

Finance: Banks and Financial Services

Sustainable Development Sector Analysis Framework

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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:

The financial sector has always been a necessary intermediary in market economies not only because it enables the financing of existing assets but also because, through its allocation strategies, it contributes to frame our economies and their level of sustainability. At Mirova, we believe that finance should not be considered neutral: the industry's ability to leverage on sustainability is tremendous. As public scrutiny faced by financial companies rises, responding the unveil of malpractices during the 2007-2008 financial crisis, Banks and Financial Services companies are likely to adopt more sustainable behaviours. While the macro-economic environment has become challenging for a part of banks' activities, especially lending due to the low-interest policies, banks have remained dynamic through their Corporate Investment Banking branches.

Since the Paris agreement and the adoption of the Sustainable Development Goals (SDGs) agenda, stakeholders have increased their focus on the analysis of the financing of sustainability and especially as regards the fight against climate change. Biodiversity is a more complex issue to measure and to integrate, on which banks will have to catch up rapidly. From ESG risks to financing sustainability and improving financial inclusion, the challenges are pivotal for the future banks' strategies.

Sectors: retail and commercial banks, wealth and asset management (that might be linked with insurance activities), corporate finance and banking, global capital markets. All these activities can be included in the model of universal banks, that often also include specialized financial services (consumer credits, mortgages).

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Specificities of the Financial Sector

A Complex Industry where Sustainability Risks and Opportunities are Intertwined

Given the complexity of the sector and banks' business models, the analysis of sustainability risks and opportunities is not always straightforward. Indeed, the sector gathers companies from Commercial Banks to Corporate and Investment Banks, going through Wealth and Asset Management companies and Insurance and Reinsurance businesses¹. Some companies have developed expertise in all these activities and are referred as "universal banks". Some others are more specialised and usually have a more local footprint and a lower ability to leverage on sustainability. Anyhow, each activity carries a specific responsibility regarding sustainability and is driven by various strategies.

Financial products, such as credits, loans, investment products or services, could be game changers if they contribute to support the shift of financings towards activities contributing positively to the different issues of sustainability. However, the effects of these tools are rarely purely positive or negative on the economy they contribute to finance. In terms of sustainability, their impact mainly depends on two factors:

- The underlying processes of the product structuration i.e. are ESG risks evaluated and integrated in the decision-making process? And to what extent?
- The different sectors and projects the products are oriented to i.e. do the financed projects or companies constitute an opportunity in terms of sustainability?

Table 1: Mapping the Banks and Financial Services' activities

	Commercial & Retail Banking	Corporate and Investment Banking	Wealth & Asset Management
Activities	<p>Accepts of deposits</p> <p>Offers checking account services, various loans, and other basic financial products</p> <p>Offers savings accounts to individuals and small businesses.</p> <p>Retail banking (consumer banking or personal banking) provides financial services to the general public.</p>	<p>Raises of capital for corporates, governments, and other entities via:</p> <ul style="list-style-type: none">▪ underwriting new debt and equity securities for all types of issuers;▪ providing support in the sale of securities;▪ helping the facilitation of mergers and acquisitions, reorganizations, and broker trades for both institutions and private investors.	<p>Management of investments on behalf of others over time while mitigating risk.</p>

¹ Insurance and Reinsurance are subject to a dedicated sectorial review.



Role played in sustainability	As key actor in the day-to-day economy, commercial banks are well-placed to directly finance both transition and sustainable projects.	As financial intermediaries, CIBs could play a key role in supporting the issuers' transition or even encouraging on the development of sustainable strategies.	As funds managers, they play a role in the promotion of sustainable finance to allocate flows towards green and social funds.
Sustainable financial products and services²	<p>Creation and promotion of sustainable savings vehicles such as SRI savings funds.</p> <p>Creation and promotion of incentives towards sustainable loans: low interest rates for specific green projects for example.</p> <p>Dedicated loans or credits to low income customers.</p>	<p>Expertise / Research.</p> <p>Green and Sustainable Loans and Bonds.</p> <p>Green infrastructure finance / green project finance.</p> <p>Green Real Estate.</p> <p>Green and sustainable securitization.</p>	<p>ESG integration methodology and implementation.</p> <p>Methodology on carbon-footprint portfolio impact.</p> <p>Develop sustainable funds: thematic or impact funds.</p>

