mirova
Investing in sustainability

Resources: Chemicals

Sustainable Development Sector Analysis Framework

October 2019

This is a methodological document aimed at clarifying how Mirova takes into account sustainable development issues in the framework of the environmental, social and governance analysis of each sub-sector of activity.

An affiliate of: NATIXIS INVESTMENT MANAGERS

Sectors: Basic and specialty chemicals, industrial gases.

The chemical sector is characterized by its variety of products and applications. Players dedicated to one business (industrial gases, for example) rub shoulders with conglomerates integrating a broad spectrum of basic and specialty chemical products dedicated to various customer industries. Additionally, in a complex market environment, some players choose to change their positioning.

By developing innovative applications, or by changing their production processes (development of catalytic processes, implementation of green chemistry principles, etc.), chemical manufacturers have the opportunity to play a significant role in the fight against environmental degradation. However, the sector remains highly exposed to the risks of product toxicity, both for humans and ecosystems. Companies must therefore integrate these risks into their practices and assess their importance in order to reduce them adequately.

Table of contents

Sustainability Opportunities

Chemicals at the Service of Sustainable Development

The chemical industry – "industry of industries" – has a very wide range of applications and customer sectors. It is a tool at the service of all industries. Chemicals are present in almost every object in our daily lives, often discreetly - from soap to food by way of our smartphones. It can also be used to treat waste water, or to dye clothes.

Basic chemicals are typically simple products, manufactured in large quantities but with low added value. They are rarely associated with very green end uses, as evidenced by the example of plastics for packaging. Conversely, specialty and fine chemicals are driving the development of innovative solutions to meet new challenges.

Today's new environmental transition technologies require innovation from the chemical sector. For example, the development of solar energy requires the treatment of silicone for the production of photovoltaic panels, and that of electric vehicles is highly dependent on the ability of the chemical sector to design solutions to improve the electrochemistry of battery energy storage solutions[1].

On another theme, chemicals also make it possible to develop advanced, more efficient, cleaner water treatment solutions, and therefore serve the companies dedicated to this activity.

Finally, in the field of healthcare, chemicals are at the heart of tomorrow's medical developments: industrial gases are notably used as medical gases in hospitals, but also key in the development of home care.

Therefore, players in the chemical industry can position themselves at the service of the environmental or social transition sectors. As they are key to the development of these sectors and will benefit from their structural growth, companies directing their activities towards these sectors will be favored as part of an SRI impact strategy.

We will value players strongly oriented towards sectors naturally exposed to environmental or social transition: health, water, renewable energies, electric mobility, etc.

KEY INDICATORS

- Share of revenue from positively exposed sectors
- CapEx and/or part of the R&D budget dedicated to these sectors

1 The role of chemistry in the development of electric vehicles is developed in the study "The electrification of transportation: a solution for the ecological transition" published by Mirova in April 2019.

Impact Reduction

A chemical company can also offer sustainable development opportunities by offering products that provide an environmental or social benefit compared to current common practices. In order to identify them, the following question must be asked: compared to a Business as Usual situation, does the use of the product provide an environmentally or socially interesting solution? If this is the case, products for a variety of sectors – from automotive to energy, building and consumer goods – will be evaluated favorably.

Typically, industrial gas companies can use different applications of their products to improve the efficiency of their customers' production processes, like oxy-combustion, which optimizes the combustion processes of heavy industrial sectors such as metallurgy.

A number of players in the chemical industry are also present on the market for materials (e.g. membranes) that improve the insulation of buildings and thus their environmental performance.

In the transportation sector, catalytic converters reduce pollution from internal combustion vehicles, and technologies to reduce SOx emissions from maritime transport are also being developed in response to regulatory changes in the transportation sector. In this case as well, the chemical industry is the one driving these developments, and which will benefit directly from the growth of these markets.

