resulting combination of an income stream and an expense base in local currency. Furthermore, Solvay closely monitors the foreign-exchange market and enters into hedging measures for terms usually shorter than one year and not exceeding 18 months whenever deemed appropriate. In practice, Solvay enters into forward and option contracts securing the value (in EUR and/or USD) of cash flows in foreign currency during the following months. The Group manages its foreign-exchange risk for receivables and borrowings through CICC (Solvay's in-house bank) in Belgium for all affiliates of the Group where it is possible to enter in such hedging transactions and through local financial affiliates for other regions.

In its present structure, the Group has locked in the largest part of its net indebtedness with fixed interest rates. Solvay closely monitors the interest rate market and enters into interest-rate swaps whenever deemed appropriate.

Solvay manages its financial counterparty risk by working with banking institutions of the highest caliber (selection based on major rating systems) and minimizes the concentration of risk by limiting its exposure to each of these banks to a certain threshold, set in relation to the institution's credit rating.

(1) At the time of publication of this annual report.

In addition, Solvay places money with highly rated money market funds as well as investing in short term debt securities from highly rated sovereign issuers at the appropriate moments.

Furthermore, Solvay group manages external-customer risk and cash collection through a strong network of credit managers and collectors located in operating regions and countries.

Credit-management and collection processes are supported by a set of detailed procedures and managed through Corporate and GBU Credit Committees. These loss mitigation measures have led, over the past years, to a record low rate of customer defaults.

Solvay has defined corporate pension-governance guidelines in order to maximize its influence over local pension fund decisions within the limits provided by local law, in particular, decisions related to investment and funding, selection of advisors, appointments of employer-nominated trustees to local pension fund Boards and other cost-management decisions.

The Group has reduced its exposure to defined-benefit plans by converting existing plans into pension plans with a lower risk profile for future services or by closing them to new entrants. Examples of plans with a lower risk profile are hybrid plans, cash-balance plans and defined-contribution plans.

A global ALM (Asset Liability Management) analysis of Group's pension plans representing more than 90% of the Group's pension obligations is performed periodically, the last one being in 2012 to identify and manage corresponding risks on a global basis.

Solvay stresses the importance of tax compliance. It monitors its procedures and systems through internal reviews and through

audits performed by reputable external consultants. Internal controls dedicated to tax-compliance processes are in place to limit the occurrence of possible errors or failures.

Solvay has issued transfer-pricing policies and procedures aimed at meeting the requirements of the authorities. These are in the process of being updated.

Transfer-pricing documentation is prepared annually for each relevant Group legal entity with the assistance of internal or external experts in line with OECD requirements, in order to demonstrate the arm's-length nature of cross-company pricing. The existence and timeliness of the documentation are regularly audited by the internal audit department. Internal transfer-pricing specialists assist the business in setting intra-group prices compliant with the transfer pricing policy.

The prevention and mitigation efforts for the tax litigation risk are based on thorough analysis of mergers, acquisitions and divestments, or proposed changes in the business organization and operations, with the assistance of external experts or law firms when the amounts at stake warrant it. Changes in laws and regulations are also monitored with the aim of adapting to new situations.

Solvay, like any other corporate taxpayer, currently faces significant growth in tax increases and the introduction of many new tax provisions. Solvay's Tax Department pays great attention to the correct interpretation and application of these new tax rules to avoid future litigation.

## 6 Product risk

**Product-liability risk** is Solvay's exposure stemming from injury to third parties or damage to their property arising from the use of a Solvay product, as well as the resulting litigation. Product liability may arise from out-of-specification products, inappropriate use, previously unidentified effects, manufacturing errors resulting in defective products, product contamination, altered product quality or inappropriate safety and health recommendations. Consequences of a faulty product could be exposure to liability for injury and damage as well as recall of a product. Product-liability risk is generally higher for products used in healthcare and food & feed applications compared to other applications. Products with significant potential hazards are in general sold to industrial users with the correct specifications and not directly to consumers.

**Product-development risk** is Solvay's exposure to adverse developments while developing new products and technologies or scaling up a process.

### Prevention and mitigation efforts

Solvay controls the quality and purity of its manufactured products through quality-assurance and quality-control programs, by controlling industrial processes and by deploying full composition-data management.

Product liability exposure is reduced by product stewardship programs giving adequate information and technical assistance to customers,

ensuring a good understanding of safe use and handling. Solvay pays particular attention to providing complete and clear information about intended use and potential hazards by means of Safety Data Sheets, labels, regulatory-compliance statements and other documentation. For example, conditions of safe use and handling, hazard levels, first aid emergency measures and emergency phone numbers are provided in the language of its customers. Recall procedures, as described in the product stewardship programs, management systems and the health-care management process, are also developed and deployed.

Regarding product development, Solvay devotes substantial resources to R&I. Innovation is a cornerstone of the Group's strategy and Solvay considers that managing the challenges related to product development is more about opportunity than about risk for the Company.

A defined project-management process ensures optimal use of resources when moving a new product from idea to market launch in a timely manner.

The New Business Development team within the R&I function manages the Group investments in internal and external research projects, start-ups and venture capital funds, allowing Solvay to remain engaged at the forefront of emerging businesses such as alternative renewable energies and organic electronics. It also includes risk-sharing through public-private partnerships or other forms of open innovation for developing breakthrough technologies.

## 7 Risk to people

**Accidents to employees or third party individuals on Solvay's sites** are generally linked to failure of safety management relating to risks at the workplace. Personnel accidents include contact with chemicals (hot, corrosive or toxic) leaking from a vessel, pump or pipe, as well as accidents caused by explosion or falling objects, falls during work at height or work with mechanical or moving equipment.

Accidents to contractors include falls during work at height during construction and maintenance, use of tools and interaction with equipment during maintenance, as well as accidents due to non-compliance with work permit procedures.

Risks of causing **injury to neighbors or the public** are mostly a consequence of major process accidents at manufacturing sites or during transport activities.

**Occupational-related diseases** including chronic diseases from exposures to occupational hazards are mostly related to past exposures resulting in health effects after a long period of latency, e.g. asbestos-related diseases.

**Pandemic risk** can affect employees, their families and the society at large.

### Prevention and mitigation efforts

Safety of people is of the highest priority in the management of activities in Solvay. HSE (Health, Safety and Environment) policies, procedures, standards and programs for each HSE field are deployed at all our plants. The Group has a long track record of good safety performance, and the integration, and sharing of good practices coming from the two legacies has allowed significant progress. The understanding and management of human and organizational factors are important to safety. Safety initiatives set ambitious targets to achieve while providing programs for behavioral safety and to increase the safety culture of managers, employees and contractors. Most sites already have an integrated in-house HSE management system, and one objective of the new group is to build a new HSE Management system for the whole Group.

The Group has zero accidents as the ultimate target. Integrated safety results are available since the beginning of 2011. The group LTAR (work accidents with lost time/1 million working hours) again this year reached a record value of 0.8. The MTAR (work accidents with medical

treatment/1 million working hours), reached a record value of 1.1 at the end of 2013. This represents a continuous safety improvement trend over the last two years. These results include registered employees but also contractors and temporary workers. The safety results are presented monthly to the Executive Committee and sent to each GBU.

In 2012, a new safety initiative was launched by the Executive Committee to implement improved safety leadership practices allowing managers to demonstrate their commitment to safety. Targets have been set for continuous improvement concerning MTAR, chemical contact accidents and irreversible accidents. Regular distribution of lesson-learning events increase awareness and help to avoid recurrence of similar events at the same or other production and R&I sites.

Existing internal and external research, academic or inter-company developments are monitored to identify new safety approaches ICSI (*Institut pour une Culture de Sécurité Industrielle*), EPSC (European Process Safety Centre) or CEFIC (European Chemical Industry Council) initiatives).

Solvay has put into place a global pandemic preparedness task force covering all plants and all businesses by means of a sustained network of coordinators prepared to implement regional and local prevention and mitigation activities.

Key elements of management concerning contractor safety are organized in five successive steps: (i) qualification and pre-selection, (ii) work definition and risk analysis, (iii) contract definition (context, rules, penalties and acceptance), (iv) work execution, management and reception and (v) HSE contractor evaluation, feedback and actions. This also includes prevention planning, additional training for specific risks for health and safety, and control and feedback during work and after completion. Thanks to such management elements, safety performance of contractors improved significantly during the recent years.

Visitors at Solvay sites are specially informed about the risk and the specific safety rules when entering. Process safety concerns the protection of people, assets and environment against the consequences of process incidents. Solvay's objective is to ensure a uniform, centralized and best-in-class PSM (Process-Safety Management) performance. The ownership of PSM is assigned to HSE and Solvay has a target of covering each facility with a risk analysis

before the end of 2020. This ambitious target will be achieved thanks to clearly defined methodologies, tools and dedicated resources. The concept of PSM systems as applied in USA, where PSM is mandatory and must comply with OSHA (Operational Safety and Health Administration) and EPA (Environmental Protection Agency) requirements, is also used to support safety management systems in other regions, including Europe where it supports compliance with the Seveso Regulation.

The risk of an accident in connection with hazardous chemicals transportation is reduced by optimizing transport routes, relying on selected and audited haulers and worldwide emergency assistance in case of accidents through the Carechem service. In addition, every effort is made to minimize the number of transportation activities by operating with integrated production units for hazardous intermediates. Solvay follows the safety recommendations of associations like Eurochlor, ECVI (European Council of Vinyl Manufacturers) or CTEF (*Comité Technique Européen du Fluor*) and programs like Responsible Care®.

Conservative approaches in risk assessment and management reduce real risk exposure when new hazards are revealed. Such conservative approaches are shared and applied by the worldwide toxicology team and also supported by the internal "Solvay Acceptable Exposure Limit" Committee, chaired by the Corporate Medical Adviser.

Solvay has its own experts within the Company and actively cooperates with external networks. High priority is given to nano-materials and technology, endocrine disruptors and health-related applications of Solvay products.

For decades, Solvay has had in place worldwide occupational-disease monitoring and a strong program in industrial hygiene focusing on a comprehensive assessment of compliance with occupational-hygiene standards. In order to ensure a high standard of occupational-health protection for employees, in 2006 Solvay started rolling out the occupational-hygiene module and in 2008 the health module of the MEDEXIS IH-OH system in order to manage comprehensive hygiene data as well as the data related to medical surveillance, in order to standardize and leverage medical surveillance programs. The principles of the MEDEXIS IH-OH system will be progressively extended to the whole Group and shared via a unique and uniform IT tool. It is designed to identify clusters of new possibly occupation-related diseases with multiple underlying causes, with the purpose of improving individual and collective exposure and medical traceability and facilitating the daily work of physicians and hygienists in Solvay.



## 8 Environmental risk

Environmental risk is Solvay's exposure stemming from the sudden or long-term release of a chemical substance following plant-equipment failures or transport accidents, as well as from production problems resulting in exceeding permitted emission levels. Several Solvay sites are governed by regulations concerning major-risk installations.

Exceeding permitted emission levels can lead to administrative or criminal sanctions, adverse outcomes in litigation and the risk of the loss of license to operate.

Like most other industrial companies, Solvay has to manage and remediate historical soil contamination at some sites as well as comply with future changes in environmental legislation. In Europe and elsewhere, environmental liability and the "polluter pays" principle are increasingly embedded in environmental legislation, to prevent and remedy environmental damage. For the first time, environmental damage to land, water, natural habitats and protected species has been brought under the umbrella of a single piece of European legislation.

The legislation introduces an increasingly broader scope of soil-remediation legal liabilities than previously seen across Europe, including a requirement for primary remediation, complementary remediation and compensatory remediation. More generally, authorities worldwide are increasingly requiring management of soil and groundwater environmental legacies. The risk for Solvay is in particular that the ELD (European Liability Directive) will lead to increased remediation costs and in this context, a number of administrative proceedings are under way to define the need for and approach to remediation.

The risk from climate change is a reality, with its potential consequences: sea-level rise, increased frequency and gravity of hurricanes and typhoons, water scarcity, earthquakes, tsunamis and flooding. In addition, a number of manufacturing sites are exposed to water scarcity risk.

### Prevention and mitigation efforts

Solvay considers environmental protection a key aspect in the management of its activities. Well-defined measures to prevent pollution and accidents have been in place at Solvay for a long time. Solvay implements ISO 14001 or integrated HSE management systems equivalent to ISO 14001 for the environment in all plants concerned. Policies and risk control programs are applied in all production units and other facilities and are progressively implemented in newly acquired plants. The Group has, in particular, taken the necessary steps to comply and even go beyond compliance with regulations concerning major risks, which includes detailed accident-prevention measures.

Sites with historical soil contamination are carefully monitored and managed by a dedicated worldwide team. This team receives training in regulatory awareness and undertakes regular updates of appropriate provisions for monitoring and remediation according to a defined audit process. The Group has developed internal expertise in soil management. It is Solvay's policy to have a risk characterization approach at all concerned sites. Hydrogeological studies and soil characterizations are conducted to diagnose potential problems, evaluate risks to aquifers and discuss relevant remediation or confinement actions with authorities. A number of such actions have been completed or are under way.

Compliance with applicable legislation is fully integrated into environmental management systems and is constantly monitored by all Solvay sites. Corrective actions are implemented whenever necessary in close cooperation with environmental authorities to assure that no adverse effect on the environment is observed.

Solvay monitors the effects of climate change as related risks and opportunities may affect the Group's business objectives. The risk is to an extent hedged through the geographic spread of both production units and markets for its products.

As regards water-scarcity risk, mitigation approaches include using alternative water sources, recycling and reducing consumption following an identification of sites possibly at risk. The geographic distribution of production units around the world reduces the overall impact of one production unit being slowed down or interrupted due to water shortage.

## 9 Information and IT risk

Information- and Information Services-related risks for Solvay include fraud, manipulation or destruction of information, inability to ensure continuity of information services and business processes services and inability to protect confidential, critical or sensitive information. For the year 2013, Information Services from two legacies have been merged and integrated within the new Solvay Business Services while taking into account the risk remediation as defined by this new organization for the Solvay group

### Prevention and mitigation efforts

Information Services internal controls have been designed, implemented and assessed for financial consolidation at the Group level. Cash management optimization (credit management/cash/in-out banking and working capital) has been implemented for the complete Solvay group by reducing the risks of having two different processes with two different environments.

Information Services, at Solvay group level (for both legacies, after merging), is certified ISO 9001/2008.

In merging the two Information Services organizations, a unique e-mail address for all end-users has been implemented to reduce the risks in access control. By implementing only one Data Center with automatic redundancy on a backup site, the Information Services organization has reduced the risk of disruption of continuity of services for the whole Company. By having implemented only one global dedicated and globally managed network, risks of security deficiencies have been reduced.

Information Services internal controls for the Worldwide Data Center and the global network were designed, implemented and assessed in 2013.

For 2014, a cyber-risk program will be put in place to reduce the risks the Company might face in the coming years.

## 10 Reputational risk

Reputational risk arises from Solvay's exposure to a deterioration of its reputation with its different stakeholders. Damage may occur due to the realization of any of the risks described for the other risk categories in this chapter or any unexpected crisis event, whether real, supposed or alleged, and publication of any unfavorable outcome. It may also arise from the occurrence of any event or action associated with the Solvay name that would be in breach of ethics, law or corporate governance principles and which, more generally speaking, would fall short of stakeholder expectations with regard to Solvay.

Damage to corporate reputation can be accelerated and amplified by the Internet and social networking media.

Reputation is a key asset. Loss of reputation can result in competitive disadvantage and value destruction. Reputational risk deals with the subjective, composite perception of a company by its different stakeholders. Trust is a fundamental ingredient of reputation.