While the potential for sustainable opportunities in the financial sector is considerable, paradoxically, the number of companies that have been able to unlock these opportunities at a large scale remains low. It can be explained by several characteristics of the sector. First, similarly to other listed industries, banks' sizes and extreme diversity of activities generally limits the share of revenues based on sustainable strategies. Although the number of public commitments made by banks to finance the green economy multiplies, it remains a very limited part of their activity and may only marginally impact their revenues. Second, even when a robust ESG risks management processes have been implemented, the policy rarely ambitions to integrate the financing of sustainability as a material selection criterion. For example, a bank can massively finance "unsustainable" industries such as coal or tar sands while ensuring that the companies or projects they contribute to support do respect a minimum set of ESG criteria. The level of opportunities very much depends on geographical considerations, type of clients or projects. It also creates an ambiguous continuum between risks and opportunities that can increase sustainability and reputational risks for banks. As a result, the identification and measurement of ESG risks often remains preponderant in our analysis, compared with potential sustainable opportunities.

² Non-exhaustive list



Sustainability Opportunities

Financing the Transition to a Low-Carbon Economy

Curbing the temperature increase to 1.5-2°C to reduce the impact of climate change is the major challenge of the twenty-first century. The financial sector can play a key role in orienting capital flows towards low-carbon sectors positively contributing to the energy transition.

In this regard, for banks, committing to new green financings may not be the most challenging part of the equation: most of them who claim to act on climate change are already committed to increase their financings of renewable energies. Although a positive sign, it remains insufficient to deeply modify banks' overall capital allocation. Commitments to reduce fossil fuels financings has remained very limited and most of the time restricted to coal financings. Indeed, fossil fuels financing may represent an important share of revenues for banks, especially in specific geographies and if their investment banking segment (CIB) is highly active. Indeed, fossil fuels represented an average of 7% of investment banks' revenues in 2018³ whereas fossil fuels represent less than 5% percent in average of national economies revenues.

It is therefore necessary to decrease the share of brown financings in banks' activities, in order to align with the Paris agreement objectives. It does not imply to entirely divest from fossil fuels, but in a sufficient proportion to align the financed energy mix with a 1.5-2°C transition pathway. Indeed, according to the IPCC report, to reach these objectives, coal share in the energy mix will have to decrease by more than 80% by 2050, oil by more than 65%, and gas, which is often considered as a "transition" source of energy will also have to decrease. (More details available on Appendix). To reach this targeted energy mix, banks and other financial companies have their share of responsibility. For this reason, they are expected to drastically reduce these activities support and to encourage the transition of the companies towards more sustainable sources of energy. While energy is both at the core of our economic system and the highest source of carbon emissions, it is not the only sector requiring financing support. Indeed, low-carbon economy will also rely on the development of ambitious green financial vehicles for sectors such as buildings and real estate, mobility or consumption.

Banks can contribute to the energy transition through an ambitious and comprehensive climate strategy covering the entire energy mix, to align their financings with the Paris Agreement. This can be done through the development of loans, green bonds and other financial services dedicated to sectors or companies providing solutions for the energy transition, and the reduction of financial services for fossil fuels and other high-emitting industries (steel, concrete, etc.).

Asset managers can allocate their clients' savings to impact funds that commit to align with a 1.5 to 2°C scenario, and retail banks can offer them to their clients. Retail banks can also develop products such as low interest rates on climate-friendly loans (housing renovations).

We privilege banks implementing these products on a significant and meaningful portion of their activities.

KEY INDICATORS

- Commitment to align its financed energy mix with a 1.5/2°C scenario: concrete implementation steps, comprehensive and meaningful scope
- Transparency on the energy mix financed by the bank, for all energy sources (fossil, renewable, nuclear), energy efficiency, and potentially other emitting industries, for all banks' segments of activity

³ Source: the intelligence company Development Coalition

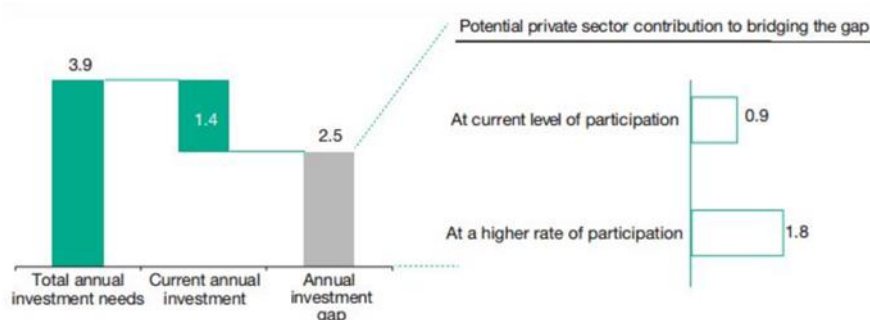


- Coherent trend of financings (decreasing of fossil fuels, increasing of renewables and energy efficiency)
- Offer of loans and funds earmarked to the transition for retail customers

