9
Risk management

1. Introduction 135
2. Risk management process 135
3. Solvay’s main risks 137
   Security 138
   Ethics and compliance 138
   Industrial 139
   Transport accident 140
   Climate change 141
   Chemical product usage 141
   Emerging risks 142
4. Other risks 143
   Important litigation 146
   Antitrust proceedings 146
   HSE-related proceedings 146
   Pharmaceutical activities (discontinued) 146
Risk management

1. Introduction
In a context of global economic and political uncertainty, evolving power balances, changing growth dynamics, shortening market cycles, rapid technological evolution, and increased sensitivity and expectations related to climate change and energy transition, Solvay believes that effectively monitoring and managing risks is key to achieving its strategic objectives.

2. Risk management process

The risk assessment process – endorsed by the Solvay’s Board of Directors – helps the Group achieve its business objectives, both financial and extra-financial, while respecting laws, regulations, and the Solvay Code of Business Integrity.

Solvay’s Enterprise Risk Management (ERM) approach is a key mechanism for achieving short, medium-, and long-term objectives.

Solvay’s business is diverse, entrepreneurial, and international. Operations face a number of significant risks. Accordingly, Solvay has designed a dynamic process in which key players assess the risks in their area of responsibility and/or expertise.

All GBU’s conduct risk assessments as an integral part of their annual strategic review process

Risk analysis
Solvay’s systematic risk management approach is integrated within its strategy, business decisions, and operations. It ensures that Group leaders proactively identify, assess, and manage all potentially significant risks. Risk assessment helps create value in the short, medium, and long term, and always takes sustainability into consideration. Two of the four main impact types used to assess risks reflect our growing sensitivity to extra-financial issues, namely impacts on people and on the environment. The other two – economic and reputational impacts – directly affect the Group’s operational and financial performance. In line with Solvay’s strategic objectives, risks are then categorized as follows: “main risks” (rated as the most critical), “emerging risks”, and “other risks”.

<table>
<thead>
<tr>
<th>Economic impact</th>
<th>Impact on people</th>
<th>Impact on the environment</th>
<th>Impact on reputation</th>
</tr>
</thead>
</table>

Deciding how to manage critical risks
Both day-to-day and strategic decision-making take all key risks and opportunities fully into account using financial and extra-financial criteria.

Implementation of risk management actions
Risk management is a key success factor for Solvay. Improvements to Solvay’s Enterprise Risk Management methodology are allowing individual GBU’s and Functions – and the Group as a whole – to more effectively prioritize risks and focus their risk response. A dedicated dashboard is updated twice a year to reflect both progress on mitigating actions and new developments in the risk environment.

Monitoring of risk management actions
Critical risks for the Group are closely monitored by the Group Risk Committee – members of the Executive Committee are appointed as Risk Sponsors – to ensure that these risks are adequately addressed. Particular attention is paid to cross-checking the analysis with the materiality analysis performed by the Sustainable Development & Energy Function.
A sound risk management system embedded at all levels of the Group

GBUs and Function leaders are accountable for identifying, monitoring and managing the key risks in their domains. Risk management is therefore strongly embedded in the day-to-day running of each entity, and operational managers can react rapidly when circumstances change. The risk management process is a valuable mechanism for GBUs and Functions because it guides their priorities and makes it more likely they will achieve their business goals.

Group level risks are managed with contributions from the Senior Leadership Team for identification, the Group Risk Committee for assessment, and the Executive Committee members for sponsorship for treatment and risk response. The Audit Committee meets once a year with the Chairman of the Executive Committee, the CEO, and other members of the Board to discuss the major risks facing the Group. During the year, the Audit Committee benefits from Risk Owners’ presentations on Group risks, for example on industrial safety, security, cyber risk, ethics, and compliance.

Assessing major projects linked to Solvay’s transformation

An appropriate risk assessment methodology is applied to significant projects, such as acquisitions, major capital investments, and transversal projects.

