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SUSTAINABLE IMPACT FRAMEWORK

Power Sector

Sectors:

- Independent Power & Renewable Electricity Producers
- Electric Utilities & Multi-Utilities
- Electrical Equipment

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An affiliate of: NATIXIS INVESTMENT MANAGERS

Table of contents

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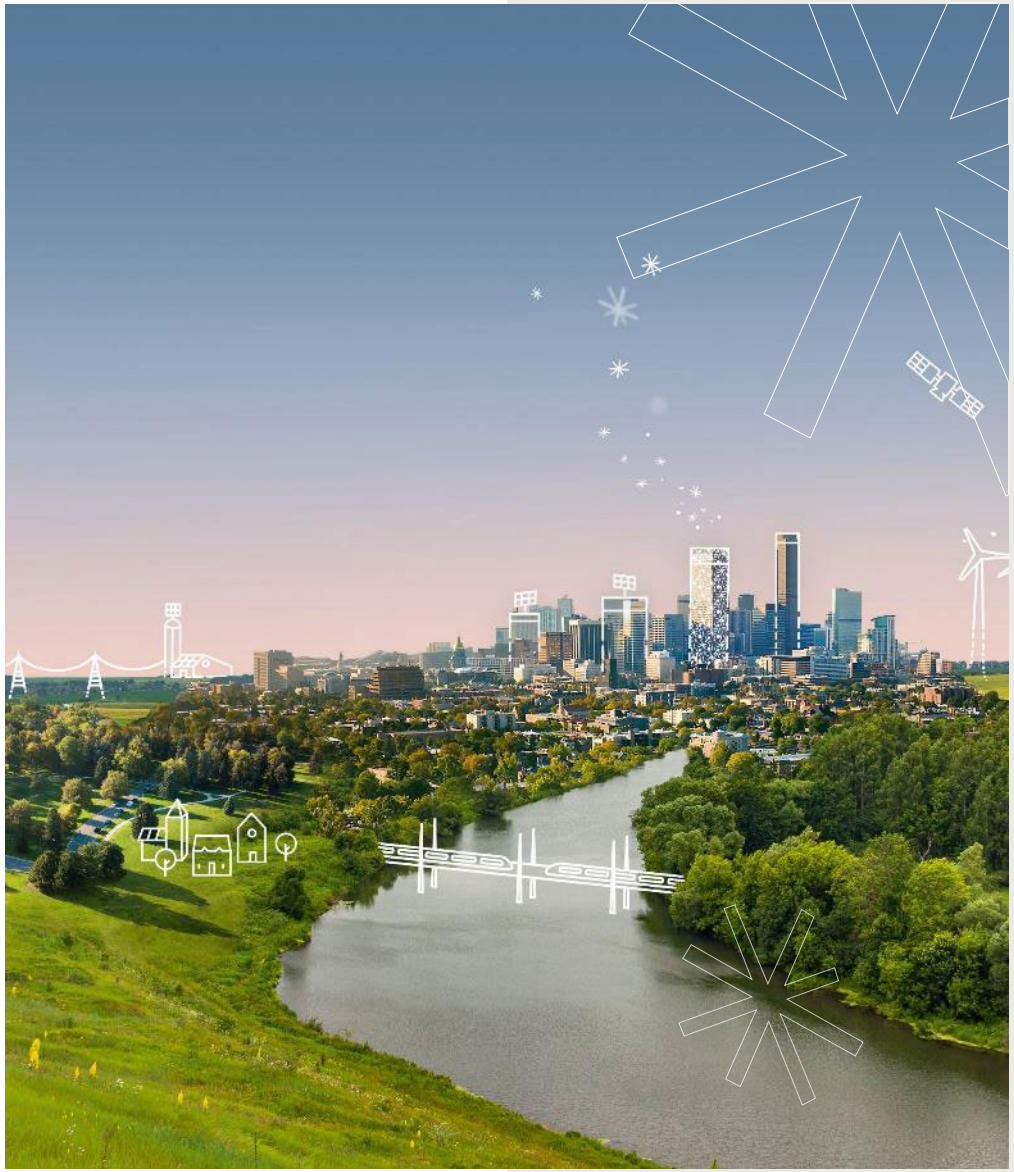
Executive Summary



Power Sector

The power sector is the largest contributor to global emissions, yet it is anticipated to be the first to reach net-zero emissions, as mature and cost-effective mitigation solutions are widely available. Among renewable sources, solar and wind energy hold the greatest potential and are expanding at an unprecedented rate. Strengthening electricity grids, enhancing the flexibility of electricity systems, and electrifying energy demand are also crucial for transitioning away from fossil fuels. However, the climate, environmental and social benefits of renewable energy also come with new ESG risks that power companies must address.

90%
Share of renewables in the electricity mix in 2050 in the NZE, compared to 30% in 2024

Meeting the objectives of the Paris Agreement will require substantial changes to the energy system over the next decades[1]. The electricity sector is the largest contributor to global emissions, and electricity demand is projected to rise due to increased needs for air cooling, electric vehicles, and data centers. At the same time, the electricity sector is set to be the first to achieve zero emissions—potentially as early as 2035 in advanced economies[2]—creating opportunities for electrification in other sectors, which can further reduce emissions. Solutions for decarbonizing power supply are available and cost-effective. The primary driver of the energy transition is the deployment of renewable energy sources; the international community has committed to tripling global renewable capacity by 2030. In the IEA's Net Zero Emission scenario (NZE), the share of renewables in electricity generation is expected to rise from 30% in 2024 to 90% by 2050. Consequently, the use of fossil fuels in electricity generation would decline sharply, with no new coal plants being constructed. Accelerating this transition is vital, as energy-related $C0_2$ emissions hit a new high in 2024, and the demand for oil, gas, and coal continues to grow[3].

x2
Investment in electricity grids double by 2030 in the NZE

Among low-carbon electricity sources, solar and wind have the greatest potential to mitigate climate change, according to the IPCC. Driven by China, solar and wind power generation is expanding worldwide at an unprecedented pace and is now cheaper than fossil fuel electricity in many regions[4]. Hydropower, nuclear energy, biomass, geothermal, and marine sources also play important roles in achieving net-zero power in most climate scenarios. Expanding and strengthening electricity grids will be crucial for successfully integrating renewables and meeting the growing demands of electrification. The increasing need for flexibility in electricity systems necessitates significant growth in battery energy storage, pumped hydro storage, and demand response. By 2030, global utility-scale battery capacity is projected to increase twenty-fold in the NZE scenario. This shift contributes to a reduction in the load factor of gas power plants, although flexible gas generators will continue to be a critical source of flexibility, particularly for addressing seasonal demand needs.