The issue of bioplastics and the value of their development deserves to be addressed. Whether biosourced or biodegradable, bioplastics as a whole still represented only 0.6% of global plastics production in 2017, and their growth, as estimated by the industry association "European Bioplastics"[2], will not be able to cover 1% of plastics production by 2022. Today, the majority of bioplastics are actually plastics made from food resources (mainly sugar cane and corn), which does not seem to be a timely development path given the increasing pressure on food resources. Indeed, population growth, changing diets and climate change will create huge challenges to ensure tomorrow's food security. On the other hand, so-called second-generation bioplastics alternatives, i.e. produced from agricultural waste, or bioplastics produced from other materials such as algae, may present interesting opportunities from an environmental point of view, even if they remain very marginal today and their development in the short and medium term faces technical and economic challenges.

Biochemistry is another high-potential field of innovation. The exploitation of biological resources in chemical processes allows significant optimization of industrial processes. Enzymes, for example, are natural catalysts, which can therefore significantly reduce the consumption of a process (in energy or inputs). Nowadays, they are widely used in products such as laundry detergents, but their field of application is widening thanks to innovation. Other applications of biochemistry will be addressed in the study "Resources - Agriculture and Forestry".

The analysis of a chemical company's exposure to sustainable development opportunities therefore requires a detailed understanding and analysis of its product portfolio and associated applications. A company with a significant portion of its activities dedicated to solutions that improve the state of current environmental or social practices will be evaluated favorably.

KEY INDICATORS

- Share of revenue from solutions that improve the state of practices
- CapEx and/or part of the R&D budget dedicated to the development of social or environmental solutions

2 https://www.european-bioplastics.org/

Exposure to Opportunities

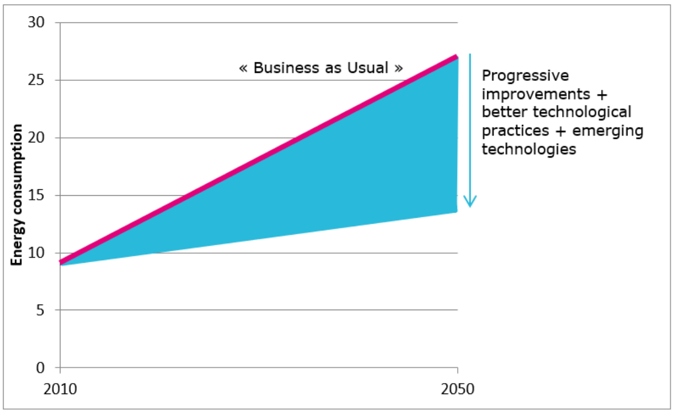
	Indicators considered : % of revenue from sectors contributing to sustainable development + % of revenue from products/applications that improve the state of environmental or social practices	
High exposure	>50%	The analysis of the CapEx and the R&D budget dedicated to activities with opportunities allows us to qualitatively nuance the analysis based on revenue
Significant exposure	Between 20 % and 50 %	
Low or no exposure	< 20 %	
Negative exposure	No activity in the Chemistry sector is currently evaluated at this leve	

Environmental and Social Risk

Environmental Impact of Processes

Chemistry is the industry that consumes the most energy, and is distinguished by the large proportion of this energy from oil and gas derivatives that is used as raw materials. While the sector's energy intensity has already been sharply reduced (-60% between 1990 and 2015 in Europe (CEFIC, 2017)), the International Energy Agency[3] considers that it has significant potential for further reducing this impact.

Figure 1: Potential savings in the chemical industry by 2050 for the first 18 chemicals



Source: Mirova / (DECHEMA, ICCA, IEA, 2013)

In the coming decades, the potential for reducing the energy intensity of the sector lies in process improvements, in particular the development of catalytic process solutions, as well as in the deployment of disruptive technologies such as the use of raw materials from biomass or hydrogen produced from renewable sources.

Many production processes also generate air pollution (SOx, NOx, VOCs contributing to atmospheric acidification) or even soil and water pollution. Stricter environmental regulations require companies to monitor their impact to some extent. Typically, between 2001 and 2010 in Europe, SOx and NOx emissions decreased by 54% and 26% respectively. Nevertheless, these constraints are not homogeneous from one country to another and do not necessarily ensure satisfactory control of environmental risks.