Financing Products and Services with High Social and/or Environmental Impact

Climate challenge might be the most tangible one, it is not the only area of sustainability to which the financial sector can substantially contribute. Overall, the financing of projects and companies with a positive impact on the UN Sustainable Development Goals (SDGs), at a large scale with infrastructure projects, or at the local scale with social entrepreneurship and economy based on solidarity, represents a major opportunity for banks to contribute to the sustainability transition. With an annual investment gap estimated by UNCTAD at \$2.5 trillion to achieve the SDGs, the private sector has a major role to play. Banks with operations internationally and have a diversified client base are in a better position to elaborate a strategy to finance the SDGs.

Figure 1: Estimated annual investment needs to achieve the UN SDGs and potential private sector contribution (trillions of dollars)



Source: UNCTAD, World Investment Report 2014

Banks can contribute to the financing of sustainability through the development of green bonds or by backing sectors or companies that provide solutions for the sustainability transition, based on international and internal standards (SDGs, taxonomies, etc.).

Asset managers can also allocate their clients' savings to thematic funds with a social and/ or environmental target.

Retail banks can develop products such as low interest rates on loans for sustainable projects, micro-credit solutions, or open savings products earmarked to thematic sustainable funds.

Overall, to be estimated relevant, banks should provide such offers at a significant level (10 to 50% of their revenue).

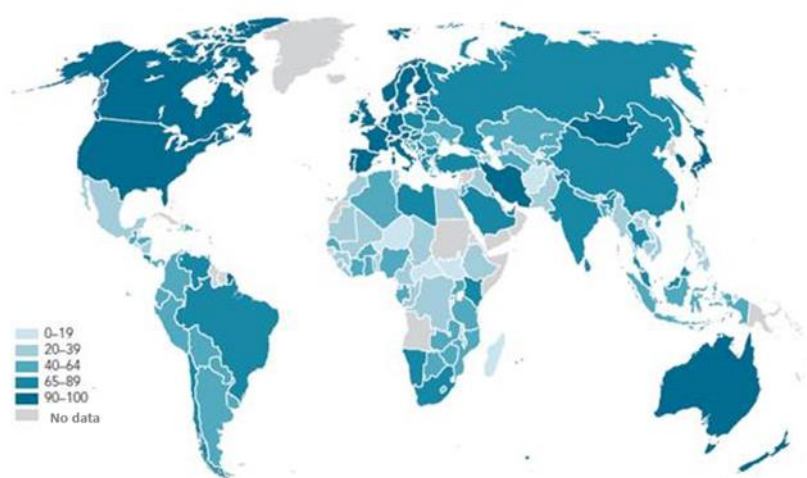
KEY INDICATORS

- Transparency on the proportion of financings dedicated to assets contributing positively to the SDGs or to sustainability with clear assessment methodology
- Level of financings dedicated to assets that positively contribute to the SDGs / sustainability
- Portion of AUM dedicated to high-impact investment strategies (including green bonds)
- Portion of personal loans (including micro-credit) attributed to green or sustainable products/ projects

Access to Financial Products and Services

Financial inclusion is a key enabler to reduce poverty. It offers access to affordable and appropriate financial products and services meeting the needs of targeted individuals and businesses: having a transaction account is the first step, followed by extra payments, savings, credit and insurance tools. Exclusion from basic financial services does not only concern developing countries: macro-economic crisis, high unemployment rates, growing inequalities can exclude a significant portion of the population from access to financial services in developed countries too (for example, France's population with a bank account has decreased from 97% to 94% between 2014 and 2017). While 1.2 billion people have opened a financial account since 2011, there are still an estimated 1.7 billion adults worldwide (31% of adults) who don't have a basic transaction account, with lack of financial resources as a key reason. This implies that financial services aren't designed to fit low-income users. Other barriers exist such as distance from a service provider, lack of necessary documentation papers, lack of trust in service providers, etc.

Figure 2: Adults holding a bank account (%)



Source: World Bank, Global Findex

Along with other national public and private efforts, commercial banks can contribute to provide access to financial services for the underbanked through dedicated policies and products. In this regard, fintech and digitalisation can play an important role, especially through mobile phones.

Figure 3: Adults without a bank account with a mobile phone



Source: World Bank, Global Findex database; world poll Gallup, 2017

Market players who develop dedicated policies, technologies and financial products to provide access to financial means for low-income customers are highly encouraged.