### Prevention and mitigation efforts

Besides overall good reputation management under the supervision of the Corporate Communication function, control practices and systems, including crisis anticipation and preparation, efficient communication (clear, consistent and timely) and long-term solid relationships with key stakeholders, both inside and outside the organization, contribute in the long run to building and consolidating trust, which is a fundamental ingredient of reputation.

In addition to fostering its own good reputation, Solvay participates in specific programs implemented by key trade organizations to improve the reputation of the entire chemical industry. Members

of the Executive Committee of Solvay have recently been active as presidents of ICCA (International Council of Chemical Associations), CEFIC (European Chemical Industry Council) and Plastics Europe.

Solvay has established communication processes, systems, plans and programs to create, develop and maintain a regular dialogue, including in crisis situations, with its main stakeholders: shareholders and the financial community, employees, customers and suppliers, authorities, local communities and opinion leaders. Tools include a variety of internal and external electronic and printed media tailored for internal and external audiences. Solvay maintains active press relations at the corporate and local levels, through direct contacts, press releases, conferences and visits as well as open-door and other events aimed at local communities around major sites. The Group has also adopted a set of guidelines and advice for employee use of social-networking media.

Clear values and training on practices supported by the Code of Conduct, combined with a high level of Corporate Governance, are instrumental in preventing behavior that could contribute to reputational risk.

Solvay is implementing effective management and communication systems designed to give early warning in case of actual or latent crises and to ensure an adequate response in the case of unexpected and sudden adverse events that can potentially harm the Group's reputation. Dedicated managers and employees are trained to face such situations. Crisis simulations are organized on a regular basis in the different entities of the Group.

## 11 Important litigation

With its variety of activities and its geographic reach, the Solvay group is exposed to legal risks, particularly in the areas of product liability, contractual relations, antitrust laws, patent disputes, tax assessments and HSE matters. In this context litigation cannot be avoided and is sometimes necessary to defend the rights and interests of the Group.

The outcome of proceedings cannot be predicted with certainty. It is therefore possible that adverse final court decisions or arbitration awards could lead to liabilities (and expenses) that are not covered or not fully covered by provisions or insurance and could impact materially the revenues and earnings of the Group.

Ongoing legal proceedings involving the Solvay group currently considered to involve significant risks are outlined below. The legal proceedings described below do not represent an exhaustive list.

The fact that litigation proceedings are reported below is without relation to the merits of the cases. In all the cases cited below, Solvay is defending itself vigorously and believes in the merits of its defenses.

For certain cases, Solvay has created reserves/provisions in accordance with the accounting rules to cover the financial risk and defense costs (see the note 32 to the financial consolidated statement in pages 110 to 116 of the 2013 annual report).

### Antitrust proceedings

In May 2006, the European Commission imposed fines in an aggregate amount of € 193 million against Solvay (including Ausimont SpA, acquired by Solvay in 2002) for alleged breaches of competition rules in the peroxygens market. Solvay appealed the decision of the European Commission and the European General Court reduced the fine to € 139.5 million for Solvay SA and € 12.8 million for Solvay Specialty Polymers Italy SpA. This reduced fine was confirmed by the European Court of Justice in December 2013. Joint civil lawsuits were filed before the Court of Dortmund (Germany) in 2009 against Solvay and other producers based on the alleged antitrust violation, claiming damages from the producers on a joint and several basis. The value of the claims is approximately € 240 million (excluding interest) against all 6 defendants. Several questions on the jurisdiction of the Court of Dortmund have been referred to the European Court of Justice and proceedings before the Court of Dortmund are stayed in the meantime.

In Brazil, Solvay is facing administrative claims related to alleged cartel activities in various markets. CADE (the Brazilian antitrust authority) issued fines against Solvay and others in May 2012 related to H<sub>2</sub>O<sub>2</sub> activity (Solvay's share of the fines is € 29.6 million). Solvay has filed a claim contesting these administrative fines before the Brazilian Federal Court.

### HSE related proceedings

In Ferrara, Italy, criminal proceedings have been ongoing since 2002 before the Criminal Court of Ferrara against four former employees of Solvay for alleged criminal conduct before 1975 in relation to two cases of former PVC workers with diseases allegedly due to exposure to VCM. The case was dismissed by the judge of first instance in the Criminal Court of Ferrara in April 2012 and several civil parties have appealed this decision. Solvay may be exposed to claims for civil liability in the event of a negative outcome of the proceedings.

In Spinetta Marengo, Italy, in October 2009, the Public Prosecutors charged several individuals (including employees and former employees of Solvay, and including Ausimont SpA) in relation to alleged criminal violations of environmental laws. The trial is ongoing at the Assize Court of Alessandria. Solvay and Solvay Specialty Polymers Italy (formerly Solvay Solexis), a subsidiary of Solvay and legal successor of Ausimont SpA, may be exposed to claims for civil liability in case of a negative outcome of the proceedings.

In Bussi, Italy, the Public Prosecutor charged several individuals (including former employees of Ausimont SpA acquired by Solvay in 2002) in relation to alleged criminal violation of environmental laws (environmental disaster) and to alleged crimes against the public health (intentional poisoning of potable waters). The trial is ongoing. The risk of Solvay Specialty Polymers Italy (formerly Solvay Solexis, a subsidiary of Solvay, and legal successor of Ausimont SpA) being exposed to claims for civil damages is very remote.

As a general note, authorities are increasingly active to ensure improved management of the soil and groundwater environmental legacy of industrial companies. As a result, Solvay is involved in environmental legal proceedings in a limited number of sites, most of them related to sites of Ausimont SpA (acquired in 2002) and concerning soil contamination or landfills.

### Pharmaceutical activities (discontinued)

In the context of the sale of the pharmaceutical activities in February 2010, the contractual arrangements have defined terms and conditions for the allocation and sharing of liability arising out of the activities before the sale.

Subject to limited exceptions, Solvay's exposure for indemnifications to Abbott for liabilities arising out of sold activities is limited to an aggregate amount representing € 500 million and is limited in duration.

This includes indemnification against certain potential liabilities for the US hormone replacement therapy (HRT) litigation. Former users of HRT products had brought thousands of US lawsuits against manufacturers of HRT products. As of December 31, 2013, Solvay had resolved substantially all of the HRT cases brought against its former affiliate.



→ In 2013, Solvay's constant effort to enhance the compliance culture resulted in a new edition of the Code of Conduct notably providing guidance about how to behave in the workplace, in businesses and while representing the Group. In all zones where the Group is active Compliance Officers are deploying a program to strengthen a culture based on ethics and compliance in line with the Solvay values. An external Ethics helpline is available to voice any difficulty in complete confidence.

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# Corporate governance

# 3

This chapter is an annex to the Management Report

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## Reference code and introduction

The Solvay group has adopted the 2009 Belgian Corporate Governance Code as its reference code in governance matters. This report presents the application of the recommendations of that Code

in accordance with the “comply or explain” principle. The 2009 Belgian Corporate Governance Code is available on the GUBERNA internet site ([www.guberna.be](http://www.guberna.be)).

## 1 Legal and shareholding structure of Solvay SA

**1.1** Solvay SA is a société anonyme (public limited liability company) created under Belgian law. The address of its registered office is 310, rue de Ransbeek, 1120 Brussels, Belgium.

The Company's by-laws can be found on the Solvay internet site: [www.solvay.com](http://www.solvay.com).

**1.2** Its shares are registered or dematerialized. Since January 1, 2008, it has no longer been possible to receive paper (bearer) shares. Bearer shares already in a securities account have automatically been converted into dematerialized shares. Additionally, following a resolution adopted by the General Shareholders' Meeting of May 8, 2007, all bearer shares issued by the Company and not recorded in dematerialized securities accounts or converted into registered shares by July 1, 2011, have been converted automatically into dematerialized shares.

At December 31, 2013, the capital of Solvay SA was represented by 84,701,133 shares. Each share entitles its holder to one vote whenever voting takes place (except for any shares held by Solvay SA or its subsidiaries, the voting rights for which are suspended). All shares are equal and common.

The stock is listed on the NYSE Euronext Brussels. It has also been admitted to trading on NYSE Euronext Paris since January 23, 2012. The Solvay share is included in several indexes:

- Euronext 100, consisting of the leading 100 European companies listed on NYSE Euronext, where Solvay ranked in 49<sup>th</sup> place (0.5% of the index) at December 31, 2013;
- the BEL 20 index, based on the 20 most significant shares listed on NYSE Euronext Brussels. At December 31, 2013, Solvay represented around 8.3% of the value of this index (5<sup>th</sup> place in this index). Solvay shares are included in the “Chemicals – Specialties” category of the NYSE Euronext Brussels sector index;
- the CAC 40 index, based on the 40 most significant shares listed on NYSE Euronext Paris where Solvay ranked in 34<sup>th</sup> place (0.8% of the index) at December 31, 2013;
- the DJ Stoxx, DJ Euro Stoxx, FTSE 300, MSCI and other indexes.

In September 2013, Solvay was listed as a member of the European Dow Jones Sustainability Index (DJSI Europe). DJSI is the front-ranking, non-financial global index of the most efficient companies in the area of social and environmental responsibility.

Since February 15, 2007, Solvay Stock Option Management SPRL has appointed the bank Rothschild & Cie., under a liquidity contract, to improve the liquidity of the share on NYSE Euronext Brussels. This appointment remained in place in 2013.

**1.3** Solvay SA's main shareholder is Solvac SA, which at December 31, 2013 held a little over 30% of the capital and voting rights in Solvay. Solvac SA has filed the required transparency declarations every time it has passed a legal or statutory declaration threshold. It has also made the notifications required by law with regard to public takeover bids.

Solvac SA is a société anonyme established under Belgian law, the shares of which are admitted to trading on NYSE Euronext Brussels. Its shares, all of which are registered, may be held by physical persons only. The very large majority (around 80%) of its capital is held by members of the Solvay SA founding families.

JPMorgan Asset Management Holdings Inc. notified Solvay that on November 21, 2012 the total participation of its various affiliates reached 3.03% or 2,562,505 shares.

In addition, at December 31, 2013, Solvay Stock Option Management SPRL held 1.81% of the shares issued by Solvay SA (1,529,870 shares), in particular to cover the Solvay stock options program (see under 2.1. “Capital”).

The latest transparency declarations are available on the internet site [www.solvay.com](http://www.solvay.com).

The remaining shares are held by:

- individual shareholders who hold shares directly in Solvay SA. None of these persons, either individually or in concert with others, reaches the initial 3% transparency declaration threshold;
- European and international institutional shareholders, whose number and interest can be measured by the intensity of contacts at the many roadshows, by the regular publication of analysts' reports and by the level of trading volumes over recent years (an average daily trading volume on NYSE Euronext of 213,237 shares in 2013 vs. 304,000 shares in 2012).

The Company has been informed that certain individual shareholders who hold shares directly in Solvay SA have decided to arrange to consult together when questions of particular strategic importance are submitted by the Board of Directors to the Shareholders' Meeting. Each of these shareholders, however, remains free to vote as he or she chooses. None of these persons, either individually or in concert with others, reaches the initial 3% transparency declaration threshold;

**1.4** At the May 2013 Shareholders' Meeting, shares were deposited and votes cast in respect of 59.38% of Solvay SA's capital.

**1.5** At December 31, 2013, Solvay SA did not hold any shareholding requiring a legal or statutory transparency declaration.



## 2 Capital and dividend policy

### 2.1 Policy in respect of capital

**2.1.1** Since being converted into a société anonyme and listed on the Stock Exchange in 1967, the Company has not made public calls for capital from its shareholders, instead self-financing out of its profits, only a portion of which are distributed (see “Dividend policy” below).

**2.1.2** By resolution of the Extraordinary Shareholders’ Meeting of May 12, 2009, the Board of Directors was authorized, for a period of five years from that date, to acquire or dispose of, on the stock exchange, Company shares representing up to 20% of its capital (*i.e.* 16,940,000 shares), at a price of between € 20 and € 150. No use was made of this facility in 2013.

It will be proposed that the Extraordinary Shareholders’ Meeting of May 13, 2014 renew this authorization for a new period of five years and to modify the range of prices between € 20 and € 200.

**2.1.3** In December 1999, the Company introduced a new annual stock option program for Group executives worldwide. These programs are covered in part or totally by own shares purchased by the Solvay group on the stock exchange. Since January 2007, the covering program has been handled by Solvay Stock Option Management SPRL. This covering program was authorized for a five-year period by the Extraordinary Shareholders’ Meeting of May 12, 2009.

In February 2013, for implementation March 2013, the Board of Directors, on the proposal of the Compensation Committee, allotted stock options to around 75 Group senior executives. This stock options plan includes Mr. Jean-Pierre Clamadieu and Mr. Bernard de Laguiche (also directors). Mr. JP. Clamadieu and Mr. B. de Laguiche abstained, for ethical reasons, from the deliberations of the Board of Directors that concerned them with respect to stock options.

The Board of Directors noted their declaration of abstention, deeming that their participation in the plan fell under Article 523 §3.2 of the

Companies’ Code covering routine operations undertaken under normal market conditions and normal market safeguards for operations of the same type.

Mr. Clamadieu has accepted 35,178 options; Mr. de Laguiche 11,726 options.

At December 31, 2013, Solvay Stock Option Management SPRL’s holdings of Solvay SA shares represented 1.81% (1,529,870 shares) of the Company capital.

In 2013, stock options representing a total of 901,810 shares were exercised (it should be noted that options are in principle exercisable over a period of five years after being frozen for three years).

The stock options exercised break down as follows:

- 2002 stock option plan: 21,700 shares;
- 2005 stock option plan: 253,460 shares;
- 2006 stock option plan: 87,900 shares;
- 2007 stock option plan: 151,900 shares;
- 2008 stock option plan: 81,550 shares;
- 2009 stock option plan: 305,300 shares.

Voting and dividend rights attached to these shares are suspended as long as they are held by the Company.

Finally it should be mentioned that, under the tender offer by Solvay SA for the shares of Rhodia, liquidity agreements were concluded with employees receiving free shares or options on Rhodia shares to enable these beneficiaries to retain their rights and to sell their Rhodia shares during a specified period after the close of the tender offer. The free shares exposure is fully covered.

#### STOCK OPTIONS PLANS

Issue date	Exercise price (ln €)	Exercise date	Acceptance rate
2001	62.25	02/2005-12/2009	98.6%
2002	63.76	02/2006-12/2010	98.4%
2003	65.83	02/2007-12/2011	97.3%
2004	82.88	02/2008-12/2012	96.4%
2005	97.30	02/2009-12/2013	98.8%
2006	109.09	02/2010-12/2014	97.2%
2007	96.79	01/2011-12/2015	97.6%
2008	58.81	01/2012-12/2016	96.9%
2009	72.34	01/2013-12/2017	98.2%
2010	76.49	01/2014-12/2018	98.1%
2011	65.71	01/2015-12/2019	93.8%
2012	88.71	01/2016-03/2020	97.2%
2013	111.01	01/2017-03/2021	100%

**2.1.4** Independently of the authorization mentioned in paragraph 2.1.2. above, and in a defensive context, the Company has the ability to buy back its own shares on the stock market, up to 20% of the subscribed capital, with no price floor or cap, in the event of a threat of serious and imminent damage, such as, for example, a hostile public takeover bid.

This system was renewed in May 2011 for a three-year period by an Extraordinary Shareholders’ Meeting of the Company.

It will be proposed that the Extraordinary Shareholders’ Meeting of May 13, 2014 renews that authorization for a new three-year period.

## 2.2 Dividend policy

**2.2.1** Board policy is to propose a dividend increase to the Shareholders' Meeting whenever possible, and as far as possible, never to reduce it. This policy has been followed for many years. The graph below illustrates the application of this policy over the past 20 years.