We encourage companies in this sector - as in other industrial sectors with a high environmental impact - to work actively to reduce their environmental footprint by optimizing the energy efficiency of processes, the consumption of water and non-renewable inputs, in particular through the development of the use of recycled chemical compounds or renewable inputs (biomass in the case of green chemistry), etc.

KEY INDICATORS

- Presence of a formal policy, monitoring indicators, quantified targets on key environmental issues (energy, greenhouse gases, water, raw materials, etc.).
- Performance: evolution of impacts over the last years

3 https://www.iea.org/

Industrial Safety

Beyond its environmental impacts, the chemical industry is also among those most exposed to the risk of accidents. These accidents can have repercussions on the environment (emissions or discharges of polluting or hazardous materials into the air, water, soil) but also on human health. Some major accidents are infamous for having marked the history of the industry, among them:

- Seveso, Italy, 1976 (which gave its name to the Seveso Directive in 1982): dioxin leaks equivalent to 500,000 fatal doses to humans; 15,000 people evacuated; 110 ha on which all buildings were razed to the ground; traces of dioxins found in local milk and meat 12 years later - it is estimated that dioxins will remain in the soil until around 2040.
- AZF, France, 2001: explosion of a stockpile of 300 tons of ammonium nitrate digging a 70m-long, 40 m-wide and 5 to 6 m-deep crater; detonation heard more than 80 km away; earthquake of a 3.4 magnitude; 30 dead and more than 2,500 injured.
- More recently, Tianjin – quoted on the left.

Players in the chemical industry must therefore strictly ensure the safety of their operations, from the transport of raw materials to their storage and industrial processes.

An analysis of industrial safety management practices makes it possible to favor companies that have implemented robust processes to reduce these material risks. The analysis of the company's history, particularly in cases where accidents have occurred in the past, completes the assessment.

KEY INDICATORS

- Company’s incidents history
- Formal processes ensuring the deployment of industrial safety procedures on all the company's sites

Worker Health and Safety

The chemical sector is both highly industrial and highly exposed to product toxicity issues. Therefore, worker health and safety are both key issues.

Beyond the risks associated with an on-site accident, exposure to even small amounts of toxic substances can have long-term impacts and cause occupational illnesses.

Companies must implement occupational health and safety policies along with management systems and concrete actions and processes. An increasing performance must reflect the importance attached to this subject. Employee exposure to potentially toxic substances must also be closely monitored.

KEY INDICATORS

- Presence of a policy, monitoring indicators for occupational accidents and diseases, quantified objectives on key issues
- Evolution of performance over the last years

Product Health and Safety

There are regulations allowing some control over the production flows of chemical substances, such as REACH[4] in Europe. However, these regulations are very heterogeneous from one country to another and do not necessarily prohibit the production or sale of substances identified as toxic by reference bodies or regulatory authorities. Companies in the sector therefore have a responsibility to make voluntary commitments to reduce the toxicity of their products.

Major regulatory changes are also being considered in different geographical areas, whether in Europe on the subject of endocrine disruptors or in the United States. The implications will be significant for the sector, and lobbying activities on this issue are frequent, with companies advocating methodologies for assessing levels of risk that would be favorable to them.

On these subjects, certain players stand out for their proactive approach: upstream of regulations, the identification of substances at risk in their activities and an appropriate exposure reduction plan demonstrate a responsible commitment on the part of the company, as well as an ability to anticipate and prevent the costs associated with future regulations.

Product risk management processes must be defined and implemented.

In addition, the company must know its level of exposure to substances identified as toxic and be completely transparent on this issue. We also expect the company to define an appropriate strategy to reduce this exposure. This expectation will be reinforced in the case of companies operating on products banned for sale in certain countries.

KEY INDICATORS

- Company's exposure level to active substances identified as toxic by reference bodies (WHO, EFSA) and to products banned for sale in at least two countries;
- Response to this exposure (targets to reduce it and to stop using some, etc.)
- Presence of a formal risk management policy for use
- Potential existence of product-related controversies and analysis of company reaction

Human Resources

Human resources management is an important subject for all sectors. A company's ability to attract and retain talent, provide a professional development framework and a balanced work environment are all aspects to consider.