KEY INDICATORS

- Dedicated loans and credits to low-income customers
- Commitments and AUM dedicated to microfinance

Exposure to Opportunities

Factors considered:	
<ul style="list-style-type: none"> - Share of activities (loans, asset under management, underwriting, etc) dedicated to green or high sustainable impact products - Commitment to align financed energy mix with 1.5 or 2°C climate scenario - Policy and processes to provide access to financial services for underbanked populations 	
High Exposure	<p>Alignment of energy financings with a climate 1.5 to 2°C [same criteria as for "significant exposure"]</p> <p>AND</p> <p>[Very high levels of commitment to finance renewable energies and/or energy efficiency (>50% of financed energy mix)]</p> <p>OR</p> <p>Overall financing of sustainability: > 50% of financings dedicated to green or high sustainable impact products]</p>
Significant Exposure	<p>Alignment of energy financings with a climate 1.5 to 2°C scenario</p> <ul style="list-style-type: none"> - Commitments to align all fossil fuels financings (including conventional oil and gas) with a 1.5 to 2°C climate scenario on all the significant scopes of activity of the bank - Stable or reducing trend of financing of all fossil fuels over the last 3 years <p>AND</p> <p>Overall financing of sustainability: > 10% of financings dedicated to green or high sustainable impact products</p>
Low or no exposure	All other cases
Negative exposure	N/A

With the exception of companies specialised in microfinance, the theme of universal access to financial services is too rarely at the heart of banks' business model to be easily assessed. Available information is therefore used as a complement but can rarely key in our analysis.



Environmental and Social Risk

The banking sector acts as an intermediary in facilitating capital allocations for the various sectors of the economy. Some environmental and social aspects have an obvious and material financial impact. For example, transitioning towards a low carbon economy could have as a consequence a depreciation in some assets (the so-called stranded assets). Poor environmental leading practices, for example, to soil pollution or biodiversity loss, or poor social practices due to a lack of dialog with communities and human rights violations, could also threaten the license to operate. Ethical issues, such as money laundering, often associated with discrepancies in internal systems can lead to important fines impacting both banks' financial results and clients' trust.

Adverse Effects of Financing the Most Emitting and Polluting Fossil Fuels

Among the different ESG risks associated with banks' lending and underwriting, some are linked with the financing of the most emitting fossil fuels, especially coal and tar sands.

Fossil fuels financing has been first considered as a risk for the financial sector because of three types of adverse effects these assets could have on investors' balance sheet. Mark Carney, in its famous speech of September 2015⁴, classified these risks for the financial sector in 3 categories: transition risks, physical risks and liability risks. This analysis has formed the basis of the Task Force on Climate-related Disclosure (TCFD) and recommendations for climate disclosure. Central banks are also starting to elaborate and implement dedicated stress tests to assess banks' (and insurers) resilience to climate change (in the UK, in the Netherlands and France).

The transition and liability risks will materialise for assets that could become stranded under some energy transition scenarios. In line with our Mirova analysis for the energy sector, the priority should be set in reducing drastically all financings earmarked to fossil fuels, especially coal.

In order to prove efficiency, banks' policies on these sources of energy must integrate several criteria.

First, the scope of reporting should be meaningful and cover all or most of banks' relevant activities (be they rather focused on lending, underwriting, investment or other products and services) and the main activities associated with coal and tar sands (mining, power generation, transportation, etc). Mere monitoring of ESG risks associated with coal mining and thermal coal are not enough, we expect a commitment to reduce financings on a meaningful scope.

Second, these policies should rather be based on the exclusion of any new development in coal or tar sands infrastructures rather than on the exclusion of clients with more than a certain threshold of revenues coming from coal or tar sands (some issuers can be major coal or tar sands developers while these activities might represent a limited percentage of their revenue).

Third, banks' policies should be analysed through their financings levels for fossil fuels and coal, which should be assessed both in absolute terms and in relative terms (compared with the size of the bank), and in terms of trend (stable, increasing or decreasing).

Physical risks should also be rapidly considered by banks. To date, only very few banks do assess precisely the physical risks associated with the assets they hold in their balance sheets and overall in their operations, as demonstrated by I4CE.

4 September 29, 2015 - "Breaking the tragedy of the horizon – climate change and financial stability", Mark Carney, governor of the Bank of England, to the insurance market Lloyds's of London



Based on these criteria and considering the materiality of these stakes for banks, we will favour issuers who anticipate climate risks impacts on their business models and balance sheets. We would also expect that companies are assessing the risks and endorsing relevant policies to phase out coal and non-conventional fossil fuels (especially tar sands).