**2.2.2** The annual dividend is paid in two installments, in the form of an advance payment (interim dividend) and a payment of the balance. The method to set the advance payment includes a guidance of 40% (rounded) of the total previous year's dividend, and takes into account the results for the first nine months of the current year.

In this way, for 2013, an interim dividend of € 1.3333 gross per share (€ 1.00 net after Belgian withholding tax of 25%) was approved by the Board of Directors on October 24, 2013.

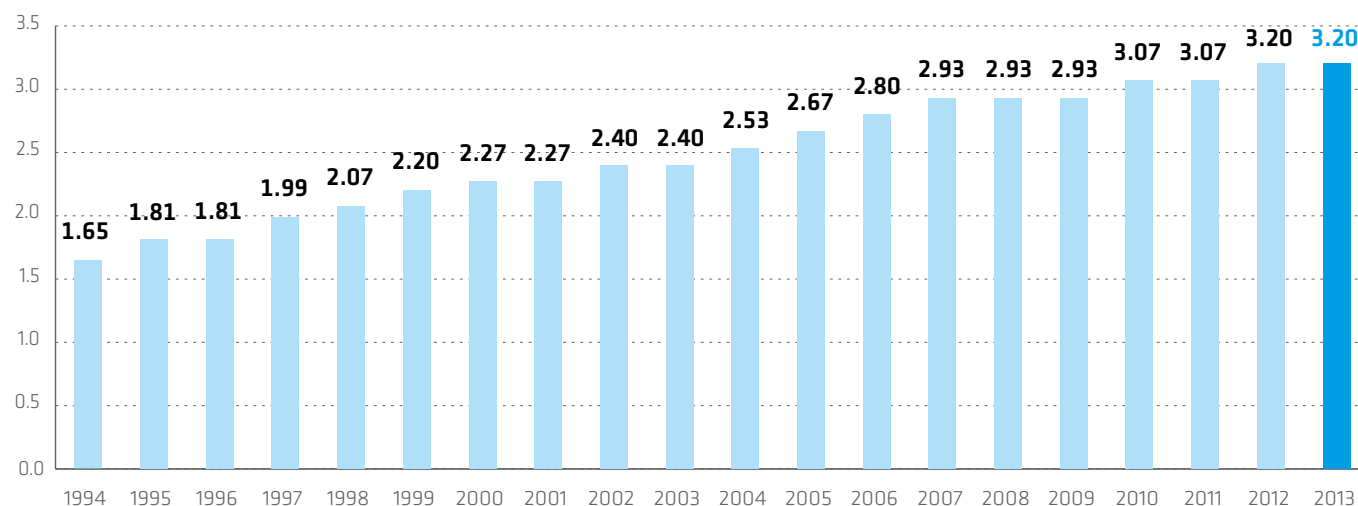
This interim dividend, which was paid on January 23, 2014, is to be offset against the total dividend for 2013.

As to the balance, once the annual financial statements have been completed, the Board of Directors proposes a dividend, in accordance with the policy described above, which it submits to the Ordinary Shareholders' Meeting for approval.

The second dividend installment, *i.e.* the balance after deducting the advance payment, is payable in May.

The dividend for 2013, proposed to the General Shareholders' Meeting of May 13, 2014, is € 3.20 gross per share (€ 2.40 net per share), stable; compared with the dividend for 2012. Given the interim dividend payment made on January 23, 2014, the balance of € 1.8667 gross per share (€ 1.40 net per share) will be payable from May 20<sup>th</sup>, 2014.

→ Solvay dividend (gross) from 1994 to 2013 (in EUR)



**2.2.3** Shareholders who have opted to hold registered shares receive the interim dividend and the balance of the dividend automatically and free of charge by transfer to the bank account they have indicated, on the dividend payment date. Shareholders owning dematerialized shares receive their dividends via their banks or as they elect and arrange.

Coupons representing the interim dividend and dividend balance are payable at KBC Bank SA and CBC Banque SA:

- KBC Bank SA, Havenlaan 2, 1080 Brussels (Belgium);
- CBC Banque SA, Grand-Place 5, 1000 Brussels (Belgium).

**2.2.4** The Company has not, up to this point, proposed optional dividends to its shareholders, *i.e.* stock instead of cash dividends. This option does not offer any tax or financial benefit in Belgium to make it attractive to investors.

## 3 Shareholders' Meetings

It should be noted that the law of December 20, 2010 concerning the exercise of certain rights of shareholders in listed companies has modified the provisions of the Companies' Code concerning the

holding of General Meetings. The by-laws of Solvay SA have been adapted accordingly.

### 3.1 Place and date

The Company's annual Ordinary Shareholders' Meeting is held every year on the second Tuesday of May at 10.30 a.m. at the registered office or any other place indicated in the notice of meeting.

The Board tries to organize any necessary Extraordinary Shareholders' Meeting immediately before or after the annual Ordinary Shareholders' Meeting.

### 3.2 Agenda

The Shareholders' Meeting is convened by the Board of Directors, which also sets its agenda. Shareholders may, however, request the calling of a Shareholders' Meeting and set its agenda where those shareholders together represent 20% of the capital, as required by the Companies' Code.

One or more shareholders owning together at least 3% of capital may also, under the conditions provided for by the Companies' Code, call for items to be included on the agenda of any Shareholders' Meeting and submit proposals for decisions concerning the items to be included or already included on the agenda of an already convened meeting.

The agenda of the Ordinary Shareholders' Meeting as a rule includes the following items:

- the Board of Directors' report on the financial year, including the corporate governance report and the compensation report;
- the auditor's report for the year;
- the consolidated financial statements for the year;
- approval of the annual financial statements;

- setting the dividend for the year;
- discharge of the directors and the statutory auditor in respect of the financial year;
- setting the number of directors and of independent directors, the length of their terms of office and the rotation of renewals;
- election of directors and of the external auditor (renewals or new appointments);
- the Company's compensation report (included in Chapter 6 below), which is communicated to the Works' Council as provided by law;
- setting the auditor's annual fee for the external audit for the duration of the auditor's appointment; and approval of change of control clauses in significant contracts (e.g. joint ventures).

Extraordinary Shareholders' Meetings are required in particular for all matters affecting the content of the Company's by-laws. Every time the Board of Directors prepares a special report in advance of an Extraordinary Shareholders' Meeting, this special report is enclosed with the notice of the meeting and is published on the Company's internet site.

### 3.3 Procedure for calling meetings

The notices convening Shareholders' Meetings set forth the place, date and time of the meeting, the agenda, the reports, proposed decisions on each item to be voted on, and the procedure for taking part in the meeting or for appointing proxies.

Holders of registered shares receive notice of the meeting by post-office mail at the address they have given, including notification of participation and proxy forms, except where recipients have agreed, individually, expressly and in writing, to receive notice of meetings

and attached documents by another means of communication. Persons owning dematerialized shares are notified of meetings by announcements in the press. These notices of meetings are published in the official Belgian gazette (*Moniteur Belge/Belgisch Staatsblad*) and in the financial press, in particular the Belgian French and Dutch-language newspapers. The major banks established in Belgium also receive the necessary documentation to pass on to Solvay shareholders among their clients.

### 3.4 Participation in Shareholders' Meetings and appointment of proxies

**3.4.1** Since January 1, 2012, the registration procedure has been obligatory for participating in and voting at the Shareholders' Meeting.

Shareholders must complete the registration of their securities by 24.00 hours (Belgian time) on the 14<sup>th</sup> calendar day prior to the relevant Shareholders' Meeting.

For holders of registered shares, shares are registered automatically by virtue of being in the Company's register of registered shares on the registration date.

Dematerialized shares are registered by virtue of their being recorded in the accounts of a recognized account holder or a clearing organization.

Shareholders are admitted to the Shareholders' Meetings and may exercise their voting rights with the shares that have gone through the legal registration procedure, regardless of the number of shares they hold on the date of the particular Shareholders' Meeting.

**3.4.2** Shareholders should also indicate to the Company and, where applicable, to the person they have designated to that effect, their desire to take part in the Shareholders' Meeting, no later than the sixth calendar day preceding the date of the Shareholders' Meeting.

Holders of registered shares must send to the Company the signed original notice of participation, using the form attached to their notice of meeting.

Holders of dematerialized shares should send the Company a certificate from the recognized account holder or the clearing organization certifying the number of shares that are registered in their name in their accounts at the registration date and for which they wish to participate in the Shareholders' Meeting.

More detailed information on arrangements for taking part in the Shareholders' Meeting will be made available to shareholders on the Company website (<http://www.solvay.com/en/investors/shareholders-meeting/index.html>).

**3.4.3** The exercise of voting rights attached to shares that are jointly owned or the usufruct and bare property rights of which have been separated, or shares belonging to a minor or a legally incapacitated person, follows special legal and statutory rules, a common feature

of which is the appointment of a single representative to exercise the voting right. Failing this, the voting right is suspended pending such appointment.

**3.4.4** Shareholders vote at Shareholders' Meetings in person or by proxy. The form of proxy is determined by the Board and will be available on the Company website once the Shareholders' Meeting in question has been called. Proxies must be received at the location indicated or, where applicable, at the email address mentioned in the notice no later than the sixth calendar day preceding the date of the Shareholders' Meeting.

The appointed agent does not have to be a shareholder of the Company.

In the event that certain shareholders exercise their right to add items or proposals for decisions to the agenda of a Shareholders' Meeting, the proxies already notified to the Company remain valid for the subjects they cover. Regarding the new items, the reader is referred to the provisions of the Companies Code.

The appointed agent may not deviate from the specific voting instructions given to him by a shareholder, except for the exceptions provided by the Companies Code.

In the absence of specific instructions on each agenda item, the agent who finds himself in a situation of potential conflict of interest with his principal, within the meaning of Article 547 *bis*, § 4 of the Companies Code, may not vote.

Invalid proxy forms will be excluded from the count. Abstentions formally expressed as such during a vote or on proxy forms are counted as such.

**3.4.5** Each shareholder who complies with the formalities for admission to the Shareholders' Meeting is entitled to ask questions in writing concerning the items on the agenda. These questions can be submitted by mail to the registered office or electronically to the email address specified in the notice. Written questions must reach the Company no later than the sixth calendar day before the date of the Shareholders' Meeting.

## 3.5 Procedure

**3.5.1** The Shareholders' Meeting is chaired by the Chairman of the Board or, in his absence, by a Director delegated to this task by his colleagues.

The Chairman will preside over the discussions following Belgian practice for deliberative meetings. He will take care to ensure that questions from the meeting are answered, whilst respecting the agenda and confidentiality commitments. He will appoint the secretary of the meeting, who as a rule is the Corporate Secretary, and will appoint two shareholders as tellers.

**3.5.2** Resolutions in Ordinary Shareholders' Meetings are passed by a simple majority of votes of shareholders present and represented on a "one share, one vote" basis.

**3.5.3** In the case of Extraordinary Shareholders' Meetings, the Company respects the legal rules governing quorums and majorities.

**3.5.4** Voting is, as a general rule, public, by show of hands or by electronic voting. Votes are counted and the results announced immediately.

Provision is made for secret balloting in exceptional cases when a particular person is involved.

This procedure has never been requested to date. This by-law was amended at the Extraordinary Shareholders' Meeting of May 9, 2006 so as to set a threshold of 1% of capital to be reached by one or more shareholders acting in concert, and only when there is more than one candidate for a given office.

The minutes of the Shareholders' Meeting are drawn up and adopted by shareholders at the end of the meeting.

They are signed by the Chairman, secretary, tellers and those shareholders who wish to do so. Minutes of Extraordinary Shareholders' Meetings are notarized.

**3.5.5** The minutes containing the voting results will be published on the Company's internet site ([www.solvay.com](http://www.solvay.com)) no later than the 15<sup>th</sup> calendar day after the date of the Shareholders' Meeting. Minutes of the most recent Shareholders' Meetings are also available on the Company's internet site ([www.solvay.com](http://www.solvay.com)). Copies or official extracts may be obtained on request by shareholders, in particular under the signature of the Chairman of the Board.

## 3.6 Documentation

Documentation relating to Shareholders' Meetings (notice of meeting, agenda, proxy and notification of participation forms, annual report, special report of the Board of Directors if any, etc.) is available every year on the Internet site [www.solvay.com](http://www.solvay.com) from the time of giving notice of the meeting and at least until the holding of the meeting in question.

This documentation is available in French and Dutch (official versions) and in English (unofficial translation).

## 4 Board of Directors

### 4.1 Role and mission

The Board of Directors is the highest management body of the Company.

The law accords to it all powers that are not reserved, by law or by the by-laws, to the Shareholders' Meeting.

In the case of Solvay SA, the Board of Directors has reserved certain key areas for itself and has delegated the remainder of its powers to an Executive Committee (see below).

It has not opted to set up a Management Committee (*Comité de Direction/Directiecomité*) as defined by Belgian law.

The main key areas which the Board of Directors has reserved for itself are:

- 1 matters for which it has exclusive responsibility, either by law or under the by-laws, for example:
  - the preparation and approval of the consolidated periodic financial statements and those of Solvay SA (quarterly – consolidated only, semiannual and annual) and the related communications,
  - adoption of accounting standards (in this case the IFRS standards for the consolidated accounts and Belgian standards for the Solvay SA unconsolidated accounts),
  - convening Shareholders' Meetings and drawing up the agenda and proposals for resolutions to be submitted to them (concerning, for example, Company financial statements, dividends, amendments to the by-laws, etc.);
- 2 setting the general strategies and general policies of the Group;

- 3 approving the reference frameworks for internal control and for risk management;
- 4 adopting the budget and long-term plan, including investments, R&I and financial objectives;
- 5 appointing the Chairman, members of the Executive Committee, General Managers and the Corporate Secretary, and setting their missions and the extent of the delegation of powers to the Executive Committee;
- 6 supervision of the Executive Committee and ratification of its decisions, where required by law;
- 7 appointing from among its members a Chairman and creating from among its members an Audit Committee, a Compensation Committee, a Nomination Committee and a Finance Committee, defining each Committee's mission and determining its composition and its duration;
- 8 major decisions concerning acquisitions, divestitures, the creation of joint ventures and investments. Major decisions are considered to be those involving amounts of € 50 million or more;
- 9 setting the compensation of the Chairman of the Executive Committee and of Executive Committee members;
- 10 establishing internal Corporate Governance and Compliance rules.

In all matters for which it has exclusive responsibility, the Board of Directors works in close cooperation with the Executive Committee, which in particular is responsible for preparing most of the proposals for decisions by the Board of Directors.

## 4.2 Modus operandi and representation

**4.2.1** Board members have available to them the information needed to carry out their functions in the form of dossiers drawn up under instructions from the Chairman and sent out to them by the Corporate Secretary several days before each session.

They may also receive additional information of any kind that may be of use to them from the Chairman of the Board, the Chairman of the Executive Committee or the Corporate Secretary, depending on the nature of the question. Decisions to obtain outside expertise, when necessary, are taken by the Board of Directors, for those subjects falling within its authority.

**4.2.2** The Company is validly represented with regard to third parties by the joint signature of persons with the following capacities: the Chairman of the Board of Directors and/or directors belonging to the Executive Committee. For documents relating to the day-to-day management of the Company, the signature of a single director member of the Executive Committee is sufficient. Pursuant the Board

of Directors resolutions dated October 21, 2012 and July 30, 2013, the Executive Committee has authorized for day-to-day management duties and for other power delegated to the Executive Committee, the signature of any member of the Executive Committee as well as the signature of each any Group General Manager acting in conjunction with the Chairman of the Board of Directors or the Chairman of the Executive Committee. Powers may also be delegated on a case-by-case basis as needs arise.

**4.2.3** Subject to in the provisions of 2.1.4. (Article 523 of the Companies Code), the Directors of the Company were not confronted in 2012 with conflict of interest situations requiring the implementation of the legal procedures provided for by the Companies' Code.