Sixfold
Increase in “energy transition minerals” in 2050 according to the IEA

The energy transition should contribute to reducing the well-documented climate, biodiversity, and human rights impacts associated with fossil fuel extraction and use[5]. At the same time, decarbonising power supply might have negative impacts locally. Renewable technologies rely on “energy transition minerals” such as copper, lithium, nickel, cobalt, and rare earth elements. If poorly managed, their production and processing can lead to biodiversity loss, pollution, and greenhouse gas emissions. China accounts for over 80% of all manufacturing stages of solar panels[6], which entails environmental and human rights risks. Improving product recyclability, ensuring a just transition for stakeholders, and fostering local acceptance are additional challenges that companies in the power sector must address.

Drivers of contribution and obstruction to sustainability goals

	Activities	Practices
Positive Impact	**Sustainable Activities** LOW CARBON ENERGY • Wind power • Solar power • Hydro power • Geothermal & marine power • Smart grids and storage • Biomass power ACCESS TO BASIC NEEDS	**Advanced Practices** HUMAN CAPITAL: • Diversity and inclusion • Job quality CLIMATE BIODIVERSITY *Advanced governance models*
Residual ESG Risks	**Harmful Activities[1]** FOSSIL FUELS: • Coal power • Gas power • Oil power	**Risk Mitigation** CLIMATE CHANGE BIODIVERSITY FOOTPRINT WORKING CONDITIONS LABOR & HUMAN RIGHTS GOVERNANCE: • Governance of sustainability • Business ethics • Taxes

1. See: Minimum standards and exclusions, Mirova

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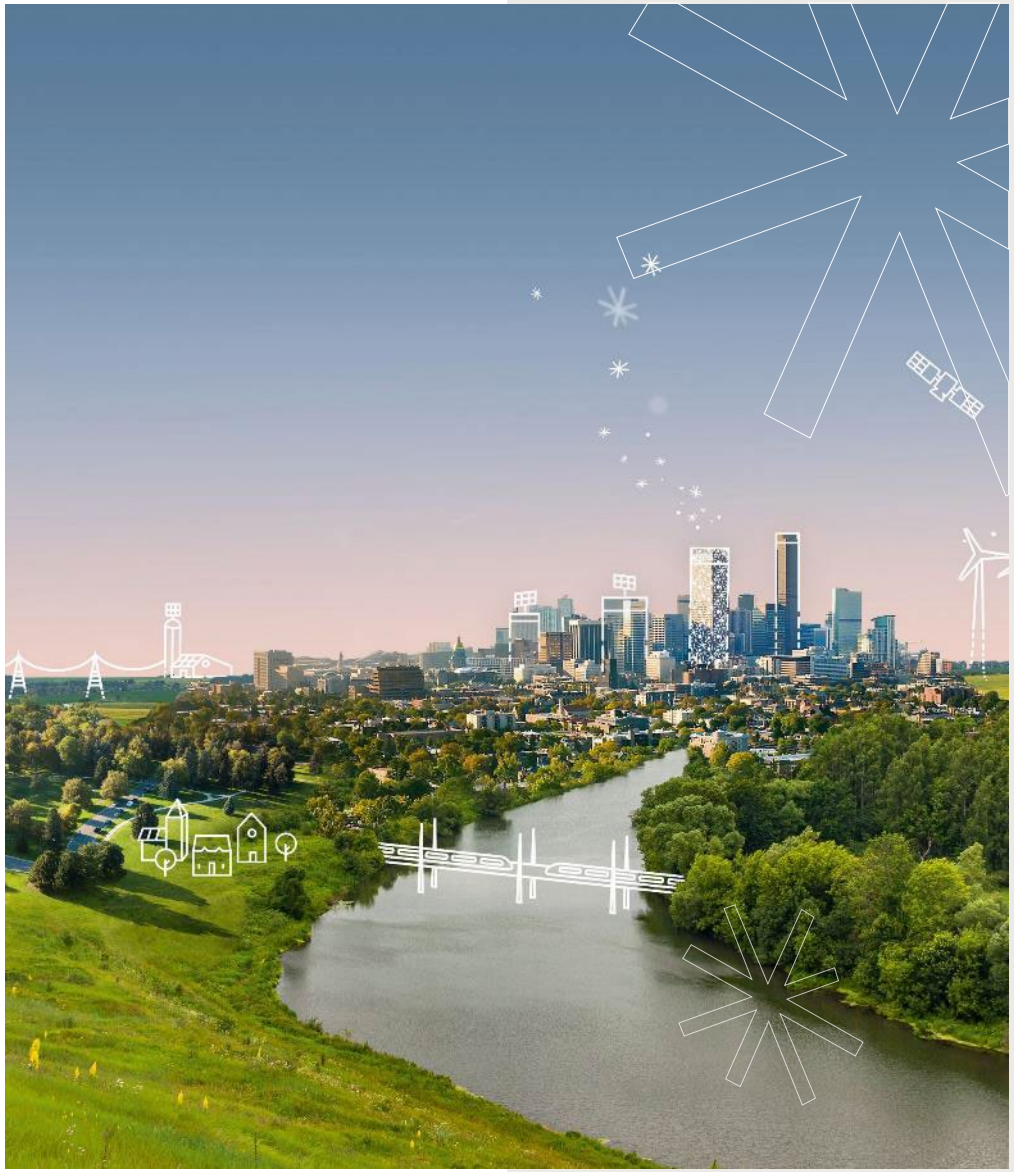
Positive Impact



POSITIVE IMPACT

Sustainable Activities

CLIMATE

CONTEXT

Limiting warning to well below 2°C will require substantial energy system changes over the next 30 year, according to the IPCC 2022 WG III Report. Electricity sectors in advanced economies, in aggregate, reach net zero emissions by 2035 in the Net Zero Emission Scenario (NZE) of the IEA, around 2040 in China and by 2045 in emerging markets and developing economies. Electricity is the first sector to reach zero emissions, creating opportunities for electrification in other sectors to further drive down emissions.

The first milestones for the electricity sector in the NZE Scenario is the tripling of global renewables capacity by 2030 to 11 000 GW compared to 2020. This global target was included in the COP 28 final agreement. This would lead to the share of renewables in electricity generation rising from 30% in 2023 to about 60% in 2030. By 2050, in the NZE Scenario, renewables sources would generate nearly 90% of global electricity supply. Coal power generation would decline from 36% in 2023 of the total mix to 0% by 2050. Low-emissions sources of generation rise so rapidly that no new coal plants would be built in the NZE Scenario from 2021.

Solar PV and wind are the leading means of cutting electricity sector emissions: their combined global share of electricity generation increases from 15% in 2024 to 40% by 2030 and 70% by 2050. In the 2023 NZE scenario, Solar PV capacity additions in 2030 are 30% higher than in the previous 2021 version, reflecting market acceleration and the rapid scaling up of manufacturing capabilities. Electricity from PV and wind is indeed cheaper than electricity from fossil fuels in many regions.