KEY INDICATORS

- Disclosure on integration of climate risks (liability, transition, physical)
- Commitment to phase out coal (and tar sands oil and gas where relevant) on a comprehensive and meaningful scope

Integrating ESG Elements into Policies and Processes

As indicated by the number of signatories of the Equator Principles and the Principles for Responsible Investment (PRI), the integration of environmental and social criteria in financing and investment activities is becoming mainstream. Moreover, the recent development and launch of the Principles for Responsible Banking (PRB) is another way for banks to improve their processes and commitments to sustainability, to increase transparency and better manage risks. However, being a signatory is not sufficiently binding and cannot serve as a unique criterion to evaluate how the bank's ESG performance.

Dedicated ESG policies and processes can be implemented and sector-specific policies are essential: sensitive industries and areas of activities from an ESG point of view (such as agriculture, defence, gas, palm oil...) are often managed through dedicated policies. Moreover, to be relevant, these criteria should have a material impact on the investment decision-making process.

We value companies which, in addition to industry commitment, have developed sector specific ESG policies applying to all their activities.

Our values also encourage the integration of ESG criteria into all investments, lending and underwriting activities.

KEY INDICATORS

- Signature of main industry principles (PRB, PRI, Equator Principles)
- Formalized specific ESG criteria for relevant sectors and which apply to all the bank's activities
- ESG integration must cover all AUM
- Percentage of employees trained on ESG issues

Business Ethics

In the aftermath of the latest major financial crisis (2007-2008), banking practices have been examined by various national regulators. The main international banks are alleged to have paid 300 billion dollars in fines for bad business ethics practices between 2010 and 2015. Such a bad publicity has intensified the public's, but also some investors', mistrust of banks. More recently, in 2018 and 2019, money-laundering scandals have involved many major banks (for facts that may date back to the end of 2000's until now) and confirmed that business ethics and internal control system should remain a central stake in banks' ESG analysis. The banking sector must take on more responsibility for its practices, in both compliance matters such as corruption, money laundering, market manipulations, embargo violations, tax evasion, and in operational matters such as trading losses and predatory sales.



We encourage companies to strengthen transparency on policies and processes related to business ethics issues.

Compliance must be vertically integrated and must be independent from management units. We will also consider the resources dedicated to compliance and the quality of early warning systems.

We value companies with a clear strategy and a satisfactory track record on business ethics. We penalize companies subject to significant and recurrent controversies.

While we consider the changes in governance made in the wake of litigation, we generally wait until we see whether the changes are proved effective over time.

KEY INDICATORS

- Scopes (business lines and geographies) covered by compliance policies and processes
- Means (IT and human resources) dedicated to ethics policies, compliance policies and breaches prevention
- Company's level of responsibility in, response to and transparency on business ethics controversies
- Organisation of compliance functions and risks
- Importance and age of the company controversies record

Responsible Sales Practices

Commercial practices are often linked to sales targets and are in part responsible for the numerous lawsuits related to predatory selling. The financial sector has understood the need to bring its clients' interests first; the stated goal is to understand the client's needs and to provide them with tailored solutions. Thus, banks' commercial approaches tend to be based on qualitative (service quality) rather than quantitative (sales targets) criteria.

The financial sector is responsible for the products sold. In the wake of the financial crisis, many properties have been repossessed and many clients have found themselves deep in debt. Banks are expected to make tools available to their clients to help them with their financial difficulties.

Financial consumer protection also includes aspects related to prevention of indebtedness. A strong consumer protection regime is key to ensure consumers make well-informed decisions which do not generate additional risks for them. Offering differentiated products to at-risk populations and partnering with organisations that provide aid to this clientele can help to increase access for the "bottom of the pyramid" consumers.

We expect companies to develop responsible sales practices focused on client satisfaction rates rather than quantitative sales targets. The financial sector must engage in proactive dialogue with its clients to identify and anticipate those at risk of debt repayment problems. Partnerships with NGOs can also be beneficial for clients in terms of aid and follow-up.

KEY INDICATORS

- Portion of advisers' remuneration indexed on client satisfaction criteria
- Formal policy for advising debt repayment
- Policy to prevent and respond to indebtedness situations



Human Resources

The financial sector is alleged to have cut over 600,000 jobs since 2008 in the EU. The first wave of layoffs is said to be the 'social price paid for the crisis.' Regulative pressure on equity forces companies to progressively pull out of equity-consuming activities. Additionally, digitalisation tends to change information channels, transforming them from a single channel to a multi-channel approach through technologies such as the internet and mobile phones.