On the other hand, and in a very limited number of cases, one or the other member has preferred, for ethical reasons, to abstain from participating in debates and in voting.

## 4.3 Composition

### 4.3.1 Size & Composition

At December 31, 2013, the Board of Directors consisted of 15 members, as listed on pages 174 and 175.

### 4.3.2 At the Ordinary Shareholders' Meeting on May 14, 2013

- The directorships of Chevalier Guy de Selliers de Moranville, Mr. Nicolas Boël, Mr. Bernard de Laguiche, Mr. Hervé Coppens d'Eeckenbrugge, Mrs. Evelyn du Monceau and Mr. Jean-Pierre Clamadieu were renewed for a four-year term.
- The directorship left vacant by Mr. Jean van Zeebroeck was not reassigned.
- Mrs. Françoise de Viron was appointed as a new independent Director for a four-year term.
- Mrs. Amparo Moraleda Martinez was appointed as an independent Director for a four-year term to replace Mrs. Petra Mateos.

At the Ordinary Shareholders' Meeting of May 13, 2014, the Board of Directors will propose:

- renewing the directorship of Mr. Denis Solvay and Dr. Bernhard Scheuble for a four-year term;
- appointing Mrs. Rosemary Thorne as an independent Director for a four-year term to replace Mr. Jean-Martin Folz who has not requested renewal of his term of office;
- appointing Mr. Gilles Michel as an independent Director for a four-year term to replace Mr. Anton van Rossum who has not requested renewal of his term of office.

### Terms of office and age limit

Directors are appointed by the Shareholders' Meeting for four years. They may be reappointed.

The age limit for membership on the Board is the annual Shareholders' Meeting following the member's 70<sup>th</sup> birthday.



### 4.3.3 Criteria for appointment

The Board of Directors applies the following primary criteria when proposing candidates for election to directorships by the Ordinary Shareholders' Meeting:

- ensuring that a substantial majority of directors on the Board are non-executive. On December 31, 2013, 14 out of 15 directors were non-executive, and only Mr. Jean-Pierre Clamadieu belonged to the Executive Committee (Mr. Bernard de Laguiche having resigned as Executive Committee member and CFO on September 30, 2013);
- ensuring that a large majority of non-executive directors are independent according to the criteria defined by law and further tightened by the Board of Directors (see "criteria of independence" below).

In this respect, on December 31, 2013, the independent status of 9 out of 14 non-executive directors has been recognized by the Ordinary Shareholders' Meeting;

- ensuring that the members of the Board of Directors together reflect the shareholder structure and possess the wide range of competences and experience required by the Group's activities;
- ensuring that the Board of Directors' international composition appropriately reflects the geographic extent of its activities. At December 31, 2013, the Board included members of seven different nationalities;
- ensuring that the candidates it presents commit to devoting sufficient time to the task entrusted to them. In this respect, attendance at Board meetings was very high in 2013 (96%);
- ensuring, finally, that it does not select any candidate holding an executive position in a competing Company or who is or was involved in the external audit of the Group.

Belgian law and the by-laws of the Company permit spontaneous candidacies for the post of director, providing that these are addressed to the Company in writing at least 40 days before the Ordinary Shareholders' Meeting.

As required by law, the Board of Directors, consisting of 12 men and 3 women at December 31, 2013, will take care, when mandates are next renewed, to comply, within the relevant deadlines, with the requirement that at least one-third of the Board be women.

The Chairman of the Board, working together with the Chairman of the Nomination Committee, gathers the information allowing the Board of Directors to verify that the selected criteria have been met at the time of appointment, renewal and during the term of office.

### 4.3.4 Criteria for independence

Based on Belgian law, the Board of Directors sets the criteria for determining directors' independence. Each director fulfilling these criteria is presented to the Ordinary Shareholders' Meeting for confirmation.

The legal criteria of independence as contained in Article 526 *ter* of the Companies' Code (introduced by the law of December 17, 2008, art. 16) are as follows:

- 1 during a period of five years before appointment, not having acted as an executive member of the management body or a member of the Executive Committee or managing director in the Company or in a company or person affiliated with the same within the meaning of Article 11 of the Companies' Code. The Board of Directors has added to this criterion a minimum one-year waiting period for the Shareholders' Meeting to recognize the independence of a non-executive director of Solvac leaving its Board of Directors to join the Solvay Board of Directors;
- 2 not having sat on the Board of directors in the capacity of a non-executive director for more than three successive terms of office or more than twelve years;
- 3 during three years prior to appointment, not having been part of the senior management, within the meaning of Article 19.2 of the law of September 20, 1948 on the organization of the economy, of the Company or of a company or an affiliated person within the meaning of Article 11 of the Companies' Code;

- 4 not having received compensation or any other significant benefit of a patrimonial nature from the Company or an affiliated company or person within the meaning of Article 11 of the Companies' Code, with the exception of any profit percentages (tantièmes) or fees received in the capacity of non-executive member of the management body or a member of the supervisory body;
  - 5
    - a) not holding any ownership rights in the Company representing a tenth or more of the capital, or the Company equity, or a category of shares of the Company;
    - b) where the person in question holds ownership rights of under 10%:
      - when these ownership rights are added to those held in the same company by companies over which the independent director has control, these ownership rights may not reach one tenth of the capital, of the Company equity, or a category of shares of the Company,
    - c) not representing in any way a Shareholder Meeting the conditions of this item;
  - 6 not maintaining, or having maintained during the past financial year, a significant business relationship with the Company or with an affiliated company or person within the meaning of Article 11 of the Companies' Code, either directly or in the capacity of partner, shareholder, member of the management body or of member of senior management, within the meaning of Article 19.2 of the law of September 20, 1948 on the organization of the economy, of a company or a person maintaining such relationship;
  - 7 not having been, during the past three years, a partner or salaried employee of the current or previous external auditor of the Company or of an affiliated company or person within the meaning of Article 11 of the Companies' Code;
  - 8 not being an executive member of the management body of another company in which an executive director of the Company acts as a non-executive member of the management body or member of the supervisory body, nor maintaining other major connections with the executive directors of the Company as a result of functions exercised in other companies or bodies;
  - 9 not having, either within the Company or within an affiliated company or person within the meaning of Article 11 of the Companies' Code, a spouse or legally cohabiting partner, or parents or relations up to the second degree of kinship holding the position of member of the management body, of member of the Executive Committee, of a day-to-day executive manager or of member of senior management, within the meaning of Article 19.2 of the law of September 20, 1948 on the organization of the economy, or falling under one of the other cases defined in items 1 to 8.
- In this respect, on December 31, 2013, the independent status of 9 out of 14 non-executive directors has been recognized by the Ordinary Shareholders' Meeting.
- Mr. Jean-Pierre Clamadieu, Chairman of the Executive Committee and CEO, was not recognized as independent at the time of the renewal of his directorship in 2013 (criterion no. 1).
- Mr. Bernard de Laguiche, Member of the Executive Committee till September 30, 2013, was not recognized as independent at the time of the renewal of his directorship in 2013 (criterion no. 1).
- Mr. Nicolas Boël, Mr. Denis Solvay, Mr. Jean-Marie Solvay and Chevalier Guy de Selliers de Moranville, having been Directors of the Company for over 12 years, are not independent for this reason (criterion no. 2).

	Year of birth	Year of first appointment	Solvay SA mandates, and expiry date of directorship	Diplomas and activities outside Solvay	Presence at Board meetings in 2013 as a function of date of appointment
Mr. Nicolas Boël (B)	1962	1998	2017 Chairman of the Board of Directors, Chairman of the Finance Committee and Chairman of the Compensation Committee Member of the Nomination Committee	MA in Economics (Catholic University of Louvain), Master of Business Administration (College of William and Mary – USA). Director of Sofina.	7/7
Mr. Jean-Pierre Clamadieu (F)*	1958	2012	2017 Chairman of the Executive Committee and CEO, Director and Member of the Finance Committee	Engineering degree from the École des Mines (Paris). Director of Axa, Faurecia.	7/7
Mr. Bernard de Laguiche (F/BR)*	1959	2006	2017 Member of the Executive Committee until September 30, 2013, Director and Member of the Finance Committee	MA in Economics and Business Administration HSG (University of St. Gallen, Switzerland), Managing Director of Solvac SA, Chairman of the Board Peroxidos do Brasil Ltda, Curitiba.	7/7
Mr. Jean-Marie Solvay (B)	1956	1991	2016 Director and Member of the Innovation Board	Advanced Management Programme – Insead. CEO of Albrecht RE Immobilien GmbH & Co. KG., Berlin (Germany), Director of Heliocentris GmbH & Co. KG., Berlin (Germany), Chairman of the Board of the International Solvay Institutes.	7/7
Chevalier Guy de Selliers de Moranville (B)	1952	1993	2017 Director Member of the Finance and Audit Committees	Civil engineering degree in mechanical engineering, and MA in Economics (Catholic University of Louvain). President and Co-Founder of HCF International Advisers, Vice-Chairman of the Board and Chairman of the Risk and Capital Committee of Ageas SA, Chairman of the Board of Ageas UK, Member of the Board of Ivanhoe Mines Ltd. (Canada), Member of the Supervisory Board and Chairman of the Risk Committee of Advanced Metallurgical Group (Netherlands) and, various other mandates in unlisted companies.	7/7
Mr. Denis Solvay (B)	1957	1997	2014 Director, Member of the Compensation and Nomination Committees	Business engineering – Solvay Business School (Université Libre de Bruxelles). Director of Eurogentec and of Abelag Holding.	7/7
Mr. Jean van Zeebroeck (B)	1943	2002	Independent Director Member of the Compensation and Nomination Committees until May 14, 2013	Doctorate of Law and diploma in Business Administration (Catholic University of Louvain), MA in Economic Law (Free University of Brussels), Master of Comparative Law (University of Michigan – USA). General Counsel of 3B-Fibreglass Company.	2/3
Mr. Jean-Martin Folz (F)	1947	2002	2014 Independent Director Member of the Compensation and Chairman of the Nomination Committee	École Polytechnique and Mining Engineer (France). Former Chairman of the managing Board of PSA Peugeot-Citroën, Director of Saint-Gobain, of Société Générale, of Alstom and of Axa.	7/7
Prof. Dr. Bernhard Scheuble (D)	1953	2006	2014 Independent Director Chairman of the Audit Committee	MSc, Nuclear Physics & PhD, Display Physics (Freiburg University – Germany). Former Chairman of the Executive Committee of Merck KGaA, (Darmstadt) and former Member of the E. Merck OHG Board of Directors.	7/7
Mr. Anton van Rossum (NL)	1945	2006	2014 Independent Director Member of the Audit Committee	MA in Economics and Business Administration (Erasmus University Rotterdam). Member of the Board of Credit Suisse Group (Zurich) and of Munich Re (Munich), Chairman of the Board of Royal Vopak, Erasmus University and the Netherlands Economics Institute (Rotterdam).	6/7

	Year of birth	Year of first appointment	Solvay SA mandates, and expiry date of directorship	Diplomas and activities outside Solvay	Presence at Board meetings in 2013 as a function of date of appointment
Mr. Charles Casimir-Lambert (B/CH)	1967	2007	2015 Independent Director Member of the Audit Committee	MBA Columbia Business School (New York)/London Business School (London), Master's degree (lic. oec.HSG) in economics, management and finance (University of St.Gallen – Switzerland). Supervision of family's global interests.	7/7
Mrs. Petra Mateos-Aparicio Morales (ES)	N/A	2009	Independent Director Member of the Finance Committee until May 14, 2013	PhD in Economics and Business Administration (Universidad Complutense, Madrid – Spain). Former Executive Chairwoman of Hispasat (Spain and International), Former President of Hisdesat; Tenured Professor of Finance at the University of Business Administration, UNED Madrid, Board of Trustees ANECA, Member of the International Consultative Board of Science, University and Society of CRUE, Vice President of Spain US Chamber of Commerce.	3/3
Mr. Hervé Coppens d'Eeckenbrugge (B)	1957	2009	2017 Independent Director Member of the Finance Committee Member of the Audit Committee since July 31, 2013	MA in Law from the University of Louvain-la-Neuve (Belgium), Diploma in Economics and Business, ICHEC (Belgium). Until June 30, 2013, Group Director Petercam sa, Director of Vital Renewable Energy Company LLC (Delaware).	7/7
Mr. Yves-Thibault de Silguy (F)	1948	2010	2015 Independent director Member of the Compensation and Nomination Committees Member of the Finance Committee since July 31, 2013	MA in Law from the University of Rennes, DES in public law from the Université de Paris I, graduate of the Institut d'Etudes Politiques de Paris and the Ecole Nationale d'Administration. Vice-Chairman and Lead Director of the VINCI group, Director of LVMH, Chairman of the Supervisory Board of Sofisport (France), Director of VTB bank (Moscow), and Chairman of YTSeuropaconsultants.	5/7
Mrs. Evelyn du Monceau (B)	1950	2010	2017 Independent director Member of the Compensation and Nomination Committees	MA in Applied Economics from the Catholic University of Louvain. Vice Chair of the Board and Chair of the Remuneration and Nomination Committee of UCB SA, Member of the Board of Directors of La Financière de Tubize SA, Director of FBNet Belgium, Member of the Commission Corporate Governance.	7/7
Mrs. Françoise de Viron (B)	1955	2013	2017 Independent Director Member of the Compensation and Nomination Committees since July 31, 2013	Doctorate of Science (UCL, Louvain-la-Neuve). Master in Sociology (UCL, Louvain-la-Neuve) Professor in the Faculty of Psychology and Education Sciences at Louvain School of Management (UCL), Academic Member of the Center of Research Entrepreneurial Change and Innovative Strategies, of Interdisciplinary Group of Research in Socialization, Education and Training, of the Interdisciplinary Research Group in Adult Education at UCL	4/4
Mrs. Amparo Moraleda Martinez (ES)	1964	2013	2017 Independent Director Member of the Compensation and Nomination Committees since July 31, 2013	Degree in Industrial Engineering, ICAI (Spain) MBA, IESE Business School (Spain) Former General Manager for IBM Spain, Portugal, Greece, Israel and Turkey Former Chief Operating Officer, International Division (Spain) and Acting CEO, Scottish Power (UK) of Iberdrola Member of the Boards of the following listed companies: Alstom (France), Faurecia (France), Corporacion Financiera Alba (Spain) and Melia Hotels International (Spain). Member of the Consejo rector of Consejo Superior of Investigaciones Cientificas.	4/4

\* Full-time activity in the Solvay group.

#### **4.3.5 Appointment, renewal, resignation and dismissal of Directors**

The Board of Directors submits directors' appointments, renewals, resignations or dismissals to the Ordinary Shareholders' Meeting for approval. It also submits to it the vote on the independence of the Directors fulfilling the related criteria, after informing the Works' Council of the same. It also first seeks the opinion of the Nomination Committee, which is tasked with defining and assessing the profile of any new candidate using the criteria of appointment and of specific competences it sets.

The Ordinary Shareholders' Meeting decides on proposals made by the Board of Directors in this area by a simple majority. When a directorship becomes vacant during a term of office, the Board of Directors may appoint a new member, subject to ratification by the next following Ordinary Shareholders' Meeting.

#### **4.3.6 Frequency, preparation and holding of Board meetings**

The Board of Directors met seven times in 2013. Five ordinary meetings are planned in 2014.

The dates of ordinary meetings are set by the Board of Directors itself, more than one year before the start of the financial year. Additional meetings can, if needed, be called by the Chairman of the Board of Directors, after consulting with the Chairman of the Executive Committee.

The agenda for each meeting is set by the Chairman of the Board of Directors after consulting with the Chairman of the Executive Committee.