In the chemical sector, some companies have problems related to difficult working conditions, particularly on production sites. The existence of jobs potentially exposing employees to toxic substances can be properly managed if the company ensures that the employees concerned will benefit from mobility and will not remain in such positions for too long. Nevertheless, this mobility is an additional form of hardship and a possible source of stress for employees.

In recent decades, some segments in the chemical industry with low added-value have suffered from increased competition on their markets and a decline in the profitability of their activities. As a result, many companies have been forced to close certain production lines, sometimes with a significant social impact. In the event of restructurings, the programmes proposed by the company to ensure responsible management of the employees concerned will be carefully analyzed.

4 https://echa.europa.eu/regulations/reach/legislation

When analyzing the human resources practices of a company in the sector, we will pay particular attention to skills management, specific provisions for employees exposed to difficult working conditions and, where applicable, the responsible management of restructurings.

KEY INDICATORS

- Restructuring: Presence of plans, percentage of workforce reduction, existence of a responsible management process
- Level of formalization of skills management plans and management of difficult jobs

Business Ethics

The chemical sector is not exposed to risks that would be specific to it.

The main controversial issues in this industry are related to product safety and environmental impacts (accidents or non-compliance). Nevertheless, more general topics related to business ethics, such as corruption, are subject to in-depth analysis in the context of controversies.

The risk assessment related to business ethics mainly involves a detailed analysis of the controversies that have affected the company, and the company's reactions, whether on the core subjects of the sector (product safety, environmental accidents, etc.) or on more cross-cutting issues such as corruption.

KEY INDICATORS

- Ongoing litigation and fines paid
- Severe controversies related to business ethics and company responses
- Tax rate

Sustainable Development Governance

The integration of sustainable development into corporate governance is a vector for a deep transformation of the organization and guarantees the robustness of the overall extra-financial strategy. An advanced sustainable development governance, integrating all stakeholders and mobilizing them as part of a long-term vision of the company’s mission also helps generate more sustainable structural growth.

We encourage companies to set up governance bodies dedicated to corporate responsibility. We also support the establishment of mechanisms for the integration of all stakeholders, as well as the alignment of executive interests with the long-term development of the company.

We are also attentive to the company’s effort in order to ensure an equitable distribution of value among all the stakeholders.

KEY INDICATORS

- Quality of the sustainable development approach
- Presence of a director or a committee within the Board specifically in charge of CSR issues
- Integration of extra-financial criteria in variable remuneration schemes
- Equitable distribution of value and tax rate

Risk Assessment

	Criteria
Positive	Does not meet « Risk » criteria AND Absence of exposure to active substances identified as toxic by reference bodies (WHO, EFSA) (or identified target for phase out), absence of exposure to products banned for sale in at least two countries (or identified target for phase out). AND satisfactory management of worker health and safety issues AND satisfactory management of industrial safety risks AND satisfactory management of environmental risks
Neutral	All other cases
Risk	Repeated controversies with insufficient or inadequate company response OR - Lack of satisfactory management of health and safety risks OR - Sale of chemicals banned in certain countries without a 3-year target for phase-out (limit: 2% of sales) OR - Industrial activities with significant direct environmental impact and lack of management of the issue (monitoring of environmental indicators)

Conclusion

The chemical sector presents many opportunities. Many product developments enable progress in terms of the environmental footprint of client industries, and in a more disruptive way, whole areas of the environmental transition depend on the chemical sector's ability to innovate (the development of electric vehicles, for example).

However, it is also a highly industrial sector which is strongly exposed to major environmental and social risks, producing numerous potentially toxic compounds or compounds with known dangerousness: therefore, employee health and safety, industrial safety, product safety and environmental impacts represent important issues. The materiality of these risks is proven, and we will therefore favor companies that demonstrate robust risk management.

On the other hand, a company for which we identify risk management shortcomings may be excluded from our investment universe and will be the subject of engagement actions on our part: we will encourage it to initiate or strengthen certain actions or practices in order to meet our expectations as a responsible investor.