Internal control is one aspect of risk management. Please refer to the Corporate Governance section of this Annual Report for a detailed description of Solvay’s risk management and internal control system.

Crisis preparedness operates a structured network within the Group. Assigned members perform tasks and implement programs to ensure the readiness of their business units and functions. These programs include crisis simulations, media training for potential spokespersons, maintenance of key databases, and analysis of relevant internal and external events. The risks identified through the Enterprise Risk Management approach influence the scenarios used in the simulations.
3. **Solvay’s main risks**

The Group Risk Committee has assessed the level of control over Group risks and their impacts, using a four-level scale for each criterion.

The Committee considered four main types of impact: economic impact, impact on people, impact on the environment, and impact on reputation. It assessed the level of control by considering the following questions:

- Are the mitigation/controlling actions defined?
- Are the actions implemented, fully or partially?
- Is the effectiveness of those actions monitored?

The criticality level is determined by combining the risk’s two ratings (impact and level of control) at the time of the assessment.

<table>
<thead>
<tr>
<th>Criticality</th>
<th>Risk</th>
<th>Trend</th>
<th>Sustainable development high materiality aspects</th>
<th>Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Security</td>
<td></td>
<td>Data security and customer privacy</td>
<td>Employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Critical incidents management</td>
<td>Local communities</td>
</tr>
<tr>
<td></td>
<td>Ethics and Compliance</td>
<td></td>
<td>Management of the legal, ethics &amp; regulatory</td>
<td>Suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>framework</td>
<td>Employees</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
<td></td>
<td>Critical incidents management</td>
<td>Investors</td>
</tr>
<tr>
<td></td>
<td>Transport accident</td>
<td></td>
<td>Waste and hazardous materials</td>
<td>Suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Critical incidents management</td>
<td>Employees</td>
</tr>
<tr>
<td></td>
<td>Climate change</td>
<td></td>
<td>Greenhouse gas emissions</td>
<td>Customers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Energy</td>
<td>Local communities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sustainable business solutions</td>
<td>Employees</td>
</tr>
<tr>
<td></td>
<td>Chemical product usage</td>
<td></td>
<td>Waste and hazardous materials</td>
<td>Investors</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sustainable business solutions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emerging</td>
<td></td>
<td>Energy</td>
<td>Planet</td>
</tr>
<tr>
<td></td>
<td>Environmental impact</td>
<td>Emerging</td>
<td>Water and wastewater</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geopolitical risks</td>
<td>Emerging</td>
<td>Greenhouse gas emissions</td>
<td>Planet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sustainable business solutions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Management of the legal, ethics &amp; regulatory</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>framework</td>
<td></td>
</tr>
</tbody>
</table>

Emerging risk: newly developing or changing risk that may have, on the long term, a significant impact which will need to be assessed in the future.

The description of the risks relevant to Solvay and the Group risk-reduction actions are listed below. The mitigation efforts described do not guarantee that risks will not materialize or impact the Group, but they show how Solvay proactively manages risk exposures.
Security

Risk description
A security event such as terrorism, crime, violence, vandalism, theft, or cyber attack, which would impact employees, sites, assets, critical information, or intellectual property and could have negative consequences for the business.

Prevention and mitigation actions
- Solvay has a threat-, risk-, and compliance-based security approach to protecting sites, information, and people.
- A Group Security Director coordinates all security activities globally in order to ensure efficient security risk mitigation.
- Two governance bodies lead the security risk management effort:
  - a Security Board, chaired by the CEO and
  - a Security Coordination Working Group, chaired by the Group Security Director, which aims to run a continuous security threat monitoring program and an optimized security program for the Group.

Cyber security program
The two Governance bodies leading the security risk management effort also supervise the Cyber security program.
- External experts conduct independent assessments, including penetration tests.
- Solvay Business Services (SBS) has renewed its ISO 9001:2015 quality management program for all its activities and obtained its ISO 27001:2013 certification. The latter encompasses cybersecurity for the majority of its information systems activities.
- All SBS information systems professionals have completed training on information system security policies and best practices.
- End-user security training remains mandatory for all employees. Cybersecurity tips are published regularly to increase employee awareness.