Sound management of the age pyramid requires strategic workforce planning. Further elements, such as additional training, compensation, and work-life balance also help retain competent employees as part of competitive labour market logic and help employees to keep up with the technological changes in their respective fields.

Restructuring policies need to be put in place to help avoid unfair dismissals, or if needed to provide dismissed employees with support services.

We will give preference to companies with proactive HR policies especially on training to ensure talent attraction and retention over time.

KEY INDICATORS

- Formal restructuring policies, list of measures used, scope of application
- Changes in the number of employees over the past 3 and 5 years
- Strategic workforce planning, work-life balance, training programs...
- Turnover, absenteeism, employee satisfaction rate

Data Privacy, Cybersecurity and Data Integrity

Consumer data lies at the very centre of financial institutions business models. The need to protect consumer sensitive data is unprecedented and likely to sharply expand over the next decade. While financial companies are held responsible for protecting their customers data against cyberattacks, they are also expected to use the data in a responsible manner.

Banks are required to protect customer data not only to comply with regulations and data breach laws but also to maintain their customers' trust. They are expected to implement adequate measures and policies to avoid leaks and data breaches. While the exact amount of investment in cybersecurity is not usually disclosed, companies should increase their level of transparency regarding teams' development, processes, trainings and governance of cybersecurity. Moreover, measures implemented to support customers are expected to be disclosed when a cyberattack occurs.

Moreover, regarding data integrity, banks and financial services companies have access to a wealth of information about their subscribers. Simply by analysing bank statements, the company knows about the individual's location, latest activities, health, etc. Data usage is highly regulated in most developed countries, yet, the potential harming power of such information must be kept in mind. Thus, banks and financial services companies should be held accountable for the usage of customer data. Customers should be aware of the company's use of personal data. The main risk is the sale of such information to develop targeted adds. However, human rights could be at stake in less democratized countries, where governments could use the data to monitor or even oppress the population.

Banks and financial companies must protect themselves against any attempt to steal customer data, which is often of a sensitive nature, by implementing a robust cyber security policy including preventive methods, breaches detection methods and customer support in case of data leaks.

In addition, greater transparency on the storage and use of data owned by banks and financial services companies are expected both for the subscribers and the investor.



KEY INDICATORS

- Existence of a robust cybersecurity policy and transparency (R&D investments, size of teams, trainings etc)
- Transparency on the nature of the data owned, the storage conditions and the way they are used
- Track record of data breach controversies over the last 3y & companies' answers

Sustainable Development Governance

Integrating Corporate Social Responsibility (CSR) in the Executive Board (or Supervising Committee) and integrating CSR criteria into compensation for executives must allow for a reorientation of the risk profile for financial players in the long term.

We give priority to companies which integrate CSR into the long-term component of variable compensation and who have a committee dedicated to CSR matters at the Board-level.

KEY INDICATORS

- Integration of CSR criteria into executive managers' long-term variable remuneration
- CSR Governance

Risk Assessment

Factors considered:	
<ul style="list-style-type: none"> - Integration of a relevant carbon policy to mitigate the most important adverse effects of fossil fuels financing (coal and tar sands) - Integration of ESG factors in products and services so as to mitigate ESG risks - Business ethics management and controversy prevention (including - Management of human resources and CSR 	
Positive	Universal investment banks and asset management companies: relevant climate policy for coal and tar sands; AND impeccable business ethics prevention and management (little or no controversies) AND focus on ESG integration issues
	Retail banks: Strong commitments on customer relations / sales practices and prevention of indebtedness AND high level of commitment on CSR and in particular human resources management
Neutral	All other cases
Risk	Universal banks and asset management companies: No or meaningless climate policy for investment / financing (at least on coal and tar sands) OR no integration of ESG factors in all activities and services; OR Business ethics and compliance not sufficiently managed with recent and important controversies
	Retail banks: Controversies on customer relations / sales practices AND No integration of ESG or CSR criteria



Conclusion

The banking sector offers opportunities that can be real game changers in terms of sustainability, be it through offering products and services with a high environmental and social impact or in providing universal access to these products and services. Depending on their business activities, banks will have a different ability to make a positive contribution to the energy transition and, more generally, the sustainability transition. Yet, the banking sector has only scratched the surface on this, but stakeholders' expectations are rising.