Our Approach to sustainability assessment

Acting as a responsible investor requires interpreting the economic world within its social and environmental context. This approach calls for understanding the interactions between different private-public players, small-medium-large companies, developed and developing economies to ensure that each player's growth is consistent with the balance of the rest of the system. It is a long-term approach that guarantees that today's choices will not lead to negative consequences for future generations. Understanding these complex relationships demands:

- Clear understanding of sustainable development issues facing our societies,
- Assessing the possible interactions between the assets of our investment strategies and these sustainability issues.

The SDGs as a Guide

Following the Millennium Development Goals created in 2000, the United Nations set out a new framework for sustainable development in 2015. It contains 17 Sustainable Development Goals (SDGs), broken down into 169 specific targets designed to address the main social and environmental issues between 2015 and 2030. In addition to having been adopted by all members of the United Nations, the SGDs offer several advantages.

First, they establish a comprehensive framework concerning environmental and social issues, applicable to all economies regardless of their level of development. Thus, while some issues such as ending hunger or ensuring access to water for all are often more relevant for low- and middle-income countries, other objectives such as fighting climate change or making cities safe, resilient and sustainable, are applicable at all levels of development.

Moreover, the SDGs can be considered as a frame of reference for sustainable development issues for a variety of actors, from governments to companies and investors. The private sphere is increasingly considering environmental and social issues, illustrating new forms of governance where subjects of general interest are no longer solely the prerogative of the public sphere. Considering the SDGs can help companies to think on how they create environmental, economic, and social value.

Finally, the SDGs help investors to question the long-term resilience of their assets and portfolios to the ongoing transformations. Then, investors can go even further by looking at their exposure to new solutions and economic models that will respond to long-term economic transformations. For example, the targets associated with the SDGs to significantly increase the share of renewable energy and to double energy efficiency by 2030 imply a profound transformation within the energy sector.

We consider the SDGs squarely in line with our mission. As a result, in 2016, Mirova decided to use this framework to define its responsible investment approach.

Figure 2: The 17 Sustainable Development Goals

1 PAS DE PAUVRETÉ	End poverty in all its forms everywhere	10 INÉGALITÉS RÉDUITES	Reduce inequalities within and among countries
2 FAIM «ZÉRO»	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	11 VILLES ET COMMUNAUTÉS DURABLES	Make cities and human settlements inclusive, safe, resilient and sustainable
3 BONNE SANTÉ ET BIEN-ÊTRE	Ensure healthy lives and promote well-being for all at all ages	12 CONSOMMATION ET PRODUCTION RESPONSABLES	Ensure sustainable consumption and production patterns
4 ÉDUCATION DE QUALITÉ	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	13 MESURES RELATIVES À LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES	Take urgent measures to combat climate change and its impacts
5 ÉGALITÉ ENTRE LES SEXES	Achieve gender equality and empower all women and girls	14 VIE AQUATIQUE	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
6 EAU PROPRE ET ASSAINISSEMENT	Ensure availability and sustainable management of water and sanitation for all	15 VIE TERRESTRE	Protect, restore and promote sustainable use of territorial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
7 ÉNERGIE PROPRE ET D'UN COÛT ABORDABLE	Ensure access to affordable, reliable, sustainable and modern energy for all	16 PAIX, JUSTICE ET INSTITUTIONS EFFICACES	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
8 TRAVAIL DÉCENT ET CROISSANCE ÉCONOMIQUE	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	17 PARTENARIATS POUR LA RÉALISATION DES OBJECTIFS	Strengthen the means of implementation and revitalize the global partnership for sustainable development
9 INDUSTRIE, INNOVATION ET INFRASTRUCTURE	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		

Source: United Nations

Assessing Environmental and Social Quality by the SDGs

We believe that the SDGs will transform the economy as we know it. Acting as a responsible investor starts with taking a broader view of the way investors think about the environmental and social profile of the assets they finance. These interactions can be grouped into two categories:

- **Materiality**: how the current transitions are likely to affect the economic models of the assets financed either positively or negatively.
- **Impact:** how investors can play a role in the emergence of a more sustainable economy

We believe that these two approaches are closely linked. Our evaluation methodology thus seeks to capture the extent to which each asset contributes to the SDGs. From our perspective, this approach provides a relevant vision on both the "Materiality" and "Impact" aspects.