A significant cyber-attack could negatively impact the company's operations and results. Therefore, the Company will continue to solidify its cyber defenses to manage the evolving cyber threat landscape.

Insurance
Solvay is insured against the potential financial impact of a cyber event stemming from damage to assets, business interruptions, and cases of fraud.

2019 main actions
- The Group created the role of Security Champion in the GBU and Functions to facilitate a coordinated approach to managing security risks in the Group. These Champions are the voice of their entities within the Security Coordination Working Group. They ensure that governance is implemented in a consistent manner with business priorities.
- The Group is launching a Data Protection Plan to protect its sensitive information and has completed projects to make high-risk sites more secure.
- Solvay continues to enhance its overarching cyber security strategy and governance, develops its corporate information security program, and explores other functions/capabilities to enrich the company's security posture and ability to respond to a cyber-related threat.

Ethics and compliance

Risk description
Risk arises from a potential failure to comply with:
- Solvay’s Code of Business Integrity and all supporting policies and procedures,
- Laws and regulations in the jurisdictions in which Solvay operates.

Examples:
- Failure to implement good governance in a joint venture,
- Direct or indirect involvement in human rights violations,
- Intentional misstatement of financial reporting,
- Corruption and by-passing of internal controls.
Prevention and mitigation actions

Solvay’s Code of Business Integrity, policies, and procedures:

- Has been updated and supplemented, and the new version has been deployed in early 2020, and
- Applies to all employees, critical suppliers, and majority-owned joint venture partners.
- In addition, Solvay has deployed several training courses and communication actions to address behavioral risks.

Specific training courses to mitigate specific risks include:

- Anti-bribery and anti-corruption, Anti-competition, and the Gift & Entertainment Tracking System Policy,
- Human Rights in Business Policy: implementation, governance and training,
- The Group-wide Speak Up program for reporting non-compliance, either directly to management or to a third-party helpline.

2019 main actions

- More than 96% of employees received training on Solvay’s Code of Conduct. A new Code of Conduct, renamed the Code of Business Integrity, has been launched in January 2020.
- A Global Human Rights Committee has been appointed to oversee implementation, compliance, and training on the Group Human Rights policy.
- More than 97% of pre-identified leaders and employees in sensitive positions have attended Anti-Bribery and Anti-Corruption (ABAC) training.

Industrial

Risk description

A major accident on site (occupational, process) or chronic exposure of employees (industrial hygiene) can cause fatalities, irreversible injuries, or damage to the environment or assets.

Prevention and mitigation actions

During 2018 and 2019 Solvay redefined its strategy for HSE and issued a new set of Solvay HSE Minimum Requirements to create a shared understanding and approach to mitigating our major risks. As part of this new approach, Solvay also implemented a new way of working, including a more collaborative and supportive approach to HSE across the Group.

Solvay’s HSE strategy is based on the following four levers:

- Culture: Promoting the desired safety culture across all employees and contractors,
- Continuous improvement: Utilizing networking, best practices sharing, use of common methods and tools, Solvay HSE Minimum Requirements, external watch and benchmarking to grow our HSE performance,
- Competency: Ensuring all employees have the right level of knowledge and understanding to take decisions that impact HSE, beginning with key positions; and
- Compliance: Detecting and mitigating regulatory and non-regulatory compliance issues with a focus on priority risks in both operations and products.

There are three industrial risks considered:

1. An occupational safety incident which results in a fatality or irreversible (life-altering) injury.
2. A significant process safety incident which results in fatalities, irreversible injuries, environmental harm, and/or loss of physical assets.
3. A chronic release of chemicals that results in irreversible harm to people or the environment.