The Corporate Secretary is charged, under the supervision of the Chairman of the Board of Directors, with organizing meetings, and sending notices of meetings, agendas and the dossier containing the item-by-item information required for decision-making.

To the extent possible, he ensures that directors receive notices of meetings and complete files at least five days before the meeting. The Corporate Secretary prepares the minutes of the Board meetings, presenting the draft to the Chairman and then to all members.

Finalized minutes that have been approved at the following Board meeting are signed by all Directors having taken part in the deliberations.

The Board of Directors takes its decisions in a collegial fashion by a simple majority of votes. Certain decisions that are considered particularly important by the Company's by-laws require a three-quarters majority of its members. The Board may not validly transact its business unless half of its members are present or represented. Given the very high level of attendance, the Board of Directors has never been unable to transact business.

## **4.4 Evaluation and training**

### **4.4.1 Evaluation**

In 2013, the Board of Directors undertook an evaluation, focused primarily on its own composition, *modus operandi*, information and interactions with executive management, and the composition and *modus operandi* of the Committees created by it. Board members were invited to express their views on these various points during interviews based on a questionnaire and performed by an external consultant. The improvements identified at the end of this evaluation process are related to optimization of the meeting time, interactions, contacts and exchanges with management and Board Committees as well as minor changes to the organization of the meetings. The next evaluation of the Board will take place in 2015.

### **4.4.2 Training**

Information sessions are organized for new Directors, aimed at acquainting them with the Solvay group as quickly as possible. The program includes a review of the Group's strategy and activities and of the main challenges in terms of growth, competitiveness and innovation, as well as finance, research & development, human resources management, the legal context, compliance and the general organization of operations. This program is open to every Director who wishes to participate.

It also includes visiting industrial or research sites.

## 4.5 Committees

### 4.5.1 Rules common to the various Committees

- The Board of Directors has set up on a permanent basis the following specialized Committees: the Audit Committee, the Finance Committee, the Compensation Committee and the Nomination Committee.
- These Committees do not have decision-making powers. They are advisory in nature and report to the Board of Directors, which takes the decisions. They are also called on to give opinions at the request of the Board of Directors or Executive Committee. After presentation to the Board of Directors, the Committees' reports are attached to the minutes of the Board meeting.
- Terms of office on the four Committees are for two years and are renewable. The composition of these Committees is communicated on the Company's internet site.
- Members of the permanent Committees (except for Executive Committee members) receive separate compensation for this task.
- The Board of Directors may set up a temporary *ad hoc* Committee to liaise with the Executive Committee on an important issue. One such Committee was set up at the end of 2009 to examine the reinvestment of the proceeds of the sale of the Group's pharmaceuticals activities.

All the terms of members of various Committees will expire on May 13, 2014, at the date of the Ordinary Shareholders' Meeting. The new composition of Committees will reflect departures/appointments within the Board on that date. It will take effect on May 14, 2014 for a period of two years ending on the date of the Ordinary Stakeholder's Meeting to be held in 2016.

### 4.5.2 The Audit Committee

In 2013, the Audit Committee was composed of Prof. Dr. Bernhard Scheuble (Chairman), Chevalier Guy de Selliers de Moranville, Mr. Anton van Rossum, Mr. Charles Casimir-Lambert and Mr. Hervé Coppens d'Eeckenbrugge (since July 31, 2013). These are independent non-executive directors, with the exception of Chevalier Guy de Selliers de Moranville. The Secretariat of this Committee is provided by a member of the Group's internal legal staff.

This Committee met five times in 2013, including four times before the Board meeting scheduled to consider the publication of periodic results (quarterly, semiannual and annual).

Participation in Audit Committee meetings was very high (96%).

The mission of the Audit Committee is set out in a "Terms of Reference" document (see Annex 1, section 14). It integrates the requirements of Article 526 *bis* of the Corporate law.

The main tasks of the Audit Committee include:

- ensuring the conformity of financial statements and communications of the Company and the Group to generally accepted accounting principles (IFRS for the Group, Belgian accounting law for the parent company);
- monitoring the effectiveness of the Group's internal control systems and risk management;
- examining the areas of risk that can potentially have a material effect on the Group's financial situation;
- verifying the scope/programs and results of internal audit;
- making a proposal to the Board of Directors on the appointment of the external auditor;
- examining the scope of the external audit and the way it is implemented;
- monitoring the scope and the nature of the additional services provided by the external auditor.

At each meeting, the Audit Committee hears reports from the Chief Financial Officer, the head of the Group Service Internal Audit and the auditor in charge of the external audit (Deloitte, represented by Mr. Eric Nys). It also examines the quarterly report by the Group General Counsel on significant ongoing legal disputes and reports on tax and intellectual property disputes. It meets alone with the auditor in charge of the external audit whenever it deems such meetings useful. The Chairman of the Executive Committee and CEO (Mr. Jean-Pierre Clamadieu) is invited, once a year, to discuss the major risks to which the Group is exposed.

The Directors belonging to this Audit Committee fulfill the criterion of competence by their training and by the experience gathered during their previous functions (see section 4.3. concerning the composition of the Board of Directors).

### 4.5.3 The Finance Committee

In 2013, until the Ordinary Shareholders' Meeting on May 14, 2013, the Finance Committee consisted of Mr. Nicolas Boël (Chairman), Mr. Jean-Pierre Clamadieu (Chairman of the Executive Committee) and Mr. Bernard de Laguiche (Member of the Executive Committee and Chief Financial Officer) and three Directors, Mrs. Petra Mateos-Aparicio Morales, Chevalier Guy de Selliers de Moranville and Mr. Hervé Coppens d'Eeckenbrugge. Effective July 31, 2013, Mr. Yves-Thibault de Silguy became a Member, replacing Mrs. Petra Mateos and effective October 1, 2013 Mr. Karim Hajjar (replacing Mr. Bernard de Laguiche as Executive Committee Member and CFO) is invited to attend the



Finance Committee meetings It should be noted that Mr. Bernard de Laguiche remains a Member of the Finance Committee.

The Secretary of this Committee is Mr. Michel Defourny.

This Committee met five times in 2013. Participation of the members of the Finance Committee was very high (93%).

The Committee gives its opinion on financial matters such as the amounts of the interim and final dividends, the levels and currencies of indebtedness in the light of interest rate developments, the hedging of foreign-exchange and energy risks, the policy of buying in own shares, the content of financial communication, the financing of major investments, etc. It finalizes the preparation of the press releases announcing the quarterly results. It may also be called on to give opinions on Board policies on these matters.

#### **4.5.4 The Compensation Committee**

In 2013, until the Ordinary Shareholders' Meeting on May 14, 2013, the Compensation Committee consisted of Mr. Nicolas Boël (Chairman), Messrs. Denis Solvay, Jean van Zeebroeck, Jean-Martin Folz, Yves-Thibault de Silguy and Mrs. Evelyn du Monceau.

Effective July 31, 2013 Mrs. Françoise de Viron assumes the term left vacant by Mr. Jean van Zeebroeck as Member of the Compensation Committee after the Ordinary Shareholders Meeting of May 14, 2013, and Mrs. Amparo Moraleda was also appointed Member of the Compensation Committee.

A majority of the members of this Committee have independent Director status within the meaning of the law.

The Chairman of the Executive Committee is invited to meetings, except for matters that concern him personally.

The Secretary of this Committee is Mr. Michel Defourny.

The meetings are prepared by the Group General Manager Human Resources, who attends the meetings.

This Committee met two times in 2013. Participation of the members of the Compensation Committee was very high (100%).

The Compensation Committee fulfills the missions imposed on it by law.

In particular it advises the Board of Directors on compensation policy and compensation levels for members of the Board of Directors and the Executive Committee, and is yearly informed about the compensation of General Management. It also gives its opinion to the Board of Directors and/or Executive Committee on the Group's principal compensation policies (including long term incentive plans). It also prepares the report on compensation.

The Compensation Committee has the expertise necessary to perform its missions.

#### **4.5.5 The Nomination Committee**

In 2013, until the Ordinary Shareholders' Meeting on May 14, 2013, the Nomination Committee consisted of Jean-Martin Folz (Chairman), Messrs. Denis Solvay, Nicolas Boël, Jean van Zeebroeck, Yves-Thibault de Silguy and Mrs. Evelyn du Monceau.

Since July 31, 2013, Mrs. Françoise de Viron assumes the term left vacant by Mr. Jean van Zeebroeck as Member of the Nomination Committee, after the Ordinary Shareholders' Meeting of May 14, 2013, and Mrs. Amparo Moraleda was also appointed Member of the Nomination Committee.

A majority of the members of the Nomination Committee are independent non-executive Directors.

The Chairman of the Executive Committee is invited to meetings, except for matters that concern him personally.

The Secretary of this Committee is Mr. Michel Defourny.

The Committee met three times in 2013. The participation of members of the Nomination Committee was very high (100%).

The Nomination Committee gives its opinion on appointments to the Board of Directors (Chairman, new members, renewals and Committees), to Executive Committee positions (Chairmanship and Members) and to General Management positions.

## 5 Executive Committee

### 5.1 Role and Mission

**5.1.1** The Board of Directors defines the role and mission of the Executive Committee.

The main decision on delegation of powers dated back to October 24, 2012. This decision took effect on January 1, 2013.

The Board of Directors at the same time approved the internal rules of the Executive Committee.

**5.1.2.** The Executive Committee, acting collectively, has been assigned the following main tasks by the Board of Directors:

- the day-to-day management of the Company;
- overseeing the proper organization and functioning of the Company, its subsidiaries and affiliates, and ensuring oversight of their activities, including the introduction of processes for the identification, management and monitoring of the principal risks;
- introducing a process of talent management and appointing senior executives of the Group (with the exception of its own members, the General Managers and the Corporate Secretary, for which the Board expressly reserves exclusive power of appointment);
- setting senior executive compensation (other than the compensation of its own members);
- deciding on acquisitions and divestitures (including intellectual property) up to a ceiling of € 50 million (including debts and other commitments). The Board is informed of decisions involving amounts over € 10 million;
- taking capital expenditure ("Capex") decisions up to a ceiling of € 50 million. The Board is informed of decisions involving amounts over € 10 million;
- taking decisions on substantive business operations and financial transactions not involving a change in the financial structure of the Company and/or the Group;
- proposing to the Board of Directors, for its decision, the key Group policies, and sets the others;
- proposing to the Board of Directors for its decision:
  - the general strategies (including the effect of these strategies on the budget, the Plan and resource allocation) and general policies of the Group, in particular as regards remuneration, the annual investment and research programs,
  - appointments to General Management functions and the position of Corporate Secretary,
  - the general organization of the Company and/or the Group,
  - major financial transactions that modify the financial structure of the Company and/or the Group,
  - the consolidated periodical accounts and those of Solvay SA (quarterly consolidated only, half-yearly and annual) and the related communication;
- executing the decisions of the Board or Directors;
- submitting to the Board of Directors all questions lying within the latter's competence and reports to it regularly on the exercise of its mission.

### 5.2 Delegation of powers

Execution of Executive Committee decisions and following up on its recommendations is delegated to the Executive Committee member (or another General Manager) in charge of the activity or of the function corresponding to the decision or recommendation.

The Board of Directors in its resolution dated October 24, 2012, expanded the right of the Executive Committee to delegate its powers,

under its responsibility, and in compliance with procedures and authorization limits set by the Executive Committee, to one or more of its members, the General Managers of the Group and/or heads of Global Business Units and functions. In particular it has delegated to the GBU Managers the power to undertake binding M&A transactions and capital expenditures up to a ceiling of € 10 million.

## 5.3 Composition

### 5.3.1 Size and composition

At December 31, 2013, the Executive Committee had six members. Mr. Bernard de Laguiche resigned as Executive Committee Member and CFO effective September 30, 2013. Effective October 1, 2013, Mr. Karim Hajjar was appointed as Member of the Executive Committee and CFO. Effective January 1, 2014, Mr. Pascal Juéry was appointed as Member of the Executive Committee, to replace Mr. Gilles Auffret who left the Executive Committee on December 31, 2013.

### 5.3.2 Terms of office and age limits

Executive Committee members are appointed by the Board of Directors for two-year renewable terms. The Board of Directors has set an age limit of 65 for Executive Committee membership. An exception to this rule was granted by the Board of Directors on December 14, 2011 for of Mr. Gilles Auffret, whose mandate was renewed for a further two-year term until the end of 2013. This exception was justified by the transition situation due to the integration of Rhodia into the Solvay group.

### 5.3.3 Criteria for appointment

The Executive Committee is a collegial body made up of executives generally coming from the Group's senior management. Since January 1, 2013, each Executive Committee member has been in charge of the supervision of a number of Global Business Units/

functions; for the CEO and the CFO, this new role has been assumed in addition to their respective specific responsibilities.

All Executive Committee members have employment contracts with the Solvay group, except for Mr. Jean-Pierre Clamadieu, who has self-employed status.

### 5.3.4 Appointment and renewal procedure

The Chairman of the Executive Committee is appointed by the Board of Directors based on a proposal by the Chairman of the Board of Directors and with recommendations by the Nomination Committee and the outgoing Chairman of the Executive Committee.

The other Executive Committee members are also appointed by the Board of Directors, but on the proposal of the Chairman of the Executive Committee in agreement with the Chairman of the Board of Directors and with the opinion of the Nomination Committee and the Executive Committee.

Executive Committee members' performance is assessed annually by the Chairman of the Executive Committee. This assessment is undertaken together with the Chairman of the Board and with the Compensation Committee whenever proposals are made for setting variable compensation.

The performance of the Chairman of the Executive Committee is assessed annually by the Compensation Committee.

	Year of birth	Year of first appointment	Term of office ends	Diplomas and main Solvay activities	Presence at meetings (as a function of date of appointment)
Mr. Jean-Pierre Clamadieu (F)	1958	2011	2015	Engineering degree from the École des Mines (Paris). Chairman of the Executive Committee and CEO	12/12
Mr. Bernard de Laguiche (F/BR)	1959	1998	Resigned as member of the Executive Committee and CFO as of September 30, 2013	MA in Economics and Business Administration HSG (University of St. Gallen – Switzerland). Executive Committee Member and CFO	9/9
Mr. Jacques van Rijckevorsel (B)	1950	2000	2015	Civil Engineering degree in Mechanics (Catholic University of Louvain). Advanced studies in Chemical Engineering (Free University of Brussels). AMP Harvard, Executive Committee member	12/12
Mr. Vincent De Cuyper (B)	1961	2006	2014	Chemical engineering degree (Catholic University of Louvain), Master in Industrial Management (Catholic University of Leuven), AMP Harvard. Executive Committee member	12/12
Mr. Roger Kearns (US)	1963	2008	2014	Bachelor of Science – Engineering Arts (Georgetown College – Georgetown), Bachelor of Science – Chemical Engineering (Georgia Institute of Technology – Atlanta), MBA (Stanford University). Executive Committee Member	12/12
Mr. Gilles Auffret (F)	1947	2011	Retired as of December 31, 2013	Engineering degree from the École Polytechnique, graduate of the École Nationale d'Administration (ENA), the École des Sciences Politiques and the École Nationale de la Statistique et de l'Administration Economique (ENSAE). Executive Committee Member	12/12
Mr. Karim Hajjar (UK)	1963	2013	2015	BSC (Hons) Economics (The City University, London) Chartered Accountancy (ICAEW) Qualification. Executive Committee Member and CFO	3/3

## 5.4 Frequency, preparation and procedure of meetings

**5.4.1** The Executive Committee met 12 times in 2013. Meetings are generally held at the Company's registered office, but can also be held elsewhere at the decision of the Executive Committee Chairman. The Executive Committee sets the dates of its meetings before the start of the financial year. Additional meetings can be convened by the Chairman of the Executive Committee, who sets the agenda based, inter alia, on proposals from the Executive Committee members.