Capacity additions of hydropower and other renewable technology such as geothermal and marine power triple by 2030 in the NZE, expanding the supply of both low-emissions electricity.

SUSTAINABLE ACTIVITY

Solar
Companies focused on photovoltaic solar (PV) electricity or concentrated solar power (CSP), through the development of infrastructure and production, transmission of electricity, or supply of equipment and services dedicated to the solar energy value chain.

Wind
Companies focused on onshore or offshore wind, through the development of infrastructure, production, transmission of electricity, or supply of equipment and services dedicated to the wind power value chain.

Hydro
Companies focused on the development and/or exploitation of run-of-river and small (<15MW) hydro power plants, existing large (>20 MW) hydroelectric infrastructure in temperate zones (according to European regulations), and new infrastructure applied to existing hydroelectric structures to improve their efficiency and energy production.

Geothermal and marine energy technologies
Companies/projects focused on geothermal energy projects and energy from seas and oceans, through the development of infrastructure and production, transmission of electricity or supply of equipment and services dedicated to these projects

IMPACT CRITERIA

Life-cycle GHG emissions from the generation of electricity are lower than $100gCO_2e/kWh$[1]

For this pillar, the positive contribution of activities is analysed through a combination of revenues exposure, capital expenditures planned, and capacity installed, under development and targets

LOW POSITIVE IMPACT	MODERATE POSITIVE IMPACT	HIGH POSITIVE IMPACT
> 10% sustainable activities	> 20% to 50% sustainable activities	> 50% sustainable activities

POSITIVE IMPACT

Sustainable Activities

CLIMATE/SOCIAL

CONTEXT	SUSTAINABLE ACTIVITY	
In the NZE, the second key milestone for the electricity sector is the doubling of grid investments by 2030. Boosting the stability and flexibility of electricity grids will be critical to successfully integrate rising shares of solar and wind and meet the growing demands of electrification. Electricity transmission and distribution grids need to expand by around 2 million kilometers each year to 2030 in the NZE. Rising shares of intermittent renewable sources put a premium on power system flexibility and stability in the NZE Scenario. The hugely increased need for electricity system flexibility requires massive growth of battery energy storage and demand response. Batteries are well suited to provide short-term flexibility and bolster the stability and reliability of electricity networks by providing fast frequency response. By 2030, global utility-scale battery capacity increases more than 20-fold in the NZE Scenario and accounts for about 15% of all dispatchable power capacity. Seasonal variability also increases in many regions in the NZE Scenario, calling on hydropower, low-emissions thermal plants and new forms of long duration storage, including hydrogen.	**Grids and storage** Companies focused on the construction or operation of electricity **transmission** networks increasing grid flexibility and stability. Companies focused on the construction, operation or maintenance of electricity **distribution** networks supporting the integration of renewable sources into the grid. Companies focused on the manufacture or installation of **electrical equipment or software** supporting the **decarbonisation of electricity grids** such as electricity transformers, cables, substations, SF6-free switchgears, demand response equipment or smart meters. Companies focused on the manufacture or operation of **grid-scale storage systems** including battery energy, pumped storage hydropower or hydrogen energy storage.	**IMPACT CRITERIA** • Significant amount of capital expenditures dedicated to transmission network extension, voltage upgrade or grid's digitalisation • Significant amount of capital expenditures dedicated to the connection of renewable power assets to the distribution network or the reduction of connection queue backlogs • The installation of electrical equipment or software leads to substantial GHG emission reduction through integration of renewable energy, electrification, energy efficiency or efficient power conversion. • Hydrogen used for electricity storage where no better solution exist and in compliance with EU definition of low-carbon hydrogen.
According to the UN, globally, 1 out of 10 people do not have access to electricity. Around 2.6 billion people have to rely on dirty biomass fuels such as charcoal, coal and animal waste for cooking. Ensuring universal access to affordable, reliable and modern energy service is the target 7.1 of SDGs. Access to affordable and sustainable energy is also a key enabler for socio-economic development, providing basic infrastructure needs to address education, public health and economic empowerment challenges. Energy security, sustainability and affordability can conflict each other: this is the energy trilemma that must be overcame.	**Access to basic Needs** Development of resilient energy infrastructure providing affordable and sustainable energy for individuals, housing and agriculture	**IMPACT CRITERIA** • Revenues generated by the provision of clean power to population with no access to power • Number of people reached by access to energy programs

For this pillar, the positive contribution of activities is analysed through a combination of revenues exposure, capital expenditures planned, and capacity installed, under development and targets

LOW POSITIVE IMPACT	MODERATE POSITIVE IMPACT	HIGH POSITIVE IMPACT
> 10% sustainable activities	> 20% to 50% sustainable activities	> 50% sustainable activities

Focus on Power Generation from Biomass

CONTEXT

Biomass refers to any organic matter used to generate energy. Most electricity generated from biomass is by direct combustion[1], using mostly woody waste and to a lesser extent agricultural waste. This process releases carbon; however, biomass resources can regrow and absorb carbon in a relatively short time frame compared to fossil fuel resources. Therefore, biomass is generally considered a renewable energy source with low to zero emissions in most frameworks. According to the IPCC, it is one of the options for decarbonising power generation: bioenergy used for electricity production triple in absolute in 2050 in the NZE scenario, and its share is projected to double to 4% by 2050.

However, biomass power generation is not a priority compared to solar or wind energy. In fact, the supply of biomass presents several climate, environmental, and social challenges. Sourcing biomass from primary forests can lead to Indirect Land Use Change (ILUC) and contribute to deforestation, undermining its carbon benefits in lifecycle analysis. Producing primary biomass requires substantial amounts of land and water, which can compete with food production, potentially threatening food security and exposed to land tenure related risks. Moreover, producing biomass may expand agricultural and forest land into biodiversity-sensitive areas or regions with high carbon stocks, such as forests, wetlands, and peatlands. Finally, electricity generation from biomass releases atmospheric pollutants, including carbon dioxide, nitrogen oxides, particulate matter and volatile organic compounds.

As a result, we mainly identify two relevant use cases for biomass power within the power sector: the conversion of coal power stations to biomass where there are no viable solar or wind alternatives, and the use of biomass in thermal power plants as a flexible power source.

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SUSTAINABLE ACTIVITY	IMPACT CRITERIA
Bioenergy and Synthetic Fuels	• 80% GHG emission reduction in LCA compared to fossil fuels alternatives, using a methodology verified by a third-party[2] • Biomass is sourced from sustainable sources • Use of the Best Available Technologies to increase energy efficiency and reduce atmospheric pollution at power plant level

CONDITION FOR ELIGIBILITY

- Traceability of biomass sourcing, including the type and origin of biomass supply and the exposure to feedstock sourced from high ILUC-risk[3] regions.
- Sustainable biomass policy addressing deforestation risks, the respect of the cascading use principle and the waste hierarchy, efforts to increase the sourcing of secondary biomass and measures to mitigate any negative environmental or social impact related to the use of biomass.
- Biomass supply complies with biodiversity and GHG emissions saving criteria of the EU Renewable Energy Directive or equivalent established frameworks.
- Biomass supplier compliance is evidenced by recognized external certification schemes (SBP, FSC, PEFC or ISCC) and third-party audits.