Occupational safety

Solvay has always maintained a strong focus on occupational safety. While the Group has seen a consistent reduction in the number of workplace injuries over the years, Solvay has averaged one fatal injury (including contractors) per year since 2010. In order to make a sustainable change, in 2018, Solvay began its journey to creating a Safety Culture where all employees work together and care for one another. The initial results have been positive with a 30% reduction in the number of injuries over two years and no fatalities for the past two years (first time since 2000 that the Group has had two consecutive years without a fatality).

Solvay’s Safety Excellence Plan supports the development of a strong safety culture through the involvement and engagement of all Solvay employees. The Safety Excellence Plan includes such activities as Safety Days, Leadership Safety Visits, Behavior Based Safety programs, and an individual HSE objective for each employee.

All Solvay HSE Minimum Requirements for the Solvay Life Saving Rules (SLSR) have been implemented. The implementation process included onboarding, gap assessments, and follow-up audits at the local level.

Occupational Safety results are reviewed monthly by GBU leaders and at the Executive Committee level.
Process safety management
Solvay applies a preventive risk-based approach founded on systematic process safety risk analyses and management of change processes.

Industrial hygiene
Solvay has implemented a comprehensive approach to reducing chemical exposure risk in the workplace. Our approach includes: chemical risk assessments, risk based medical surveillance, using both qualitative and quantitative methodologies, pandemic preparedness plans, and human biomonitoring when warranted. In addition, for some chemicals (e.g. nano materials), Solvay defines more conservative exposure limits.

Environment
As a minimum requirement, the discharges of substances from our plants meet all local applicable emission limit values. In addition, for chronic releases of potentially dangerous chemicals, risk assessments are made on a periodic basis to ensure that the impact on the environment or on the neighbouring population falls within strict limits, determined by environmental quality standards or by exposure limits.

2019 main actions

Occupational safety
- Release of new Minimum Requirements for Solvay Life Saving Rules, including onboarding and gap assessments in all sites,
- Ongoing deployment of "Creating Safety" Culture (training and sharing),
- Medical Treatment Accident Rate: 0.44.

More info: 2.3 Health, safety and environmental management

Process Safety
- Over 80 e-learning courses for process safety,
- 26 new Process Safety Risk Analysis leaders trained,
- 92% of all sites have had a process hazard assessment in line with Group requirements within the last five years (2020 target – 100%),
- No high-risk situations (Level 1 risk sheets) older than one year.

Critical incident risk management

Industrial Hygiene
Further roll-out of a new global tool, SOCRATES (Solvay OCCupational Risk Assessment Tool to EmployeeS) to (1) give widespread, easy access to IH methods, tools and databases, (2) consistently perform and document IH risk assessments, (3) enhance traceability of an individual’s potential exposures throughout their working life.

Employee health & safety

Environment
- Detailed reporting of environmental emissions (air, water and waste), as well as water management annually (SERF).
- Report and track environmental releases that exceed permit limits.

Transport accident
Trend: Stable

Risk description
An accident in connection with hazardous chemical transportation poses the risk of injury to neighbors or the public.

Prevention and mitigation actions
- Internal e-learning courses on transport safety,
- Global network of dangerous goods safety advisors,
- Global qualification process for dangerous goods carriers,
- Development of internal procedures and guidelines based on the transport safety recommendations of associations such as CEFC (European Chemical Industry Council), EUROFLUOR (European Technical Committee for Fluorine), and HFPI (Hydrogen Fluorine Industry Practices Institute),
- Implementation of programs such as Responsible Care®,
- Follow-up of transport accidents with development of corrective actions and lessons learned bulletins,
- Worldwide emergency response helpline (level 1, available 24 hours a day, 7 days a week) in the language of the caller.

2019 main actions
Continuing Solvay transport safety program to reinforce preventive actions.
Climate change

The Group strategy to address climate-related risks (as defined by TCFD[*]) could be ineffective and damage Solvay’s reputation, causing business losses, undervaluation, and difficulty attracting long-term investors.