A Five-level Qualitative Analysis

Mirova has based its environmental and social evaluation method on four principles:

A RISK/OPPORTUNITY APPROACH

Achieving the SDGs requires taking two different dimensions into account that often go together.

- Capturing opportunities: when companies center their strategies on innovative business models and technologies focused on technological and societal transformation, they can often capture opportunities related to the SDGs.
- Managing risks: by proactively managing risks related to these transitions, companies can reduce and re-internalize their social and environmental externalities, which often takes the form of general management of sustainability issues.

This analysis structure gives equal importance to opportunities and risks. It is the first prism through which we analyze sustainable development issues.

A LIFE-CYCLE VISION

To identify the issues that could impact an asset, the analysis of environmental and social issues must consider the entire life cycle of products and services, from raw material extraction to end-of-life phase.

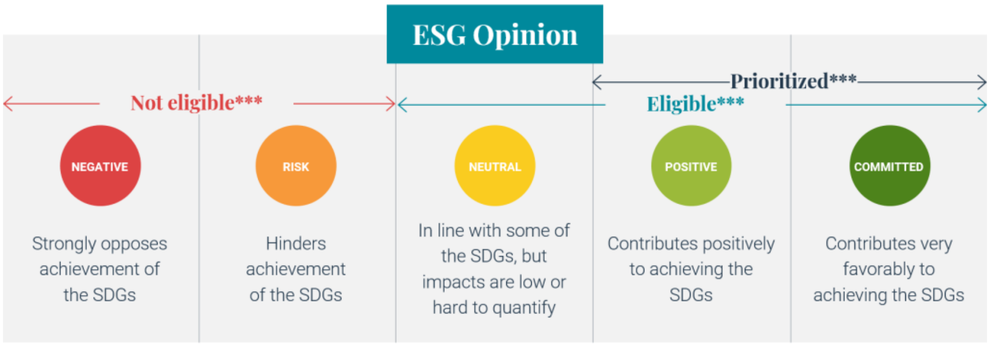
TARGETED AND DIFFERENTIATED ISSUES

Our risk/opportunity analysis focuses on the elements most likely to have a real impact on the assets studied and on society in general. Additionally, the issues that economic players face are very different depending on the sector, and can even vary within the same sector[5]. For example, it is important for us to focus on work conditions for suppliers in the textile industry, while for automobile manufacturers, the focus will be more on energy consumption during product use.

So, our analysis focuses on a limited number of issues adapted to the specificities of each asset.

A QUALITATIVE RATING SCALE

Our analyses are summarized through an overall qualitative opinion on five levels. This opinion assesses to what extent an asset contributes to the SDGs.



***6

This rating scale is based on the SDGs and their achievement. As a result, opinions are not assigned based on a distribution set in advance: we are not grading on a curve overall or by sector. Mirova does not exclude any industry on principle, and carries out a thorough analysis of the environmental and social impacts of any asset. For some sectors, this analysis may lead to the exclusion of all or some of its actors. For example, companies involved in fossil fuel extraction are considered “Risk” at best, while renewable energy companies are generally well rated.

An indicative grid provides some overall guidelines regarding the links between opportunities, risks and the overall sustainability opinion.

Sustainability Risks Review	Negative	Low or no	Significant	High
Positive	Risk	Positive	Positive / Committed	Committed
Neutral	Negative / Risk	Neutral	Neutral / Positive	Positive / Committed
Risk	Negative	Negative / Risk	Risk	Risk

Sustainability Opportunities Exposure

5 For every sector, defining key issues is the subject of a specific study. This document is available on Mirova *website*. https://www.mirova.com/fr/recherche/comprendre#vision
6 *** For Mirova’s investments

Sources

Beijing, A. P. (2015, September 12). Tianjin explosion: China sets final death toll at 173, ending search for survivors. The Guardian, p. 1.