POSITIVE IMPACT

Advanced Practices

	CONTEXT	SUSTAINABLE PRACTICE	
		Practices/measures expected:	Impact indicators examples:
CLIMATE	For companies in the electricity sector, the climate strategy is inseparable from the overall strategy. They are primarily accountable for the emissions related to their electricity generation, which directly affect their scope 1. Energy losses from electricity grids and storage contributes to scope 2 emissions. We have high expectations regarding their level of climate ambition, as the main decarbonisation levers are mature and cost-effective. To assess the credibility of a climate strategy, we rely on the Net Zero Investment Framework (NZIF), which focuses on climate ambition, disclosures, targets, planning, capital allocation, governance, lobbying and emission performance. For power utilities, we specifically assess the relevance of technological choices, favoring proven low-carbon technologies, the strategy to reduce exposure to fossil fuel assets (infrastructure, power capacity, the distribution or retail business, etc.) and, for relevant companies, the robustness of the coal exit plan, with a preference for asset closure or conversion rather than sale.	**Implementation of a climate strategy aligning with the Paris Agreement**	• Short, medium and long term GHG reduction targets aligned with the Paris Agreement, verified by third parties, and including all relevant scopes and greenhouse gases • Comprehensive, transparent and audited climate disclosures, including climate risks exposure and avoided emissions • Decarbonisation plan including the description of key levers and sub-targets and a plan to transition away from fossil fuels • A consistent capital allocation plan, focusing mostly on green technologies • Corporate lobbying positions aligned with the Paris Agreement • Oversight of climate targets by governance bodies and executive remuneration linked to delivering targets • A track record of emission reduction
BIODIVERSITY	The energy transition reduces dependance on finite reserves of fossil fuel. At the same time, it increases reliance on minerals such as copper, lithium, nickel, cobalt and rare earth. These “energy transition minerals” are essential components in wind turbines, solar panels, batteries or electricity networks. Their consumption could increase sixfold by 2050, according to IEA. Some of these minerals are very rare and their refining is concentrated in specific areas of the world, especially in China. If poorly managed, their production and processing can lead to biodiversity loss, pollution and GHG emissions. Current recycling technology and infrastructure are still lagging for minerals such as lithium or rare earth. To address these challenges, electricity producers or equipment manufacturers can implement circularity strategies and targets, including efforts to reduce the extraction of raw virgin materials and increase product’s recyclability, conduct supply chain due diligence or integrate environmental and biodiversity matters in the early stages of project planning.	**Implementation of a strategy to increase business circularity**	• Disclosures of products and materials sourced, including critical raw materials and rare earth • Disclosures of rates of recycled content in products and recycling rate of key products and components • R&D spendings for technologies enabling more efficient use of materials and material substitution (“eco-design”) • Strategy addressing the sourcing of renewable resources and transitioning away from extraction of virgin resources • Targets to increase circular material use rate, effective recycling rate and minimization of primary raw materials • Initiatives to promote circular models at industry level • Biodiversity and ecosystem protection targets aligned the SBTn framework • Disclosure of a biodiversity transition plan aligned with the CSRD guidelines and/or the TNFD framework

LOW POSITIVE IMPACT

> Advanced practices - Medium Stake topic

> Credible strategy to achieve advanced practices

MODERATE POSITIVE IMPACT

> Advanced practices - High Stake issues

 1. Greenhouse gases. 2. The Shift Project, 2021 3. Direct emissions created by a company’s activities and Emissions from the electricity a company uses in its operations. 4. Indirect emissions from a company’s supply chain, distribution, use of products, and product disposal. 5. OECD, 2018. Source: Mirova

POSITIVE IMPACT

Advanced Practices

HUMAN CAPITAL

CONTEXT	SUSTAINABLE PRACTICE	
	Practices/measures expected:	Impact indicators examples:
Just Transition Future investments in clean energy could generate up to 15 million jobs; however, up to 5 million jobs tied to fossil fuel production may be lost, according to the IEA. A just transition involves proactive and targeted measures by companies to ensure that any negative social, environmental, or economic impacts of the energy transition are minimized for those who are disproportionately affected. For companies in the power sector, this means responsibly managing the closure, conversion, and sale of fossil fuel assets, ensuring employability and the development of green skills, creating decent jobs, and providing affordable clean energy and equipment to customers. **Job Quality** Power utilities face significant challenges in attracting and retaining talent and skilled employees necessary for the energy transition, particularly as they contend with heightened competition from traditional energy companies. Implementing advanced human capital practices is essential to ensure employee well-being and maintain high employee's engagement rates.	**Employee's well-being and Just Transition policies**	• Measures in place for employees impacted by restructuring (financial severance, re-training, job-search assistance etc.) • Training hours per employee, % of workforce trained, training spendings • Qualitative analysis of the training offering including upskilling programs, leadership development… • Creation of internal universities / academies targeting actionable skillsets and accessible to most employees • Employee share ownership programme • Workplace wellbeing measures: flexible work arrangements, mental health support, counselling • Low employee's turnover rate and attrition rate • Social targets in STIP/ LTIP remuneration
Diversity & Inclusion Women account for 26% of the energy industry's workforce, despite making up nearly 40% of workers globally. These figures are improving, but women remain underrepresented in the power sector. The persistent gender pay gap also remains an issue: The IEA reports that female employees in the global energy sector earn almost 15% less than their male counterparts despite holding the same skill level. To overcome the challenge that lies in attracting women, companies can bring awareness among female students about career opportunities in the energy and provide them with the structure to climb the corporate ladder, break the glass ceiling and achieve pay parity. Moreover, diversity and inclusion do not pertain to gender only. Particular attention should be paid to the socioeconomic background of employees and their age, making sure that the working environment is inclusive for everyone regardless of their minority profile. To do so, diversifying recruitment pools, ensuring equal opportunities in terms of professional development, and raising awareness of employees and management on biases are essential.	**Diversity & Inclusion Policies**	• Percentage of women in the Executive Committee, difference between women representation in the workforce and Executive Committee, C-Suite female representation (CEO, CFO, CIO, CTO, CCO) • Wage gap or credible target to reach pay equality & unadjusted pay gap • Succession planning including at least one woman as a possible candidate for every Senior position • Roadmap to improve recruitment of minorities and ensure unbiased recruitment • Gender-neutral leave policy • Provision of daycare options (affordable and/or paid by the company) and work flexibility options