- Policies and legal context: regulations and actions to limit CO2 emissions, for example increasing the price of greenhouse gas (GHG) emissions,
- Technology: unsuccessful investment in new, lower-emission technologies,
- Markets: failure to adapt to changing customer behavior,
- Reputation: negative stakeholder attitudes if their climate change concerns are not addressed effectively,

Prevention and mitigation actions

- Solvay’s strategy focuses on businesses with higher added value and less environmental exposure.
- Every year, the Sustainable Portfolio Management (SPM) tool assesses the environmental exposure of our sales and our innovation projects portfolio. SPM includes climate-related criteria aligned on 2°C scenarios.
- Solvay has a GHG emissions reduction plan.

2019 main actions

Solvay mainly works on four workstreams:

- Review of climate-related risks and opportunities for each product in each market with Solvay Sustainable Portfolio Management tool. 19% of our sales are ranked in climate-related solutions, while 3% of our sales are ranked as climate-related Challenges.
- Realization of a 2040 scenario analysis in line with the TCFD recommendations and using as reference the International Energy Agency’s Sustainable Development scenario. The study showed that sales’ opportunities could be larger than negative impacts on costs.
- Realization of a mapping of acute climate-related physical risks with insurers. Seven production sites are located in areas with a 2% annual change of exposition to floods. 11 sites production sites are located in wind exposed areas.
- The mapping of water scarcity risks has been updated based on a database from Hoekstra & al (2016). 21 sites have been identified “at risk”, combining location, water consumption and business interruption costs. Action plans are being developed for each plant, based on their specific situation.

Chemical product usage

Risk description

- Inappropriate use of one of Solvay products in a customer’s plant, or use in applications or markets for which the product is not designed (inappropriate use), or use by the customer that is not endorsed by Solvay can lead to adverse health and environmental impacts, property damage, and resulting litigation.
- The possible consequences of a faulty product include exposure to liability for injury, health impairment and damage, or product recalls. Product liability risk is generally higher for products used in medical devices, healthcare, food contact and feed applications, and sensitive applications in general.
- The inadvertent use or sale of substances that are banned by regulations may occur. In Europe the focus is on Substances of Very High Concern (SVHC).
- Failure to comply with chemical and market regulations in countries where a product is marketed could have negative consequences.

Prevention and mitigations actions

- Solvay Safety Data Sheets (SDS) ensure harmonized content by implementing a common worldwide SAP system for the Group. This SAP system is, however, not yet implemented for Composite Materials; the go-live for this GBU is planned for beginning 2020.
- In particular for SVHC, according to Solvay definition, all GBU perform an annual inventory of those substances in the products they sell. The objective is to have 100% risk assessment and analysis of any available safer alternatives by 2020.
- SDS are constantly maintained and distributed worldwide for all products to all customers in the appropriate languages. Global Business Units ensure that SDS are revised at least every three years for all the products they sell.
- Recall procedures are developed and deployed as prescribed by the product stewardship programs.
- Insurance reduces the financial impact of a product liability risk, including for first-party and third-party product recalls.

[*]: TCFD – Task Force on Climate-related Financial Disclosures
2019 main actions

The Solvay “Product Safety Management Process” (PSMP) identifies risks relating to products marketed by Solvay. It has been updated to integrate new regulatory requirements and additional potential risk causes (legal, supply chain, etc.). All GBU's are currently implementing this process with a specific focus on prioritizing the required risk assessments in the products portfolio and on regularly deploying risk assessments for the most sensitive product applications.

Environmental impacts

Risk description
Solvay’s activities impact the environment through:

- Use of raw materials based on fossil or non-renewable resources,
- Consumption of energy,
- Use of water,
- Production of waste (solid or liquid, hazardous or safe),
- NOx, SOx, Volatile Organic Compounds (VOC) or dust emission,
- Greenhouse gas emissions (see “Climate change” risk).

There is a risk not to meet the rising and more stringent expectations from all stakeholders regarding those impacts on environment.

Prevention and mitigation actions

- Solvay ONE Planet program will set an ambitious long term vision with an intermediary 2030 environmental plan on high materiality environmental aspects.