**5.4.2** The Corporate Secretary, who acts as secretary to both the Board of Directors and the Executive Committee, is responsible, under the supervision of the Chairman of the Executive Committee, for organizing meetings and sending out notices of meetings and agendas.

Documents and information relating to the agenda items are made available to the members of the Executive Committee prior to the meetings.

The Corporate Secretary drafts minutes consisting of a list of decisions taken during the meeting. These are read and approved at the end of the meeting. They are immediately distributed.

They are not signed, but the Chairman of the Executive Committee and the Corporate Secretary may deliver certified conformed copies of extracts.

It should be noted that the Executive Committee organized certain meetings in tele- or video-conference format.

**5.4.3** The Executive Committee takes its decisions by a simple majority, with its Chairman having a casting vote. If the Chairman of the Executive Committee finds himself in a minority he may, if he wishes, refer the matter to the Board of Directors which will then decide on the matter. In practice, however, almost all Executive Committee decisions are taken unanimously, so that the Chairman has never made use of his casting vote. Attendance at meetings was 100% in 2013.

The topics submitted to the Executive Committee are presented and discussed in the presence of the heads of the involved entities (GBUs, functions). For important projects, it sets up ad hoc working teams, led mainly by Executive committee members chosen on the basis of the competences required.

## 6 Compensation report

### 6.1 Description of the procedure for:

#### 6.1.1 Developing a compensation policy:

##### a) for Directors:

Directorships of Solvay SA are remunerated with fixed emoluments, the common basis of which is set by the Ordinary Shareholders' Meeting, and any complement thereto by the Board of Directors on the basis of Article 27 of the by-laws, which states that "Directors shall receive emoluments payable from overhead costs; the Shareholders' Meeting shall determine the amount and terms of payment.

"That decision shall stand until another decision is taken."

"The Board of Directors shall be authorized to grant directors with special duties (the Chairman, vice-Chairmen, directors charged with day-to-day management, members of the Executive Committee) fixed emoluments in addition to those provided for in the above paragraph."

"Each of the Directors responsible for day-to-day management is also entitled to variable compensation determined by the Board of Directors

on the basis of their individual results and of the consolidated results of the Solvay group."

"The sums referred to in the two preceding sub-sections are also paid out of overhead costs."

**b)** for Executive Committee members: compensation policy is decided by the Board of Directors based on proposals by the Compensation Committee.

In 2012, the Group reviewed its compensation policy to better align with market practices and reinforce the link between variable pay and business performance. The new compensation policy is further set out in annex 2. The policy introduces a new harmonized short term incentive plan and redesigns the long term incentive program, which is partly linked to the achievement of pre-defined multi-year Group performance level. It became effective in 2013.

### 6.1.2 Setting individual compensation:

#### a) For Directors:

- the Ordinary Shareholders' Meetings of June 2005 and May 2012 (for Board attendance fee) decided to set Directors' pay, starting from the 2005 financial year, and to grant:
  - an annual gross fixed compensation of € 35,000 per Director and, on top of this, an individual attendance fee of € 4,000 gross per Board meeting attended;
  - € 4,000 gross for members of the Audit Committee and € 6,000 gross for its Chairman for each meeting of the Committee;
  - € 2,500 gross per member of the Compensation Committee, Nomination Committees and Financial Committee and € 4,000 gross for the Chairmen of these Committees, for each meeting on the understanding that a Director belonging to both the Compensation Committee and the Nomination Committee does not receive double compensation;
  - the Chairman of the Board, the Chairman of the Executive Committee and the Executive Directors do not receive attendance fees for taking part in these Committees;
- for the Chairman of the Board of Directors, the Board of Directors has made use of the authorization conferred on it by Article 27 of the bylaws to grant an additional yearly fixed compensation

of € 250,000 gross in 2013 by reason of the work load and the responsibility attached to this task;

- directors do not receive any variable compensation linked to results or other performance criteria. They are not entitled to stock options or performance share units, nor to any supplemental pension scheme;
- the Company reimburses Directors' travel and subsistence expenses for meetings and while exercising their Board and Board Committee functions.

The Chairman of the Board of Directors is the sole non-executive Director having permanent support provided by the Group (office, secretariat, car). The other non-executive directors receive logistics support from the General Secretariat as and when needed. The Company also carries customary insurance policies covering the activities of Board members in carrying out their duties,

b) For Executive Committee members: the compensation of the Chairman and the members of the Executive Committee is set as a global gross amount. This includes not only the gross compensation earned at Solvay SA, but also amounts received, contractually or as directors' emoluments, from companies throughout the world in which Solvay SA holds majority or other shareholdings.

Individual compensation is set by the Board of Directors based on recommendations by the Compensation Committee.

## 6.2 Declaration concerning compensation policy for the Chairman and members of the Executive Committee

The compensation policy adopted by the Board of Directors in 2012 is set out in Annex 2 section 15. It does not apply to Mr. Clamadiou, whose compensation package is governed by specific arrangements;

the level and structure of the compensation package are aligned with market practices for a similar function in a comparable organization.

## 6.3 Amount of the compensation and other benefits granted directly or indirectly to Directors (executive and non-executive) by the Company or by an affiliated company

### GROSS COMPENSATION AND OTHER BENEFITS GRANTED TO DIRECTORS

Compensation In €	2012		2013	
	Gross amount	Including Board of Directors and Committees attendance fees	Gross amount	Including Board of Directors and Committees attendance fees
A. Michielsens <sup>(1)</sup>				
■ Fixed emoluments + attendance fees	28,419.37	16,000.00		
■ "Article 27" supplement	86,025.54			
■ Compensation for complementary pension rights	161,344.22			
N. Boël				
■ Fixed emoluments + attendance fees	65,500.04	30,500.00	63,000.00	28,000.00
■ "Article 27" supplement <sup>(2)</sup>	161,290.30		250,000.00	
D. Solvay	73,000.04	38,000.00	70,500.04	35,500.00
C. Jourquin <sup>(3)</sup>	28,607.54	16,000.00		
J-P. Clamadieu <sup>(4)</sup>	34,580.67	12,000.00	63,000.00	28,000.00
J-M. Solvay	63,000.04	28,000.00	63,000.04	28,000.00
G. de Selliers de Moranville	85,000.04	50,000.00	99,500.04	64,500.00
J. van Zeebroeck	73,000.04	38,000.00	23,389.80	10,500.00
J-M. Folz	69,000.04	34,000.00	79,500.04	44,500.00
B. de Laguiche	63,000.04	28,000.00	65,500.04	30,500.00
B. Scheuble	87,000.04	52,000.00	99,000.04	64,000.00
A. Van Rossum	71,000.04	36,000.00	75,000.04	40,000.00
C. Casimir-Lambert	79,000.04	44,000.00	87,000.04	52,000.00
H. Coppens d'Eeckenbrugge	73,000.04	38,000.00	83,500.04	48,500.00
Mrs. P. Mateos-Aparicio Morales	73,000.04	38,000.00	27,389.80	14,500.00
Mrs. E. du Monceau	73,000.04	38,000.00	70,500.04	35,500.00
Y-T. de Silguy	69,000.04	34,000.00	65,000.04	30,000.00
Mrs. A. Moraleda			40,610.24	18,500.00
Mrs. F. de Viron			40,610.24	18,500.00
	<b>1,516,768.20</b>	<b>570,500.00</b>	<b>1,366,000.52</b>	<b>591,000.00</b>

(1) Until May 8, 2012.

(2) From May 9, 2012.

(3) Until May 10, 2012.

(4) Effective May 11, 2012.



## 6.4 Amount of compensation and other benefits granted directly or indirectly to the Chairman of the Executive Committee

The base salary of the Chairman of the Executive Committee remained at € 1 million in 2013. The Annual Incentive target was set at 100% of such base salary, with a maximum of 150%. In accordance with the Group compensation policy, Long Term Incentives are composed of a 50/50 mix of stock options and so-called Performance Share

Units. In 2013, such grant amounted to € 1.5 million. The Chairman of the Executive Committee does not receive shares as part of his compensation package. In the area of extra-legal pension rights, given his self-employed status in Belgium, he has his own separate contractual regime, with pension, death-in-service and disability rules.

### Compensation and other benefits granted to the Chairman of the Executive Committee until May 10, 2012. (C. Jourquin)

In €	2012	2013
Base compensation	279,817	
Variable compensation	0	
Pension and death-in-service and disability coverage (costs paid or provided for)	0	
Other compensation components <sup>(1)</sup>	5,641	

### Compensation and other benefits granted to the Chairman of the Executive Committee effective May 11, 2012. (J-P. Clamadieu)

In €	2012	2013
Base compensation	640,000	1,000,000
Variable compensation	775,467	1,100,000
Pension and death-in-service and disability coverage (costs paid or provided for)	309,750	626,274
Other compensation components <sup>(1)</sup>	4,650	46,927

(1) Company vehicles, correction of 2012 Base Compensation.

## 6.5 Global amount of compensation and other benefits granted directly or indirectly to the other members of the Executive Committee by the Company or an affiliated company

### Compensation and other benefits granted to the other members of the Executive Committee

In €	2012 <sup>(2)</sup>	2013 <sup>(3)</sup>
Base compensation	3,207,214	2,502,169
Variable compensation	2,630,344	1,646,328
Pension and death-in-service and disability coverage (costs paid or provided for)	697,382	1,164,234
Other compensation components <sup>(1)</sup>	81,328	82,172

(1) Representation allowance, luncheon vouchers, company car, housing allowance,...

(2) J.-P. Clamadieu (until May 10, 2012), B. de Laguiche, J. van Rijckevorsel, V. De Cuyper, J.-M. Mesland, R. Kearns, G. Auffret.

(3) B. de Laguiche (until September 30, 2013), J. van Rijckevorsel, V. De Cuyper, R. Kearns, G. Auffret, K. Hajjar (from October 1, 2013).

Variable compensation consisted of an annual incentive based on the performance achieved towards pre-set collective Group performance objectives, the performance of the manager as measured against a set of pre-determined objectives and Group Sustainable Development.

The law (Art. 520 ter of the Companies' Code) provides that from 2011 onwards, in the absence of statutory provisions to the contrary or express approval by the General Meeting of Shareholders, at least one quarter of the variable compensation of Executive Committee members must be based on predetermined criteria of performance that are objectively measurable over a period of at least two years, and another quarter at least should be based on predetermined performance criteria that are objectively measurable over a period of at least three years.

The compensation policy has been reviewed in 2012. The new compensation policy set out in Annex 2 came into effect in 2013 and is in full compliance with Article 520 ter of the Companies' Code.

Executive Committee members receive stock options and performance share units as explained below. They do not, however, receive shares as part of their compensation packages.

Executive Committee members' expenses, including those of its Chairman, are governed by the same rules as apply to all Group management staff, that is the justification of all business expenses, item by item. Private expenses are not reimbursed.

In the case of mixed business/private expenses (like cars), a proportional rule is applied in the same way as to all management staff in the same position.

In the area of insurance, the Company subscribes the same type of cover for Executive Committee members as it does for its senior managers.

Pensions and retirement and death-in-service coverage for Executive Committee members are based in principle on the provisions of the schemes applicable to senior executives in their base countries.

The pensions and death-in-service coverage of Messrs. Clamadieu and Auffret reflect the conditions they had at Rhodia. In the case of Mr. Clamadieu these take the form of a formal undertaking by Solvay.

## 6.6 Stock options and Performance Share Units

In 2013, the Board of Directors, on the proposal of the Compensation Committee, allotted stock options to around 75 Group senior executives. The exercise price amounts to € 111.01 per option, with a three-year vesting period. Executive Committee members together were granted 97,490 options in 2013, compared with 174,427 in 2012.

In combination with the stock option plan and for the first time, the Board of Directors granted Performance Share Units (PSU) to around 450 Group Executives, for a possible pay-out in 3 years time if pre-set performance objectives are met. Executive Committee members together were granted 19,778 PSU in 2013.

### STOCK OPTIONS AND PSU ALLOTTED IN 2013 TO EXECUTIVE COMMITTEE MEMBERS

Country	Name	Function	Number of options	Number of PSU
Belgium	Clamadieu, Jean-Pierre	Chairman of the Executive Committee	35,178	7,136
Belgium	de Laguiche, Bernard	Member of the Executive Committee	11,726	2,379
Belgium	van Rijckevorsel, Jacques	Member of the Executive Committee	11,726	2,379
Belgium	De Cuyper, Vincent	Member of the Executive Committee	11,726	2,379
Belgium	Kearns, Roger	Member of the Executive Committee	11,726	2,379
France	Auffret, Gilles	Member of the Executive Committee	15,408	3,126
<b>TOTAL</b>			<b>97,490</b>	<b>19,778</b>

### STOCK OPTIONS HELD IN 2013 BY EXECUTIVE COMMITTEE MEMBERS

Country	Name	Held at 31/12/2012	Granted in 03/2013	Exercised in 2013	Options Expired in 2013	31/12/2013		
						Held	Exercisable	Non exercisable
Belgium	Clamadieu, Jean-Pierre	61,266	35,178	0	0	96,444	0	96,444
Belgium	de Laguiche, Bernard (until 30/09/2013)	120,000	11,726	23,760	0	107,966	56,240	51,726
Belgium	van Rijckevorsel, Jacques	114,000	11,726	35,000	0	90,726	43,000	47,726
Belgium	De Cuyper, Vincent	92,000	11,726	26,500	0	77,226	31,500	45,726
Thailand	Kearns, Roger	76,500	11,726	8,000	0	80,226	38,500	41,726
France	Auffret, Gilles	29,161	15,408	0	0	44,569	0	44,569
<b>TOTAL</b>		<b>492,927</b>	<b>97,490</b>	<b>93,260</b>	<b>0</b>	<b>497,157</b>	<b>169,240</b>	<b>327,917</b>

## 6.7 Most important provisions of their contractual relationships with the Company and/or an affiliated company, including the provisions relating to compensation in the event of early departure

Executive Committee members, including the Chairman, have directorships in Group subsidiaries as a function of their responsibilities.

Where such directorships are compensated, they are included in the amounts given above, regardless of whether the position is deemed to be salaried or undertaken on a self-employed basis under local legislation.

No Executive Committee member, including the Chairman, will benefit from any departure indemnity linked to the exercise of their office. If their service ends early, only the legal system applies.

Mr. Jean-Pierre Clamadieu's contract includes a 24-month non-competition clause, but with no more than 12 months' pay.

On September 30, 2013, Mr. Bernard de Laguiche left the Executive Committee without departure indemnity.

On December 31, 2013, Mr. Gilles Auffret left the Executive Committee, for retirement, without departure indemnity.

Executive Committee members' contracts do not contain a clause providing a right of claw-back of variable compensation in case of erroneous financial information.

## 7 Chairmen's roles in achieving coordination between the Board of Directors and the Executive Committee

The Chairman of the Board of Directors and the Chairman of the Executive Committee work together, through constructive dialogue and frequent exchanges, to harmonize the work of the Board of Directors (including its Committees) with that of the Executive Committee.

The following measures have been introduced to achieve this:

- the two Chairmen meet as often as is necessary on matters of common interest to the Board of Directors and the Executive Committee;
- the Chairman of the Board of Directors and the Executive Committee meet every month to discuss financial reporting;
- the Chairman of the Board has access to all information necessary to exercise his functions;
- the Chairman of the Executive Committee is a member of the Board of Directors, where he presents the Executive Committee's proposals.

## 8 Main characteristics of risk management and internal control systems

The Solvay group has set up an internal control system designed to provide a reasonable assurance that (i) current laws and regulations are complied with, (ii) policies and objectives set by the Company are implemented, (iii) financial and non-financial information is reliable, and (iv) internal processes are efficient, particularly those contributing to the protection of its assets.