LOW POSITIVE IMPACT

> Advanced practices - Medium Stake topic

> Credible strategy to achieve advanced practices

MODERATE POSITIVE IMPACT

> Advanced practices - High Stake issues

POSITIVE IMPACT

Advanced governance model

CONTEXT

Mirova aims to promote the development of a corporate vision focused on the creation of collective value over the long term. Corporate governance should be shaped to include the interests of its key stakeholders. We believe that the creation of wealth requires a long-term perspective, which takes into account sustainability issues. Mirova encourages companies to include environmental and social issues in its purpose, and to adapt their articles of association accordingly. We feel that shareholders have a role to play in spreading this vision of what a company should be. Thus, we are promoting the development of a long-term shareholder base, the creation of governing bodies that serve all stakeholders and address CSR[1] issues, the introduction of a compensation policy which is not only fair to its stakeholders, but which also promotes sustainable growth, and -increased transparency and a better quality of both financial and extra financial information, through annual audited reports covering all these issues. Advanced governance practices only foster sustainability but is not a standalone driver of impact.

ADVANCED GOVERNANCE MODEL DETAILS

Practices/measures expected	Impact indicators examples
Commitment to long-term shared value creation	• Demonstrate how value created is shared fairly amongst company stakeholders. • Strive towards the model of a purpose-driven organization or/and a B-Corp organization.
Integrate stakeholders in the decision-making process	• Create a Sustainable Development Committee or sustainability representative at the board level, with regular meetings throughout the year. Sustainability items are systematically integrated into the board's agenda.
Fair taxes & governance	• Provide country-by-country reporting on tax payments.

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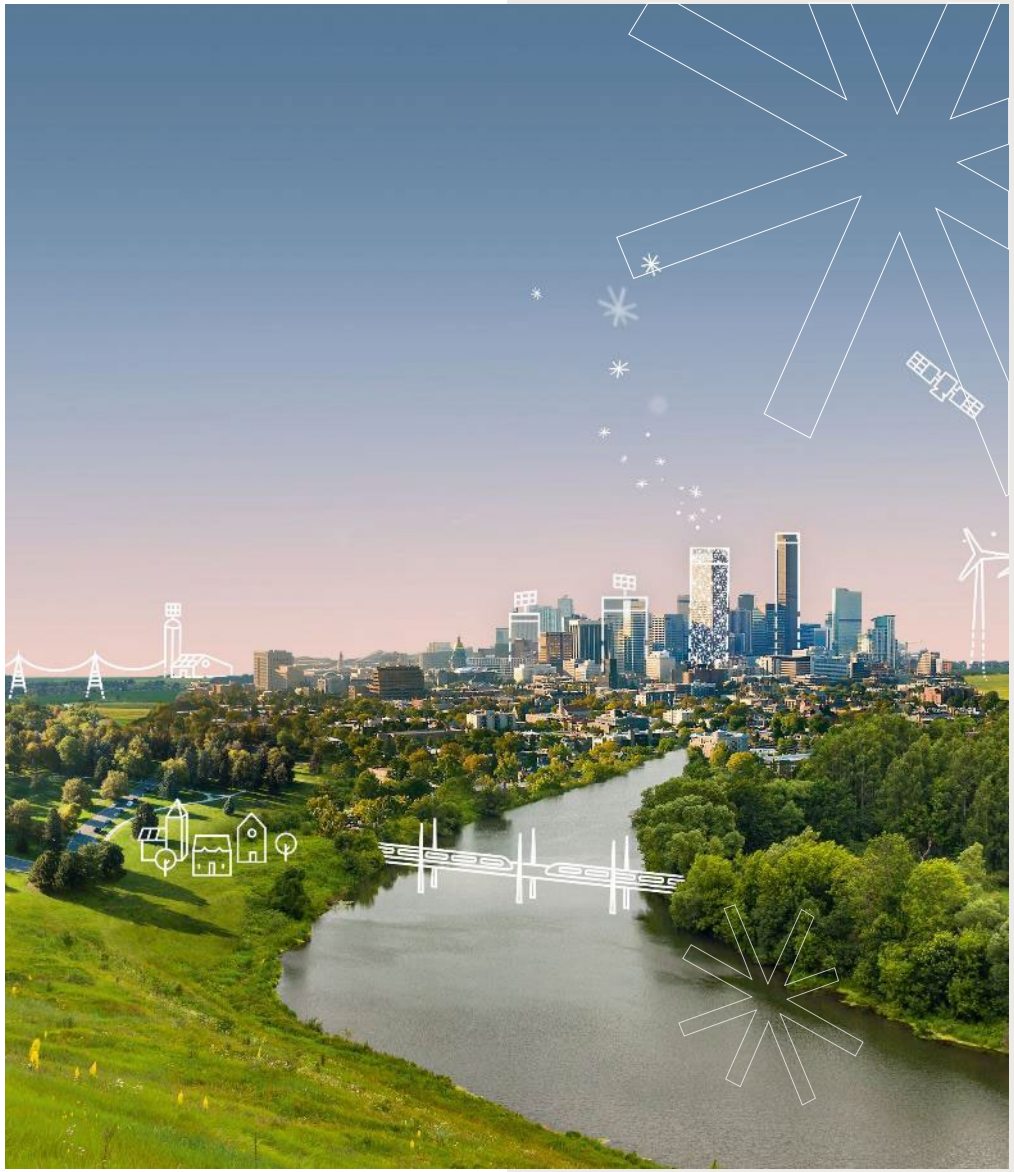
ESG Risks



Climate & Biodiversity

CONTEXT

Power generation from fossil fuels produces GHG emissions and harmful pollution throughout its life cycle. Many electricity networks include equipment such as switchgear that uses SF6—a powerful greenhouse gas—for insulation. Clean energy sources can also have significant unintended impacts on biodiversity, according to the IUCN, in particular during the manufacturing and construction phases.

Poorly sited projects can lead to significant loss of natural habitat. A large concentration of wind or solar farms can increase habitat fragmentation and create barriers for species movement. Some birds are at risk from collision with wind turbines or with associated transmission lines, potentially leading to electrocution. Marine species might be vulnerable to offshore wind development, particularly when exposed to high noise during construction. The water demands of solar plants can put strain on local water resources and create ecological change. Hydropower can significantly impact biodiversity by altering aquatic ecosystems and disrupting the natural habitats of various species. Of particular concern are projects that are placed in or near to biodiversity sensitive and protected areas.

Renewable assets also have a significant land footprint, particularly hydropower that accounts for 80% of the land used for electricity generation globally. However, technological options that reduce the biodiversity losses risk, such as run-of-river plants, exist. Solar farms also require substantial land but can coexist with other activities, like agrivoltaics, and use existing infrastructure, such as rooftops.