Geopolitical rivalries

Risk description
The geopolitical rivalries could translate into constraints to the Group operations (tariffs, investments, intellectual property, data ownership, staff mobility...).
4. Other risks

**Market and growth – strategic risk**

**Description**

Pertains to Solvay’s exposure to developments in its markets or its competitive environment, and the risk of making erroneous strategic decisions.

**Prevention and mitigation actions**

- Systematic and formal analysis of markets and marketing challenges with respect to investments and innovation project ramp-ups,
- Regular performance review of strategy deployment,
- Development of GDP+ growth markets: Automotive & Aerospace, Resources & Environment, Electrical & Electronics, and Agro, Feed & Food,
- Development of customized, mission-critical solutions with Solvay key accounts,
- Adaptation of operations to new energy and CO₂ markets,
- Strong focus on cash conversion and generation,
- Disposal of businesses that fall below the cyclicality threshold.

**Supply chain and manufacturing reliability risk**

**Description**

Risks related to raw materials, energy, suppliers, production, storage units, and inbound/outbound transportation.

**Prevention and mitigation actions**

For manufacturing reliability:

- Geographic distribution of production units around the world,
- Maintenance,
- Group property loss prevention program focusing on the prevention and mitigation of damage to assets and loss of profit due to fire, explosion, accidental chemical release, and other adverse events.

For supply chain:

Third-party CSR assessment and adherence to the Solvay Supplier Code, ownership of mines and quarries of trona, limestone, and salt, and programs to reduce energy consumption.

**Project selection and management**

**Description**

Allocation of resources to projects (capital expenditure, mergers and acquisitions) could be misaligned with Solvay’s growth strategy. Major projects may face difficulties and risk falling short of their objectives.

**Prevention and mitigation actions**

- The Investment Committee provides the Executive Committee with an analytical view of capex allocation efficiency and capex plans. Capex Excellence methodology is used for the project portfolio on smaller projects.
- Investment decisions (capital expenditure above €10 million and acquisitions) made by the Executive Committee or the Board of Directors include a sustainability challenge that encompasses an exhaustive Sustainable Portfolio Management analysis of the potential investment.
- A performance analysis is conducted after implementation.

The combination of these actions has led to much better control over EBITDA conversion into cash and a conversion level comparable to similar companies in the industry.

**Regulatory, political, and legal risk**

**Description**

- Laws and regulations can change,
- Solvay may be exposed to circumstances where the normal exercise of public authority is disrupted; or to actual and potential judicial and administrative proceedings (see Important Litigation section),
- Brexit: The content of the FTA (which would manage the future trade relationship) to be negotiated with the UK is very unclear and could have an impact on the laws and regulations applicable to the business,
- Only a limited part of Solvay’s activities may actually be impacted (as an indication, the trade flow between the EU and the United Kingdom represents roughly 3% of the Group’s net sales and 2% of invested capital),
- Rising protectionism and a weakening of the World Trade Organization has already impacted Solvay’s business and will continue to do so in the future.
Prevention and mitigation actions

The Group’s balanced global presence reduces the impact of adverse regulatory and political developments.

A Government and Public Affairs department works continuously with public officials at the national level, including but not limited to European authorities, as well as through the local Belgian embassy.

Financial provisions are made based on Solvay’s awareness of legal risk.

A Brexit task force has been established with the participation of impacted GBU’s and relevant functions. The GBU’s have identified the main risks and are working on mitigation actions under the assumption of a worst case scenario (“no-deal”), aiming to minimize any disruption to our customers.

Coordination between Corporate Trade, SBS and GBU’s has increased to better identify risks and their mitigations.

Financial risk

Description

- Liquidity risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).
- Foreign exchange risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).
- Interest-rate risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).
- Counterparty risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).
- Pension obligation risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).
- Tax litigation risk (see note F35 to the consolidated financial statements, Financial instruments and financial risk management).