This system has five components: the control environment, a risk assessment process, control activities, the information and communication systems, including the disclosure of financial information, and the internal control monitoring.

### 8.1 The control environment

Our control environment is made up of various elements such as:

- a Code of Conduct that acts as a reference framework for the Group;
- a management philosophy expressed in our Management and People Models;
- a clear organizational and hierarchical structure supported by job descriptions linked, where appropriate, to delegations of power;
- and management bodies (Board of Directors and Committees, Executive Committee, etc.), the workings of which are described in this Corporate Governance Statement.

### 8.2 The risk assessment process

Taking calculated risks while remaining in compliance with laws, regulations and the Code of Conduct is an inherent aspect of the business and industrial activities of the Solvay group. The Enterprise Risk Management (ERM) policy states that the Group will identify, quantify, assess and manage all potentially significant business risks and opportunities by applying systematic risk management integrated with strategy, business decisions and operations. Enterprise Risk Management is seen as an essential management tool and aid in making the decisions needed to achieve the Company's short-, medium- and long-term objectives.

The Internal Audit & Risk Management department (IA/RM) is in charge of setting up a global and consistent system of risk management across the Group.

Solvay has adopted the FERMA reference framework for risk management. This framework structures the process of risk management in following phases, taking into account the organization's strategic objectives:

- risk analysis (identification, quantification and evaluation),
- decision on how to manage the material risks,
- implementation of risk management actions,
- monitoring.

More information on this topic can be found in the "Risk Management" section of this annual report, in particular with regard to the Group's main risks and the actions taken to avoid or reduce them.

## 8.3 Control activities

Management is responsible for internal control in operations.

Control activities are set up in proportion to the stakes inherent in each relevant process.

With regard to the controls on financial data, these controls are implemented all along the reporting process: the financial elements are consolidated monthly and analyzed at every level of responsibility of the Company (such as, for example, the local finance manager, the controller and the management of the activity in question, Group

Accounting and Reporting and the Executive Committee) and in various ways such as, for example, variance analysis, plausibility and consistency checks, ratio analysis and comparison with forecasts. The results are also validated quarterly by the Audit Committee, taking into account the work carried out by the external auditor.

The monitoring of financial data is supported by the use of common ERPs, by an organization based on major financial processes that are managed centrally and integrated, where appropriate, in the Shared Services Centers, and by application of uniform procedures.

## 8.4 Information and communication

The Audit Committee is in charge of monitoring the effectiveness of internal control systems. It supervises the work of the Internal Audit Group with regard to financial, operational, and compliance monitoring. In particular, it verifies the scope, programs and results of the internal audit work and ensures that its recommendations are properly implemented. The Mission Statement of the Audit Committee is given in Appendix 1 to this Corporate Governance Statement.

The Internal Audit Group Service assesses independently the effectiveness of the internal control system. Internal Audit's mission covers in particular the following areas:

- risks, including fraud, are identified and managed;
- operational, management and (material) financial information is reliable;
- the actions of the employees are in line with the Group's policies, standards and procedures.

The internal audit assignments are planned and defined in terms of content on the basis of a risk analysis; the controls focus on the areas perceived as having the highest risks. All the entities within the Group are visited by Internal Audit at least every three years.

The recommendations of the Internal Audit Group Service are implemented by management.

Other entities carry out activities of the same type in very specific areas. For example:

- the Health Safety & Environment Group Service carries out health, safety, and environmental audits;
- the Organization, Design & Performance Group Service carries out management systems audits (e.g. Quality Management);
- the Legal and Compliance Group functions support the various audit activities of the Group to ensure that prevailing legislation is complied with and applied correctly. In particular, the Ethics and Compliance Group Service controls the implementation and enforcement of the Group's Values and Code of Conduct, intervening in case of potential infringement.

An Ethics Helpline, managed by a third party, is progressively being made available to employees to enable them to report potential violations in a confidential manner.

## 8.5 Internal control monitoring

The Solvay group publishes quarterly results. Publication of these results is subject to various checks and validations carried out in advance.

- Publication is carried out under the supervision and control of the Executive Committee.

- The Audit Committee validates it, in particular ensuring that the IFRS accounting principles are complied with and that it gives a fair and relevant picture of the business of the Group.
- The Finance Committee finalizes its preparation.
- The Board of Directors approves it.



## 9 External audit

The audit of the Company's financial situation, its financial statements and the conformance of the statements with respect to the Companies' Code and the by-laws, and of the entries to be recorded in the financial statements, is entrusted to one or more auditors appointed by the Shareholders' Meeting from among the members, either physical or legal persons, of the Belgian Institute of Company Auditors.

The mission and powers of the auditor(s) are those set by the law.

The Shareholders' Meeting sets the number of auditors and fixes their emoluments in accordance with the law. Auditors are also entitled to reimbursement of their travel expenses for auditing the Company's plants and administrative offices.

The Shareholders' Meeting may also appoint one or more alternate auditors. Auditors are appointed for three-year renewable terms, which

may not be revoked by the Shareholders' Meeting other than for good reason.

The audit mandate of Deloitte Réviseurs d'Entreprises SC s.f.d. SCRL has been renewed at the Ordinary Shareholders' Meeting of 2013 for three years.

Deloitte Réviseurs d'Entreprises SC s.f.d. SCR is represented by Mr. Eric Nys. Mr. Frank Verhaegen has been appointed by the Ordinary Shareholder's Meeting of 2013 as alternate representative of Deloitte Réviseurs d'Entreprises SC s.f.d. SCRL for the same duration.

The yearly audit fees are € 1,146,300. They include the audit of the statutory accounts of Solvay SA as well as the audit of the Group consolidation.

## 10 Code of Conduct

The Solvay Code of Conduct sets out how Solvay wishes to carry out its business and how it wishes to interact with all its stakeholders in an ethical and compliant manner. It is based on a strong tradition of values that are historically ingrained in the Group's culture. This Code applies to every Solvay employee wherever Solvay operates or conducts its business.

The Solvay Code of Conduct provides general guidance to all employees about how to behave in the workplace, in Solvay's businesses and while representing Solvay in their communities. It is not an exhaustive document anticipating every situation employees may face in their day-to-day business. Rather, the Code highlights the guiding principles that form the basis of the Group's policies.

The Code of Conduct is part of the Group's constant effort to maintain and strengthen trust both among all its employees and between the Group and its partners, including its employees, their representatives, shareholders, customers and suppliers, government agencies and all other third parties.

To obtain the widest possible involvement of all employees in implementing the Code, the Group will continue to promote a rich and balanced social dialogue between senior management and social partners.

The Solvay group takes various measures to ensure that the Code is applied, including targeted training programs, in order to minimize

the danger of violation: and there are provisions for clear sanctions where necessary.

The Legal & Compliance function under the authority of the Group General Counsel, contributes to or enhances the compliance culture. The Ethics and Compliance department has the more specific objective of strengthening a culture based on ethics and on compliance with the Solvay Values and Code of Conduct.

Compliance Officers have been appointed in all four geographic zones where the Group is active. These are assisted by a network of experienced employees tasked, in addition to their other responsibilities, with supporting activities in this area.

The Group encourages its employees to take up any difficulty or question relating to the application of the Code of Conduct with superiors or other identified interlocutors (Compliance Officers, legal staff, human resources).

It is also progressively introducing the opportunity, on a worldwide basis, of turning to an Ethics Helpline in the form of an external service to voice any difficulties or pose questions in complete confidence. The Ethics Helpline is managed in accordance with applicable legislation and in particular the laws governing data protection.

In the joint ventures, Board representatives make every effort to have rules adopted that are in line with the Group's Code of Conduct.

## 11 Preventing insider trading

The Group has established a policy for preventing insider trading, and a manual containing strict rules of confidentiality and non-use of “inside information” for both regular and occasional insiders. This policy and manual have been widely circulated within the Group.

The interpretation and oversight of compliance with these rules are entrusted to a Transparency Committee composed of the Group Corporate Secretary (Chairman), who is also Group General Manager Communication, the Chief Financial Officer, the Group General Counsel and the Group General Manager Human Resources. In particular, this Committee advises the Board of Directors, the Executive Committee and any employee confronted with a difficult situation.

This policy is applied equally by the Executive Committee and the Board of Directors.

Moreover, in conformity with the law of August 2, 2002, persons exercising managing responsibilities within the Group, and persons who are closely related to them, that is:

- the members of the Solvay SA Board of Directors;
- the members of the Executive Committee;
- the Corporate Secretary;
- the Group General Manager Human Resources; and
- the Group General Counsel;

have been informed and are regularly reminded of their obligation to declare to the Financial Services and Markets Authority every transaction involving Solvay shares.

## 12 Internal organization of the Solvay group

The internal organization of the Solvay group is described on page 22 of this annual report.

## 13 Relations with shareholders and investors

### 13.1 Performance of the Solvay share

Solvay shares are dually listed on NYSE-Euronext Brussels – the primary listing – and, since January 2012, on NYSE-Euronext Paris under the unique mnemonic code of SOLB. Furthermore, Solvay joined the CAC 40 stock index on September 21, 2012. Both these events reflect the Group’s long history in France as well as its economic weight.

On December 31, 2013, its price was € 115.0, as against € 108.6 at the end of 2011. During 2012, the average price was € 110.0 and the highest price was € 118.9 (May 7, 2013).

Average daily trading volume as reported by Euronext was 213,237 shares in 2013, compared with 304,000 shares in 2012.

## 13.2 Active financial communication

Throughout the year the Investor Relations team has endeavored to communicate in a timely and effectively manner with, and present financial and strategically relevant facts about and developments concerning Solvay to various investor groups, equity and credit analysts and other stakeholders, on a worldwide basis. To that end, in the course of the year, the Investor Relations team members have held regular contacts with financial analysts and institutional and retail investors, including updates with facts regarding financial and strategic trends and have organized selected presentations, visits and roadshows.

The Group is very attentive to the equal treatment of all shareholders.

The Group's communication policy is to disseminate, as soon as reasonably possible, information that is of material interest to the market in the form of press releases and/or press conferences and public presentations available in the Group internet website.

Solvay SA

Investor Relations

Rue de Ransbeek, 310

B-1120 Brussels (Belgium)

e-mail: [investor.relations@solvay.com](mailto:investor.relations@solvay.com)

Internet: [www.solvay.com](http://www.solvay.com)

## 13.3 Individual investors

For many years the Group has maintained very close relations with individual investors both by taking part in fairs and conferences and by providing regular information on the life of the Group (press releases, the annual report, etc.) on request.

In 2013, the Solvay group actively continued its meetings with individual investors in Belgium and developed new initiatives in France.

By way of example:

- in April 2013, Solvay took part in an "Investors' Event" organized in Antwerp by the Netherlander federation of Investments Clubs and Investors, VFB (Vlaamse Federatie van Beleggingsclubs en Beleggers) and attended every year by more than 1,000 participants. On this occasion, Solvay's CFO presented the Group in the presence of about 400 individual investors;

- in June 2013, Solvay's participation in the "Finance Day" in Brussels organized by the Belgian magazine MoneyTalk offered a further opportunity to meet individual shareholders;
- in September 2013, Solvay took part in the retail investors full day event in Paris *Le Village des Actionnaires* attended by 1,300 participants. In addition to individual interviews with a member of the investor relations team, two conferences were held, one on the theme of innovation as an asset in the international competition in the presence of Solvay's CEO, Jean-Pierre Clamadieu, and the second on the solar airplane Solar Impulse, in the presence of the Director of the Partnership Solvay-Solar impulse, Claude Michel.

Furthermore, on the occasion of the 150<sup>th</sup> anniversary of the Group, three performances of the show "Odyseo The Chemistry of Dreams" were given in the presence of shareholders, totalling 3,000 participants.

## 13.4 Roadshows and meetings for institutional stakeholders

Roadshows and meetings with senior Group managers are organized regularly for international financial professionals (analysts, portfolio managers, press, etc.). Solvay is also developing an active dialogue on its sustainability policy and parameters and multiplies the opportunities of interaction with investors concerned with Corporate Social Responsibility (CSR) values.

In 2013, more than 600 total contacts were established at meetings and events organized in Europe (Brussels, London, Paris, Frankfurt,

Geneva, Zurich, Edinburg, Dublin, Amsterdam, Luxembourg, Stockholm, etc.) and the United States.

Furthermore, on November 27, 2013, Solvay held its Capital Markets Day in London, attended by 90 participants onsite and 120 by live video webcast. During this full-day event, Solvay's senior management confirmed its strategic vision and announced its new ambition for 2016.

Conference telephone calls with management are also systematically organized, every quarter, to comment on Group results.

## 13.5 A specific internet site

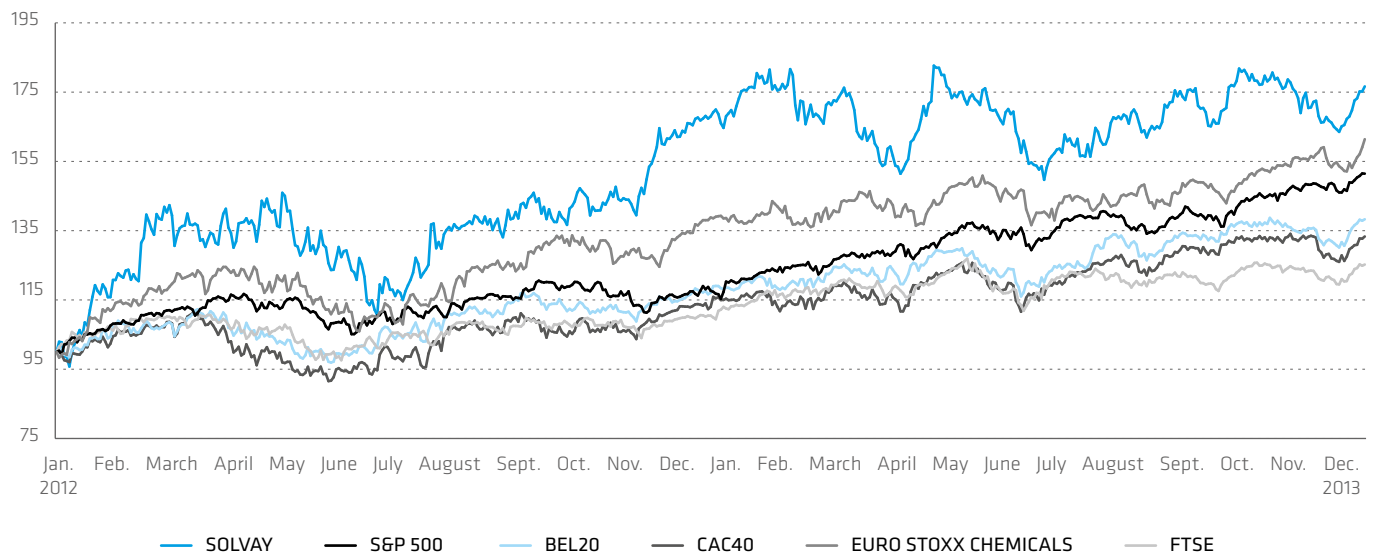
Dedicated internet pages, [www.solvay.com/en/investors](http://www.solvay.com/en/investors), provide shareholders and investors with the latest published financial and strategic information from the Group. In 2013, the site has been completely redesigned providing enriched and valuable services. Furthermore, it is henceforth available in three languages – English, French and Dutch. Based on responsive design, it offers an optimal viewing experience on any devices.

It continues to provide useful contacts with sell-side analysts who closely track the Group. It further offers the opportunity to join the Investors' Club in order to receive email notifications in the three languages concerning information of various kinds: agendas of meetings, including the annual Shareholders' Meeting, by-laws amendments, special reports of the Board of Directors, publication of the annual report, unconsolidated parent company accounts, payment of dividends, etc.