Companies are also evaluated on how they manage risks inherent to their activities: integration of the risk of stranded assets and impact on climate change through coal and tar sands policy, integration of environmental and social criteria, business ethics, management of human resources, customer relations and responsible sales practices. With few actual opportunities for banks, sound management of CSR practices can improve the overall opinion for some banks. The sector tends to be highly exposed to ethical controversies, thus, we give preference to companies with a good track record of avoiding controversies and with an identifiable robust business model and long-term strategy.

Finally, our engagement with banks is also based on dialogue and transparency. We expect banks to release meaningful information in their reports and communications to enable investors to have a comprehensive understanding of their entire scope activities and of their level of ambition. A lack of publicly available information will prompt us to contact the company in order to obtain the information we need for our analysis or to incite the company to practice greater transparency.



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 SDGs 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 4: The 17 Sustainable Development Goals

	End poverty in all its forms everywhere		Reduce inequalities within and among countries
	End hunger, achieve food security and improved nutrition and promote sustainable agriculture		Make cities and human settlements inclusive, safe, resilient and sustainable
	Ensure healthy lives and promote well-being for all at all ages		Ensure sustainable consumption and production patterns
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		Take urgent measures to combat climate change and its impacts
	Achieve gender equality and empower all women and girls		Conserve and sustainably use the oceans, seas and marine resources for sustainable development
	Ensure availability and sustainable management of water and sanitation for all		Protect, restore and promote sustainable use of territorial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
	Ensure access to affordable, reliable, sustainable and modern energy for all		Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all		Strengthen the means of implementation and revitalize the global partnership for sustainable development
	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

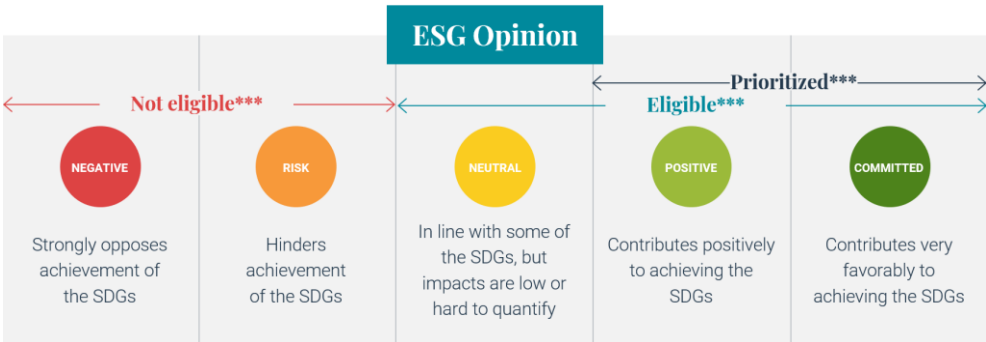
Our risk/opportunity analysis focuses on the elements most likely to have a real impact on the assets studied and on society in general. Additionally, the issues that economic players face

are very different depending on the sector, and can even vary within the same sector⁵. 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	Positive	Risk	Positive	Positive / Committed	Committed
	Neutral	Negative / Risk	Neutral	Neutral / Positive	Positive / Committed
	Risk	Negative	Negative / Risk	Risk	Risk
		Negative	Low or no	Significant	High
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

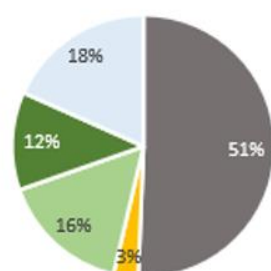


Appendix

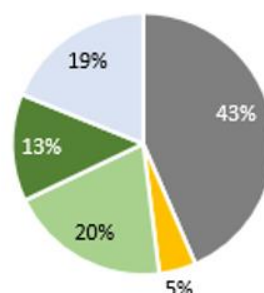
FOCUS ON WHAT BANKS' ENERGY FINANCINGS COULD LOOK LIKE TO RESPECT THE PARIS AGREEMENT

Banks could align their financings for the energy sector match the IPCC +1.5 to 2°C scenario. As can be seen in the graphs below, fossil fuels are not totally excluded in +1.5 and 2°C scenarios but their share in the energy mix – hence in investment projections- drops drastically compared with +3°C or +4°C scenario.