To manage risks, renewable expansion must account for biodiversity at national or regional scales. The mitigation hierarchy provides developers with an effective framework to address risks through the application of four actions: avoid, minimise, restore and, if necessary, offset. Effective application focuses on early avoidance and minimisation through project planning and design, including identification of site alternatives, design modifications and continual evaluation and improvement.

MINIMUM STANDARDS

Type of ESG risk:	Risk assessment indicators examples:	
Greenhouse gases	• Disclosure of a comprehensive GHG inventory, including SF6 gases and methane emissions	PAI #1
	• Disclosure of energy production and use from fossil and renewable sources and/or carbon intensity of energy production and use	PAI #2
	• Share of revenues and capex aligned with the EU taxonomy or green revenues and capex validated by independent third parties	PAI #5
	• Potential locked-in GHG emissions from key assets and products	
	• Ambition of climate targets and validation by an external third-party	
	• Disclosure of a climate transition plan, including decarbonisation levers, key actions and financial resources	
Pollution	• Disclosures of emissions to air/water/soil by pollutant	
	• ISO-14001 certification rate (environmental management)	
	• Provisions for environmental protection and remediation	
Biodiversity losses	• Operations in sites located in or near biodiversity-sensitive areas	PAI #9
	• Impact of operations on threatened species and local wildlife	PAI #8
	• Disclosure of actual and potential impacts on biodiversity and ecosystems at own site locations and in value chain	PAI #7
	• Disclosures of total water consumption and total water consumption in areas at water risk, including areas of high-water stress	
	• Disclosures of total water withdrawals and discharges, total water recycled and reused	
	• Disclosures of total waste generated, hazardous waste generated, recycling waste and waste diverted from landfill indicators	
	• Waste management policy including compliance with the waste management hierarchy	
	• Disclosure of land-use change metrics	

Focus on Nuclear Power

CONTEXT

Nuclear power is an established technology that can deliver low-carbon energy at scale, according to the 2022 IPCC report on Climate Change Mitigation. The weight of nuclear power in 2050 in the IEA's NZE scenarios is similar in 2050 compared to today's level (9%): nuclear power is an option to decarbonise the power sector, but its potential is limited by its long development cycles and high mitigation costs.

At the same time, nuclear power continues to be affected by many challenges: environmental issues, notably related to final disposal of radioactive waste (2-3% of spent nuclear fuel is high-level radioactive waste) and water consumption ; social issues related to nuclear safety or public acceptance; governance challenges such as proliferation risks; and severe economic challenges, such as cost overruns, high upfront investment needs and considerable project delays.

As a result, we acknowledge that advanced nuclear technologies, including new large reactor design and small modular reactor, have a role in climate change mitigation. However, we consider, as most established institutions do, that it is not a priority option compared to mature low-carbon technologies. We also set strict minimum standard requirements to mitigate its environmental and social impacts, related notably to stable political conditions and robust regulatory framework in the country in which the company involved in nuclear activities operate.

MINIMUM STANDARDS REQUIREMENTS*

Scope

- Companies involved in nuclear power generation as owners or operators of nuclear power plants
- Companies involved in the nuclear fuel cycle: uranium enrichment, fuel fabrication, used fuel recycling and/or storage and disposal of nuclear waste

Political stability criteria

- Operation in a country where an independent Nuclear Safety Authority or an equivalent supervising body is in place
- Operation in a country signatory to the Non-Proliferation Treaty and complying with the safety and security guidelines of the IAEA
- No operation in a high-risk countries as defined in Mirova's Minimum Standard Requirements

Environmental and social risk management

- Best corporate governance practices regarding internal risk management, independence and expertise of the bord of directors, oversight and risks disclosures
- Plan demonstrating the resilience of the nuclear power plants against extreme natural hazards, including earthquakes and floods
- Description of efforts to manage nuclear safety and emergency preparedness, including disclosures on employee's training
- Water use and protection management plan, including disclosures on water withdrawal systems (closed-loop or one-through cooling system) and operations in high-water stress areas
- Waste management plan including a description of the process to store or dispose spent fuel, including high-level radioactive waste
- Existence of a plan for the dismantling and decontaminating of nuclear power plants, including a financing scheme
- Completion of an environmental impact assessment before the construction or extension of nuclear power plants

* See our Mirova's Minimum Standards Policy.

Focus on Gas Power Generation

CONTEXT

Fossil gas is the second largest source of GHG emissions from the electricity sector, accounting for 20% of total emissions. Unconventional shale gas production and the liquefaction of natural gas (LNG)—two major trends in the gas market—negatively impact the carbon footprint of fossil gas by increasing the risks of methane leaks throughout the value chain.
Currently, gas-fired power generation accounts for 22% of total electricity production. In the IEA Net Zero scenario, natural gas-fired generation is expected to peak in the mid-2020s before entering a long-term decline. However, even as output decreases, natural gas-fired capacity remains a critical source of flexibility for power systems in many markets, particularly for addressing seasonal flexibility needs. At the same time, batteries are rapidly scaling up to provide short-term flexibility and are already contributing to a reduction in the load factor of gas plants in many regions, alongside the increase in renewable power generation.
While it is true that gas power stations have a short-term positive impact on emissions when they replace coal-fired power stations, the rapid advances in renewable energy sources and efficiency improvements across all IEA scenarios leave little room for additional coal-to-gas switching. Retrofitting gas power stations with CCUS device is an option to decarbonize the most recent fleet, but the scaling-up of this technology is highly uncertain due to high capex, high electricity consumption and technological uncertainty. Co-firing gas turbine with low-carbon hydrogen, ammonia or biogas is another option for reducing emissions, but these technologies requires turbine's retrofitting and are not economically viable and mature.
Therefore, we do not view gas power as a long-term solution to climate change, although we acknowledge that maintaining non-baseload gas power capacity might be necessary to ensure the security, resiliency and flexibility of power systems.

MINIMUM STANDARDS REQUIREMENTS

Here is a summary of our minimum requirements on fossil fuels, including but not limited to company exposed to gas power.

FOSSIL FUEL EXPOSURE

Exclusion applies to companies deriving:

- Coal: >1% of their revenues from exploration, mining, extraction, distribution or refining of hard coal and lignite.
- Unconventional oil & gas: > 5% of their revenues from oil shale, shale oil, shale gas, oil sands, extra-heavy oil, methane hydrates, ultra-deep offshore oil or Artic drilling
- Oil: >10% of their revenues from the exploration, extraction, distribution or refining of oil fuels.
- Natural gas: 50% of sales derived from the exploration, extraction, manufacturing or distribution of gaseous fuels.
- Power generation from fossil fuels: >50% of their revenues from electricity generation with a GHG intensity of more than 100 gCO_2e/kWh.
- Total fossil fuel exposure: >50% of their revenues from coal, oil, natural gas, fossil fuel power and fossil fuel services.