Prevention and mitigation actions

A prudent financial profile and conservative financial discipline:

- Investment Grade status: the Group is rated Baa2/P2 (stable outlook) by Moody’s and BBB/A2 (stable outlook) by Standard & Poor’s as of the 2019 closing.

Solvay promotes transparent and regular discussions with leading rating agencies.

Strong liquidity reserves:

- As of the end of 2019, the Group has €0.8 billion in cash and cash equivalents (namely, other current financial instruments), as well as €3.5 billion of committed credit facilities (a multilateral revolving credit facility of €2.0 billion and an additional €1.5 billion from bilateral revolving credit facilities with key international banking partners). All of them were undrawn as of December 31, 2019.

The Group has access to a Belgian Treasury Bill program for €1.5 billion and, alternatively, to a US commercial paper program for US$500 million.

Currency hedging policy:

- Solvay monitors the foreign exchange market closely and takes hedging measures, principally for terms shorter than one year and generally not exceeding 18 months.

Interest rate hedging policy:

- The Group locks in the majority of its net indebtedness at fixed interest rates. Solvay monitors the interest rate market closely and enters into interest rate swaps whenever they are deemed appropriate.

Energy hedging policy:

- Solvay is hedging energy prices. These transactions go beyond 9 months and up to 3 years.

Monitoring of Group counterparties’ ratings:

- For its treasury activities, Solvay works with banking institutions of the highest creditworthiness (selected based on major rating systems) and minimizes the concentration of risk by limiting its exposure to each of these banks to a predefined threshold.

- For its commercial activities, Solvay’s external customer risk and cash collection are monitored by a professional network of credit managers and cash collectors located in the Group’s various operating regions and countries. Their controls 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 few years, to a record low rate of customer defaults.
Pension governance and pension plan optimization:

- Pension governance: Solvay has set guidelines for maximizing its influence over local pension fund decisions within the limits provided by domestic laws.
- Pension plan optimization: reducing the Group’s exposure to defined-benefit plans by either converting existing plans into pension plans with a lower risk profile for future services or closing them to new entrants.
- A global ALM (Asset Liability Management) analysis of the Group’s pension plans, representing about 90% of the Group’s gross or net pension obligations, is performed every three years to identify and manage corresponding risks on a global basis.

Control processes for tax regulation compliance and transfer pricing policies:

- Control processes for tax regulation compliance include monitoring procedures and systems, thorough internal reviews, and audits performed by reputable external consultants.
- Transfer pricing policies, procedures and controls are aimed at meeting the requirements of the authorities.
- Solvay’s Tax department pays close attention to the correct interpretation and application of new tax rules to avoid future litigation.

2019 main actions

- Repayment of a €700 million perpetual hybrid bond (first call date in May 2019), partially refinanced by a €300 million perpetual hybrid bond (first call date in March 2024) issued in December 2018.
- Issuance of a €600 million 10 year senior bond at 0.5% coupon maturing in September 2029 and early redemption of a $800 million December 2020 debt.
- Maturity extension till December 2020 of two bilateral revolving credit facilities for a total amount of €1 billion.
- One-year extension of Revolving Credit Facility exercised until 2024.
- Guarantees management: a new dedicated online tool has been developed in order to handle the workflow between the issue and the release, throughout the contract terms. This new tool generates a comprehensive inventory of financial commitments across the whole Group and facilitates efficient and timely management.

- A Voluntary exceptional cash contribution has been made into the Rhodia Pension Trust Ltd (UK): £100 million as an advanced payment of the yearly contributions agreed in 2018. This voluntary contribution will allow Rhodia Pension Trust Ltd (UK) to reduce risks by further hedging liabilities using an appropriate investment strategy.
- Deployment of a Group-wide bank account management tool allowing for a comprehensive inventory of banking structure across entities, enhancing visibility and control as well as facilitating appropriate and more efficient management of cash.

Environmental risk

Description

Managing or remediating historical soil contamination at a number of sites and complying with future changes in environmental legislation.