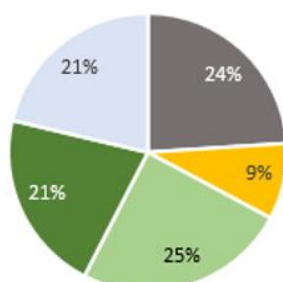
+4°C scenario investment projection
IPCC baseline scenario 2016-2050



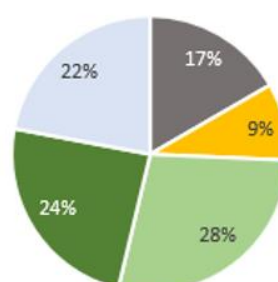
+3°C scenario investment projection
IPCC NDC scenario 2016-2050



+2°C scenario investment projection
IPCC scenario 2016-2050



+1.5°C scenario investment projection
IPCC scenario 2016-2050



■ Fossil fuels ■ Nuclear and CCS ■ Renewables ■ Efficiency ■ T&D and storage

Sources: IPCC special report, *Global warming of 1.5°C, 2017 - average annual investments over 2016-2050 period, in billion \$*, p.155 -Mirova

In its Global Warming of 1.5°C report, the IPCC does not specify the share of each fossil fuel in its investment projections, however the global primary energy supply in a 1.5°C low overshoot pathway⁷ enables to understand how the energy mix should evolve for 2020, 2030, 2050 and how these trends should be integrated in investment projections, so as to align with the last diagram displayed above. It is analysed thereafter in order to provide an estimate of the consequences for banks to adapt their financings in consequence.

⁷ Overshoot levels are estimated by the IPCC for the different pathways envisaged to reach a certain stabilization level (concentration, forcing or temperature) in a defined time horizon. A 1.5°C pathway with no or low overshoot designates a pathway that will enable to stay below or only slightly above the stabilization level during the time horizon of interest (e.g before 2 100). Conversely, overshoot pathways designate pathways that exceed the stabilization level before 2 100 and then decline, requiring removal of greenhouse gases(GHG) in excess by sinks of GHG.



GLOBAL PRIMARY ENERGY SUPPLY FOR 1.5°C PATHWAYS WITH LIMITED OVERSHOOT FROM THE IPCC SCENARIO DATABASE

From the above diagrams on investment projections and details on energy mix evolution needs, the following comments can be made with regards to the alignment of banks' financings with the Paris agreement / 1.5°C scenario.

The IPCC does not specify in its investment projections what would be the share of investments maintained for each source of fossil fuel. We have tried to provide a proxy to understand the trend for fossil fuels on the basis of the global primary energy supply for a 1.5°C pathway with limited overshoot.

Global primary energy supply of 1.5°C pathways from the IPCC scenario database - focus on fossile fuels

IPCC hypothesis: world energy supply decreases by 5% by 2050 (thanks to energy efficiency and despite world population increase)

	Share in the primary energy mix (%) and evolution (median value - rounded numbers)			Growth (median value)
	2020	2030	2050	Total evolution 2020-2050
fossil	83%	67%	33%	-59%
coal	26%	10%	5%	-83%
gas	23%	22%	13%	-40%
oil	35%	31%	13%	-66%

Sources: IPCC 1.5°C report, Mirova

Although fossil fuels will not totally disappear from the energy mix in the coming years, all sources of fossil fuels will have to be reduced drastically. Representing overall 17% of investment needs⁸ for 2016-2050, this corresponds to a drastic and immediate reduction in investments and financings that contribute to long-lasting infrastructures:

- **Coal** will have to decrease by more than 80% by 2050 in the energy mix, with a drastic diminution of roughly 60% over the first 2020-2030 decade; it can be assumed that such reduction can be achieved only if investments banks and issuers stop supporting the development of new facilities (be they in coal mining or thermal coal);
- **Oil** will have to decrease by more than 65% in the energy mix by 2050, on a progressive but increasing basis, with a reduction of about 10% over the 2020-2030 period, and a more drastic reduction close to 60% between 2030 and 2050. Financings and investments should therefore be reduced accordingly and be limited, in the first decade only, to maintain some necessary existing capacities;
- **Gas** will also have to decrease according to the IPCC and is not considered as a "transition" source of energy: its evolution corresponds rather to a stabilisation and slight reduction over the 2020-2030 decade, but it should then drastically reduce too. Investments and financings to develop new gas production capacities as a substitute for other fossil fuels are therefore not compatible with what the IPCC 1.5°C scenario.

These considerations will be progressively taken into account to analyse the climate policies developed by banks:

- alignment with the Paris agreement 1.5°C scenario for all sources of energy (including conventional oil and gas) will be considered as an opportunity in the sustainability opportunities assessment;
- the lack of policy in reducing exposure to fossil fuels, starting with coal, will be considered as a source of ESG risks in our analysis (this section will be commented more in details in the Risk review section below).

⁸ Investments being understood here in a broad sense, as gross fixed capital formation, encompassing investments of all types (equity, bonds) and loans



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