FOSSIL FUEL EXPANSION

Exclusion applies to companies involved in:

- Coal: New project related to the exploration, mining, extraction, distribution or refining of hard coal and lignite.
- Upstream Oil & gas: Exploration or development of new oil and gas fields, or in the expansion of existing fields.

Working conditions

CONTEXT	Type of ESG risk	Risk assessment indicators examples
Health & Safety Employees working in power and electrical equipment face workplace risks: exposure to hazards such as high voltage electricity or inflammable natural gas, operation of heavy machinery, work alone in remote locations, at significant heights, or under unpredictable weather conditions. By implementing strong safety measures and promoting a safety-first culture, companies can lower accident rates and improve efficiency. Companies operating renewable energy and grid assets must also address product safety risks particularly the flammability risks related to electrical lines, devices and batteries.	**Health and safety**	Frequency and severity of health & safety accidents (direct workers and contractors) decreasing overtime Description of the occupational safety management system at site level Occupational Health & Safety certification rate (ISO 14 001, ISO 45 001 or equivalent) Disclosure of absenteeism rate and employee engagement rate Emergency preparedness plans Product quality and security certifications
Labour standards Power and electrical components company operate worldwide, including in geographies where the standards on decent working, the freedom to associate, collective bargaining, the abolition of forced labour, and equality of opportunity and treatment promoted by the Internation Labour Organisation (ILO) may not be enforced.	**Labour standards**	Measures to promote fair working conditions, decent remuneration and a sustained social dialogue in countries with less stringent regulations Percentage of employees covered by collective agreements Existing and effective employees' association mechanisms
Human rights in the Supply Chain The extraction and use of fossil fuels have a documented history of severe human rights violations, notably due to the expropriation of resources and land from local communities. However, the energy transition also presents human rights challenges within the power sector supply chain. For instance, China accounts for over 80% of all manufacturing stages of solar panels, including polysilicon, ingots, wafers, cells, and modules, which raises significant risks of modern slavery: the solar industry is heavily dependent on polysilicon sourced from Xinjiang, where the Uyghur population faces serious human rights abuses. Additionally, working conditions within the supply chain are a major concern: excessive working hours are well-documented in countries that supply electronic components used in renewable energy equipment. Companies should work with suppliers, including on-site contractors to improve transparency, traceability, and monitoring of labor practices, identify and assess red flags, engage suppliers on employment practices, and seek to address the root causes of human rights risks.	**Human Rights in the Supply Chain**	Existence of a Code of Conduct for Suppliers that includes Human Rights and Labor Rights considerations Join a multistakeholder industry initiative and promote the development of ambitious environmental standards in the supply-chain (ex, Responsible Minerals Initiative (RMI), RCS Global Group, etc.) Implementation of a policy, audits and reports on Conflict Minerals Violation of UNGC principles and OECD guidelines for Multinational Enterprises and implementation of corrective measures Implementation of a policy to monitor compliance with UNGC principles or OECD guidelines for multinational enterprises **PAI #10** **PAI #11** **PAI #16**

Governance

CONTEXT

Business ethics, lobbying and tax practices
The power sector is used to deal with governments and public authorities, which exposes companies and their employees to potential involvement in practices that contradict business ethics. Therefore, it is essential for companies to maintain transparency regarding their policies on corruption, fraud, bribery, and competition.
Additionally, companies might pursue aggressive tax optimization strategies, making transparent tax communication vital.
Lastly, companies in the power industry have the capacity to influence decision-making related to climate change, underscoring the importance of transparency regarding their lobbying practices and alignment with the objectives of the Paris Agreement.

Community engagement
The power sector frequently encounters challenges related to local acceptance, notably for onshore wind projects. Project development can even lead to land appropriation and human rights violations, notably for large hydro projects. Community engagement is crucial to mitigate negative impacts and foster local acceptance. It includes formalised processes for community involvement, regular information sharing and consultations, mechanisms for integrating community feedback and concerns into project development, as well as transparency regarding grievance mechanisms.

Governance of sustainability
The credibility and robustness of a company's sustainability strategy are bolstered by a comprehensive ESG governance structure and the integration of ESG criteria into management remuneration.

MINIMUM STANDARDS

Type of ESG risk	Risk assessment indicators examples	
Business Ethics and lobbying	Robust Business ethics policies covering lobbying practices, anti-corruption, anti-competitive and bribery policies	PAI #12
	Evidence of effective whistleblower channels and transparency around cases reported and actions implemented	PAI #13
	Systematic training on Company's and Suppliers' Code of Conduct	
	Climate lobbying policy addressing alignment with the Paris alignment, including disclosures of main lobbying positions at company and industry level	
Tax practices	Effective tax rate vs. equal statutory tax rate	
	Absence of controversies or evidence of aggressive tax optimization practices	
	Estimated exposure to tax havens* or tax non-cooperative jurisdictions with no real activity in the country	
Community engagement	Community engagement disclosures aligned with the IFC guidelines	
	Environmental impact studies disclosures aligned with the IFC guidelines	PAI #17
	Disclosure of grievance mechanisms	
Governance of sustainability	Existing governance structure enabling the mitigation of environmental and social risks	
	Unadjusted gender pay gap	
	Board Gender Diversity	

* As defined in Mirova's Minimum Standards Policy.