Prevention and mitigation actions

- Careful monitoring and management of sites with a history of soil contamination,
- Rolling out a risk characterization approach at every affected site when relevant,
- Local regulatory monitoring,
- Strong governance through a dedicated Environmental Board composed of two Executive Committee members, Industrial Function, and Legal and Finance, to lead the environmental risk management effort.

IT risk

Description

Inability to ensure continuity of services or to provide information services adapted to the needs of the business.

Prevention and mitigation actions

- Dedicated data network and regional internet gateways managed by trusted service providers,
- Annual IT audit program to ensure compliance with information system security policies.
Important litigation

With its variety of activities and its geographic distribution, 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 so as 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 that could have a material impact on the revenues and earnings of the Group.

Ongoing legal proceedings involving the Solvay Group that are currently considered to involve significant risks are outlined below. The legal proceedings described below do not constitute an exhaustive list.

The fact that litigation proceedings are reported below is unrelated 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 financial risk and defense costs (see "Provisions for litigation to the consolidated financial statements" of the present document).

Antitrust proceedings

In 2006, the European Commission imposed fines against Solvay (including Ausimont SpA, acquired by Solvay in 2002) for alleged breaches of competition rules in the peroxygens market for which Solvay was fined.

Joint civil lawsuits were filed before the Court of Dortmund (Germany) in 2009 against Solvay and other manufacturers based on an alleged antitrust violation, claiming damages from the manufacturers on a joint and several basis. The value of the claims is worth €63 million (excluding interest) after settlements were reached between the plaintiff and most of the defendants. Several questions on the jurisdiction of the Court of Dortmund have been submitted to the European Court of Justice, and proceedings before the Court of Dortmund are pending.

In Brazil, CADE (the Brazilian antitrust authority) issued fines against Solvay and others in May 2012 relating to the hydrogen peroxide activity and in February 2016 relating to the perborate activity (Solvay’s shares of these fines amount to €29.6 million and €3.99 million respectively). Solvay has filed a claim with the Brazilian Federal Court contesting these administrative fines.

HSE-related proceedings

In October 2009, the public prosecutor of the Criminal Court of Alessandria (Italy) charged several individuals (including employees and former employees of Solvay and Ausimont SpA, now Solvay Specialty Polymers Italy – SSPI) in relation to alleged criminal violations of environmental laws and public health legislation. The provisional claims of civil parties admitted to the trial amounted to about €105 million.

In December 2015, the Assize Court of Alessandria sentenced three Solvay/SSPI Managers to imprisonment and awarded civil damages of around €400,000. Appeal was lodged by all parties before the Assize Court of Appeal of Turin which rendered its decision in June 2018 confirming: 1) acquittal of two SSPI Managing Directors; 2) sentence of three Solvay/SSPI Managers reduced to 1 year and 8 months imprisonment, these to now be suspended sentences; 3) damages to €400,000 to civil parties, with rejection of other civil claims; 4) dismissal of charge of remediation omission; 5) SSPI not liable for damages to Alessandria Municipality. The Public Prosecutor Office lodged an appeal before the Cassation Court only limited to the duration of the sentence of the three Solvay/SSPI managers whilst the defendants lawyers requested the charges to be dismissed in the merit. With decision rendered in December 2019 the Cassation Appeal of Turin rejected all the lodged appeals and confirmed the judgement of the Assize Court of Appeal of Turin of June 2018.

As of the end of 2016, 17 civil proceedings have been brought before the Civil Court of Livorno (Italy) by past workers and relatives of deceased workers at the Rosignano site seeking damages (provisionally quantified at €9 million) in relation to diseases allegedly caused by exposure to asbestos. Three of the 17 proceedings have been dismissed so far whilst in a fourth one Solvay has been sentenced to pay a negligible amount of damages (<€20,000).

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 testosterone replacement therapy (TTR) litigation focusing on the drug ANDROGEL®. These claims are proceeding at varying rates of resolution.