### → Solvay share prices and trading volumes from January 1, 2012 to December 31, 2013



### → The Solvay share compared with indexes from January 1, 2012 to December 31, 2013



## Annex 1

# 14 Audit Committee Mission Statement

## 1 Members

The Audit Committee consists of a Chairman and at least two other members, all three of whom are non-executive directors and at least two of whom are independent directors.

The members of this Audit Committee are competent in this area through training and experience acquired in their previous positions.

## 2 Guests

The Audit Committee invites the following persons to report to its meetings:

- a) the Chief Financial Officer;
- b) the Head of the "Internal Audit and Risk Management" Department;
- c) a representative of the Group's statutory auditor.

## 3 Frequency of meetings

The Audit Committee meets at least four times a year prior to the publication of the annual, semiannual and quarterly results. Additional meetings may be organized to discuss and agree on the scope of audit plans and on audit costs, and to discuss other important questions relevant to its mission.

## 4 Main tasks of the Audit Committee

a) The Audit Committee ensures that the annual report and accounts, the periodic financial statements and all other important financial communications by the Group conform to generally accepted accounting principles (IFRS for the Group, Belgian accounting law for the parent company). These documents should provide a fair and relevant view of the business of the Group and of the parent company and meet all legal and stock-market requirements.

b) The Audit Committee regularly examines the accounting strategies and practices that are applied in preparing the Group's financial reports, making sure that these conform to good practices and meet the requirements of the appropriate accounting standards.

c) The Audit Committee regularly examines the scope of the external audit and the way it is implemented across the Group.

The Audit Committee studies the recommendations of the external audit and the auditor's report to the Board of Directors.

d) The Audit Committee monitors the effectiveness of the Group's internal control systems, and in particular the financial, operational and conformity controls, along with risk management. The Audit Committee also satisfies itself that the electronic data processing systems used to generate financial data meet the applicable standards.

e) In respect of the internal audit, the Audit Committee verifies the scope/programs/results of the work of the internal audit department and makes sure that the internal audit organization has the necessary resources.

The Audit Committee checks that internal audit recommendations are properly followed up.

f) The Audit Committee verifies and monitors the independence of the external auditor, in particular concerning supplementary services requested from the auditor outside its legal mission. In this respect, it is the Audit Committee that proposes the external auditor to the Board of Directors, which will transmit the candidacy for approval and appointment (including remuneration) by the Ordinary Shareholders' Meeting.

Additionally, on a proposal from the Chief Executive Officer and the Chief Financial Officer, the Audit Committee participates in the choice of head of the Internal Audit and Risk Management Department.

g) The Audit Committee examines areas of risk that can potentially have a material effect on the Group's financial situation. These include, for example, foreign-exchange risk, major legal disputes, environmental questions, product-liability issues, etc.

During such examination, the Audit Committee examines the procedures in place to identify these major risks and to quantify their potential impact on the Group and the way the control systems work.

## 5 Minutes

As a Committee of the Group's Board of Directors, the Audit Committee prepares minutes of each of its meetings and submits them to the Board.

## Annex 2

# 15 Compensation policy for General Managers

To assess relevant competitive practice, Solvay takes as its frame of reference a selection of European chemical and industrial manufacturing companies with international operations and annual sales revenues and headcount reasonably close to its own. The composition of this group is reviewed on a periodic basis to assure that it continues to reflect the Company's strategic orientation.

For executives with a non-European home country and who are based outside Europe, the home country practice (ideally weighted towards the chemicals sector) constitutes the reference. For data relating to the international market, the services of internationally recognized compensation consultants are retained.

Solvay's objective is to provide total compensation levels that are at or around the median of the chosen reference market for normal performance and close to the upper quartile level of the market in case of outstanding collective and individual performance.

The compensation of the General Managers comprises the Base Salary (reviewed on an annual basis), Annual Incentives, Long Term Incentives and Other Benefits.

In 2012, the Group has reviewed its compensation policy to better align Annual Incentives and Long Term Incentives to market practices and reinforce the link between variable pay and business performance. The new compensation policy effective as of 2013, covers the Executive Committee members, the General Managers and the Heads of large Global Business Units.

## Compensation Policy

The compensation policy is composed of Short Term Incentive (STI) plan providing for annual bonus linked to the Group business performance and Long Term Incentive (LTI) plan to introduce a link with the global Group performance.

## Short Term Incentives (STI)

STI are partly linked to the Group performance and partly linked to individual performance.

The target annual incentive ranges, according to position level, from 50% (General Managers and Heads of large GBUs) to 60% (members of the Executive Committee) of base salary. The target short-term incentive consists of 3 components weighted as follows:

- 30% depending on the individual performance of the manager as measured against a set of pre-determined objectives, approved, for Executive Committee members by the Board of Directors;

- 60% linked to the actual performance achieved towards pre-set collective Group performance objective;
- 10% related to a Group Sustainable Development indicator.

The actual annual incentive can vary from 0% in case of poor performance up to 200% of target in case of outstanding collective and individual performance.

## Long Term Incentives (LTI)

The Long Term Incentives consist of a 50/50 mix of Stock Options (SOP) and Performance Share Units (PSU).

With respect to stock options, the budget allocated is targeting upper market level, and the number of SOP allocated is not pre-defined, but derives from the fixed budget, considering the fair value of the SOP (according to the Monte Carlo Model) at grant date.

The PSU plan, settled in cash, provides for a possible pay-out in 3 years time if pre-set performance objectives are met (REBITDA, CFROI), with a +/-20% adjustment depending on the actual performance versus the initial pre-set objective. The minimum pay-out can vary between 0 (if the minimum performance required or "threshold" is not met), 80% if the performance minimum "threshold" is met up to 120% for a performance exceeding a pre-defined ceiling performance.

In its sole discretion the Executive Committee (or the Board of Directors for the Executive Committee members) may decide/recommend individual grants of + or -50% of the target to reward special or unique achievements or circumstances or to acknowledge insufficient performance, while respecting the 50/50 split between SOP and PSU grants.

Each annual LTI plan is subject to prior Board approval.

In its sole discretion, the Executive Committee (or the Board of Directors for Executive members) assesses the achievement of the targets and the Executive Committee (or the Board of Directors for Executive members) may also re-evaluate the targets in case of material change of perimeter or other unexpected circumstances.

## Other benefits

The General Managers are entitled to retirement, death-in-service and disability benefits, as a rule, on the basis of the provisions of the plans applicable in their home country. Other benefits, such as medical care

and company cars or car allowances, are also provided according to the rules applicable in the host country. The nature and magnitude of these other benefits are largely in line with the median market practice.

## Short Term and Long Term Incentives applicable from 2013

### SHORT TERM INCENTIVES – STI

Comex				Other General Managers & Heads of large GBUs			
Target STI in % of Base Salary	Split in 3 components			Target STI in % of Base Salary	Split in 3 components		
	Individual performance	Group performance	Sustainable Development indicator		Individual performance	Group performance	Sustainable Development indicator
60%	30%	60%	10%	50%	30%	60%	10%

Actual STI pay-out can vary between 0 and 200%, according to the level of individual or group performance achieved.

### LONG TERM INCENTIVES – LTI

Performance Share Units	Comex	Other General Managers & Heads of large GBUs
	Target Grant	Target Grant
	€ 250,000	€ 200,000

The corresponding number of PSU is determined at grant date based on the fair value of the PSU.

Between 0% and 120% of granted PSU number depending on the actual achievement over a 3 years period of the pre-set Group performance targets.

Stock Options	Comex	Other General Managers & Heads of large GBUs
	Target Grant	Target Grant
	€ 250,000	€ 200,000

The corresponding number of SOP is determined at grant date, based on the fair market value of the SOP.

- Each annual Long Term incentive plan is subject to prior approval by the Board of Directors.
- The Board of Directors may decide individual grants of +/-50% of the target to reward special achievements or circumstances or to acknowledge poor performance, while respecting the split 50/50 between SOP and PSU's grants.

### Notes

- 1) Excluding Mr. Clamadiou whose compensation is governed by specific agreements.
- 2) The Board of Directors assesses the achievement of the targets and may also re-evaluate the targets in case of material change of perimeter or other unexpected circumstances.



# Glossary

## General

**Carechem:** Carechem 24 is a multilingual telephone advice service providing access to a team of trained responders 24-hours-a-day, 365-days-a-year. Carechem 24 provides companies all over the world with emergency product support during a hazardous materials incident.

**CEFIC:** European Chemical Industry Council.

**CEO:** Chief Executive Officer.

**CFO:** Chief Financial Officer.

**Code of Conduct:** Solvay expresses its commitment to responsible behavior and integrity, taking into account the sustainable growth of its business, and its good reputation in the communities in which it operates.

**Comex:** Executive Committee.

**CSR:** Corporate Social Responsibility.

**Environmental Protection Agency:** The U.S. Environmental Protection Agency (EPA or sometimes USEPA) is an agency of the United States federal government which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress.

**FERMA:** Federation of European Risk Management Associations.

**GBU:** Global Business Unit.

**HDS:** Highly Dispersible Silica.

**HPPA:** Polyamide High Performance.

**HPPO:** Hydrogen Peroxide to Propylene Oxide.

**Internal control process (ICP):** The ICP is applied to the most important business processes and builds on the following steps and activities: (i) risk analysis of the process; (ii) design of controls to reduce the risks; (iii) deployment of controls; (iv) controls' effectiveness assessment by Internal Audit.

**ISO 9001:** The ISO 9001 standard defines a set of requirements for the establishment of a system of quality management in an organization, whatever its size and activity.

**ISO 14001:** The ISO 14000 family addresses various aspects of environmental management. It provides practical tools for companies and organizations looking to identify and control their environmental impact and constantly improve their environmental performance. ISO 14001:2004 and ISO 14004:2004 focus on environmental management systems.

**ISO 26000:** ISO 26000 is a global standard which provides guidelines for organizations to operate in a socially responsible manner. The standard was published in 2010 after five years of negotiations among a large number of stakeholders worldwide. Representatives of governments, NGOs, industry, consumer groups and the world of work were involved in its development. It represents therefore an international consensus.

**LCD:** Liquid crystal display.

**Loss prevention process:** Loss prevention aims at maintaining production flow and profitability of the plants by providing risk mitigation. It also contributes to increase the protection of people and the environment.

**LTAR:** Lost Time Accident Rate.

**MTAR:** Medical Treatment Accident Rate.

**OECD:** Organization for Economic Co-operation and Development.

**OLED:** Organic Light-Emitting Diode.

**Open Innovation:** Innovation that is enriched with outside expertise, through partnerships with the academic world and by shareholdings in start-ups, either directly or via investment funds.

**PDCR:** Performance, Development and Career Review.

**PPA:** Polyphthalamides.

**Product Stewardship:** A responsible approach in managing risks throughout the entire life cycle of a product beginning at the design stage to the end of life.

**PTFE:** poly tetrafluoroethylene.

**PVC:** Polyvinyl chloride.

**PVDF:** Polyvinylidene fluoride.

**R&I:** Research & Innovation.

**REACH:** REACH is the European Community Regulation on chemicals and their safe use (EC 1907/2006). It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. The law entered into force on June 1, 2007.

**Responsible Care®:** Responsible Care® is the global chemical industry's unique initiative to improve health, environmental performance, enhance security, and to communicate with stakeholders about products and processes.

**Risk appetite:** A drawn line, being a function of probability and severity, which separates acceptable risks from unacceptable risks, following a risk profiling analysis.

**Risk profiling:** Solvay developed systematic risk management tool, based on Zurich Hazard Analysis method, which supports the risk management policy and framework. It is based on team work exercises and uses probability and severity to measure risk.

**Safety Data Sheets:** Safety data sheets are the main tool for ensuring that manufacturers and importers communicate enough information along the supply chain to allow safe use of their substances and mixtures.

**Seveso Regulations:** The Control of Major Accident Hazards Involving Dangerous Substances Regulations. These regulations (often referred to as "COMAH Regulations" or "Seveso Regulations") give effect to European Directive 96/82/EC. They apply only to locations where significant quantities of dangerous substances are stored.

**SPM:** Sustainable Portfolio Management.

**TFE:** Tetrafluoroethylene.

**VCM:** Vinyl chloride.

## Financial

**Basic earnings per share:** Net income (Solvay's share) divided by the average number of shares for IFRS calculation of earnings per share.

**CFROI:** Cash Flow Return On Investment.

**Diluted earnings per share:** Net income (Solvay's share) divided by the average number of shares for IFRS calculation of diluted earnings per share.

**Dividend yield (net):** Net dividend divided by the closing share price on December 31.

**Dividend yield (gross):** Gross dividend divided by the closing share price on December 31.

**DJ Stoxx:** Dow Jones Stoxx is a European stock index composed of the most important 665 European values.

**DJ Euro Stoxx:** Dow Jones Euro Stoxx is a paneuropean stock index which includes the most important 326 values of the general Dow Jones index, belonging to eleven countries of the Eurozone.

**EBIT:** Operating result.

**Equity (per share):** Equity divided by the average number of shares for calculating IFRS results. The same denominator is used in calculating cash flow and REBITDA per share.

**Free cash flow:** Cash flow from operating activities (including dividends from associates and joint ventures) + cash flow from investing activities (excluding acquisitions and sales of subsidiaries and other investments).

**FTSEurofirst 300:** The FTSEurofirst 300 Index tracks the equity performance across the region of the 300 largest companies ranked by market capitalisation in the FTSE Developed Europe Index.

**IFRS:** International Financial Reporting Standards.

**LTI:** Long Term Incentive.

**M&A:** Mergers and Acquisitions.

**Natural Currency Hedge:** A natural hedge is an investment that reduces the undesired risk by matching cash flows (*i.e.* revenues and expenses).

**Net financial expenses:** comprises cost of borrowings minus interest income on lendings and short-term deposits, plus other gains (losses) on net indebtedness and costs of discounting provisions (namely, related to post-employment benefits and HSE liabilities).

**NYSE Euronext:** Global operator of financial markets and provider of trading technologies.

**OCI:** Other Comprehensive Income.

**PPA:** Purchase Price Allocation – The PPA impacts are created by the reevaluation of assets, liabilities and contingent liabilities of Rhodia at fair value at acquisition date (IFRS 3).

**PSU:** Performance Share Unit.

**REBIT:** Recurring operating result.

**REBITDA:** Operating result before depreciation and amortization, non-recurring items, temporary step-up of inventories related to the Rhodia and Chemlogics acquisitions and pre-operational gain/(losses) of RusVinyl resulting from financial expenses (not capitalized).

**ROE:** Return on equity.

**SOP:** Stock Option.

**STI:** Short Term Incentive.

**Velocity:** Total number of shares traded during the year divided by the total number of listed shares, using the Euronext definition.

**Velocity adjusted by free float:** Velocity adjusted as a function of the percentage of the listed shares held by the public, using the Euronext definition.

# Shareholder's Diary

## May 6, 2014

Announcement of 1<sup>st</sup> quarter 2014 results (at 7:30 a.m. CET press release)

## May 13, 2014

General Shareholders' Meeting (at 10:30 a.m. CET)

## May 15, 2014

Quotation ex-dividend (coupon n. 94)

## May 20, 2014

Payment of final dividend 2013 (coupon n. 94)

## July 31, 2014

Announcement of the 2<sup>nd</sup> quarter and six months 2014 results (at 7:30 a.m. CET press release)


## November 13, 2014

Announcement of the 3<sup>rd</sup> quarter and nine months 2014 results and the interim dividend announcement for 2014 (at 7:30 a.m. CET press release)

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**Solvay sa**

Rue de Ransbeek, 310  
1120 Brussels  
Belgium

T: + 32 2 264 2111

F: + 32 2 264 3061

[www.solvay.com](http://www.solvay.com)



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