CEFIC. (2014). The European Chemical Industry.

Chemsec. (s.d.). Why investors should care about chemicals. Retrieved from http://chemsec.org/business-and-investors/investors/why-investors-should-care-about-chemicals/

DECHEMA, ICCA, IEA. (2013). Technology Roadmap - Energy and GHG Reductions in the Chemical Industry via Catalytic Processes. Retrieved from http://www.iea.org/publications/freepublications/publication/Chemical_Roadmap_2013_Final_WEB.pdf

ICCA. (2015). Responsible Care Status Report. Retrieved from https://www.icca-chem.org/wp-content/

IEA. (2013). Technology Roadmap - Chemical Industry via Catalytic Processes.

OECD/IEA. (2015). Energy Technology Perspectives 2015.

Trasande, L., Zoeller, R., Hass, U., Kortenkamp, A., Grandjean, P., Myers, J., . . . Heindel, J. (2015, Apr). Estimating burden and disease costs of exposure to endocrine-disrupting chemicals in the European union. Journal of Clinical Endocrinology & Metabolism, 100(4), pp. 1245-55.

DISCLAIMERS

This document is a non-contractual document for information purposes only. This document does not constitute, or form part of any offer, or solicitation, or recommendation to buy, or concede, or subscribe for any shares issued or to be issued by the funds managed by Mirova investment management company. The presented services do not take into account any investment objective, financial situation or specific need of a particular recipient. Mirova shall not be held liable for any financial loss or for any decision taken on the basis of the information contained in this document, and shall not provide any consulting service, notably in the area of investment services.

The information contained in this document is based on present circumstances, intentions and guidelines, and may require subsequent modifications. Although Mirova has taken all reasonable precautions to verify that the information contained in this document comes from reliable sources, a significant amount of this information comes from publicly available sources and/or has been provided or prepared by third parties. Mirova bears no responsibility for the descriptions and summaries contained in this document. No reliance may be placed for any purpose whatsoever on the validity, accuracy, durability or completeness of the information or opinion contained in this document, or any other information provided in relation to the Fund. Recipients should also note that this document contains forward-looking information, issued on the date of this presentation. Mirova makes no commitment to update or revise any forward-looking information, whether due to new information, future events or to any other reason. Mirova reserves the right to modify or remove this information at any time without notice.

The information contained in this document is the property of Mirova. The distribution, possession or delivery of this document in some jurisdictions may be limited or prohibited by law. Each Recipient must ensure he complies with these requirements and prohibitions.

Non-contractual document written in October 2019 by Sarah Maillard.

mirova
Investing in sustainability

MIROVA
French Public Limited liability company with board of Directors
Regulated by AMF under n°GP 02-014
RCS Paris n°394 648 216
Registered Office: 59, Avenue Pierre Mendes France – 75013 – Paris
Mirova is a subsidiary of Ostrum Asset Management.

NATIXIS INVESTMENT MANAGERS
French Public Limited liability company RCS Paris n°453 952 681 Registered Office: 43, Avenue Pierre Mendes France – 75013 – Paris Natixis Investment Managers is a subsidiary of Natixis.

NATIXIS INVESTMENT MANAGERS INTERNATIONAL
French Public Limited liability company Regulated by AMF under n° GP 90-009 RCS Paris n°329 450 738 Registered Office: 43, Avenue Pierre Mendes France – 75013 – Paris Natixis Investment Managers International is an affiliate of Natixis Investment Managers.

MIROVA U.S., LLC
888 Boylston Street, Boston, MA 02199; Tel: 212-632-2803 Mirova U.S, LLC (Mirova US) is a U.S. - based investment advisor that is wholly owned by Mirova. Mirova is operated in the U.S. through Mirova US. Mirova US and Mirova entered into an agreement whereby Mirova provides Mirova US investment and research expertise, which Mirova US then combines with its own expertise, and services when providing advice to clients.

An affiliate of: NATIXIS INVESTMENT MANAGERS