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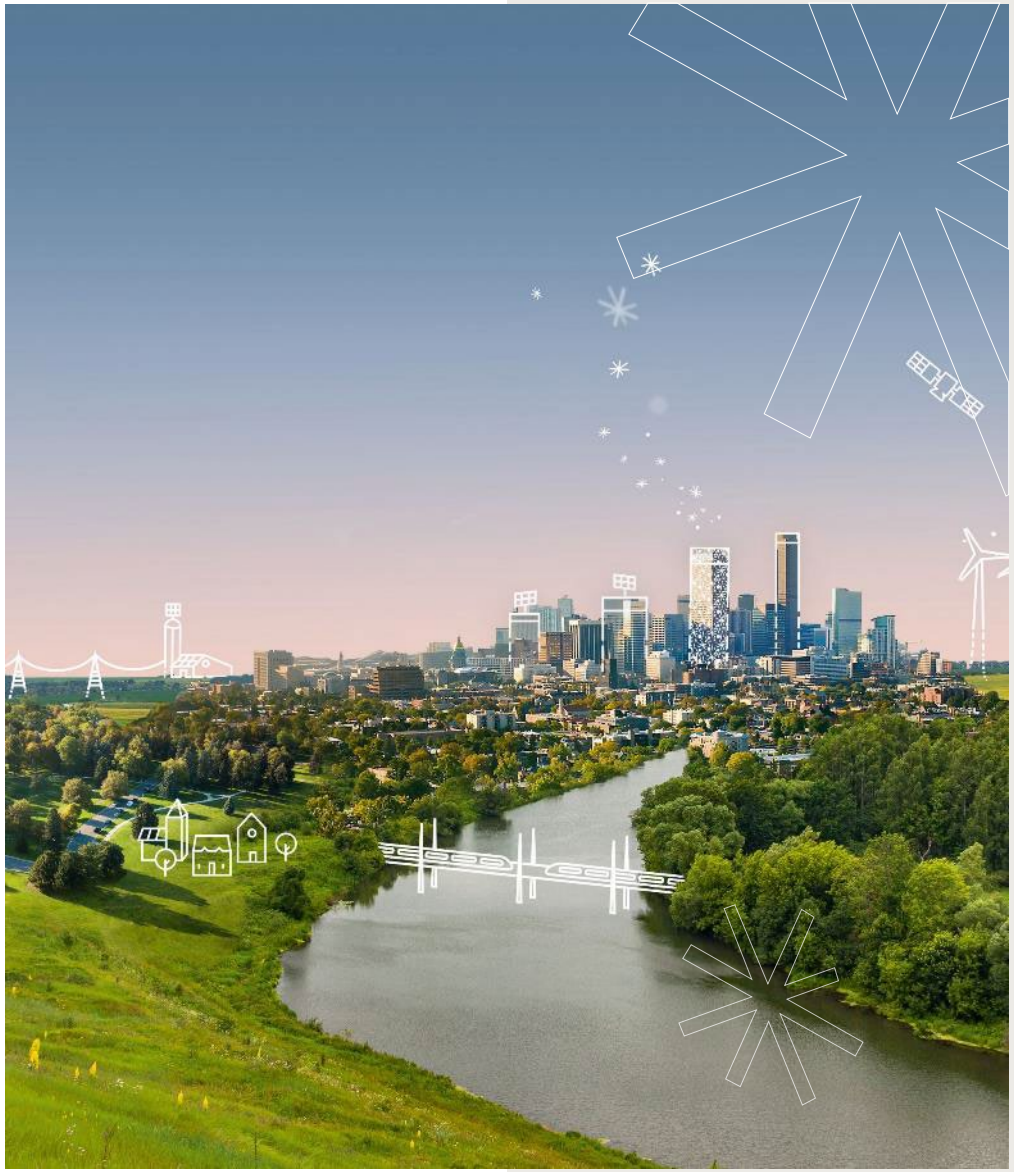
Appendices



Positive Impact

According to Mirova's internal methodology, contribution to the SDGs can be grouped into two main categories, which are often complementary.

- The **"activities"** i.e. the products and services they offer.
- The "**practices**" i.e. the way operations can contribute to create sustainable and inclusive jobs, or by having strong commitments to net zero targets beyond their green products offerings, etc.

ACTIVITIES	Marginal or no exposure to sustainable activities.	From 10% to 20% revenues from sustainable activities.	From 20% to 50% revenues from sustainable activities.	> 50% revenues from sustainable activities.
	In these sectors, the positive contribution is mainly analysed through revenues exposure but not only. We complement this exposure with a qualitative review of the solution's impact. ESG KPIs to assess the level of impact generated can include among others: renewable capacity installed, under development and targets, green capital expenditures planned, etc.			
PRACTICES	Absence of advanced practices.	One or more **Advanced practices** on Medium Stake issues. or credible strategy to transition to advanced practices.	One or more **Advanced practices** on High Stake issues.	

For the purpose of defining High/Medium Stakes, Mirova relies on external classifications, to the extent possible. Indicative High Stake sectors are defined as follows, but may be adapted on a case-by-case basis, notably depending on a company/project effective exposure to high stake activities.

- Climate: Mirova relies on the list defined by NZIF and retains Nace codes A to H and J to L as High Stake.
- Biodiversity: Mirova relies on the definition of its supplier Iceberg Datalab and retains all GICS except from GICS 5020, 4510, 5010 and 3510 as High Stake.
- Human Capital: Mirova considers sectors that are most exposed to arduous working conditions as High Stakes and all GICS except from GICS 5020, 4010, 4020, 4030, 4510, 3520, 6010 and 6020.

ESG risks

SECTOR INHERENT RISK LEVEL: MEDIUM/HIGH

Companies in the power and electrical equipment sector face many ESG risks. The power sector accounts for 33% of global energy-related CO2 emissions. The operation of electricity systems rely on natural resources and can lead to pollution and biodiversity impacts. Using renewable energy sources to replace fossil fuels is essential to mitigate emissions and restore ecosystems. However, the impacts of renewable energy generation on land use, water consumption, GHG emissions, and pollution must also be addressed. Employees working in power and electrical equipment face workplace risks. The energy transition also presents human rights challenges within the power sector supply chain, notably in the solar value chain. Finally, the sector is also subject to business ethics and lobbying practices risks.

COMPANY INHERENT RISK LEVEL

A company inherent risk level may differ from the inherent risk level of the sector.
The definition of the company inherent risk level may also be determined by the specificities of the business model, the nature of the activities and their locations as well as that of their suppliers (incl. country specific risks).

MAIN ESG RISKS FACTORS

Climate change

Biodiversity footprint

Working conditions

RESIDUAL ESG RISK LEVEL

LOW RESIDUAL RISK	Satisfactory management of the company's or project's main sustainability risks on most material issues.
MEDIUM RESIDUAL RISK	Current management in place does not fully cover all ESG risks but these are considered as moderate and current practices are deemed acceptable.
HIGH RESIDUAL RISK	Companies demonstrating significant mitigation efforts operating in sectors with industry-wide complex and unaddressed challenges - systematically under targeted engagement.
SIGNIFICANT HARM	Not eligible for investment.

SUSTAINABLE INVESTMENT

Principal Adverse Impact Indicators

ADVERSE SUSTAINABILITY INDICATOR		MOST RELEVANT	Thresholds / Criteria
CLIMATE AND OTHER ENVIRONMENT-RELATED INDICATORS			
Greenhouse gas emissions	1. GHG emissions	X	Systematic integration in qualitative internal analysis and systematic engagement with the largest emitters to strengthen their climate strategy
	2. Carbon Footprint	X	
	3. GHG intensity of investee companies		Not applicable
	4. Exposure to companies active in the fossil fuel sector		Not applicable
	5. Share of non-renewable energy consumption and production	X	Systematic integration in qualitative internal analysis and systematic engagement with the largest emitters to strengthen their climate strategy
	6. Energy consumption intensity per high impact climate sector		
Biodiversity	7. Activities negatively affecting biodiversity sensitive areas	X	Exclusion of companies or projects significantly harming biodiversity sensitive areas.
Water	8. Emissions to water	X	Systematic integration in qualitative internal analysis and systematic engagement with relevant investee companies on this issue.
Waste	9. Hazardous waste and radioactive waste ratio	X	
INDICATORS FOR SOCIAL AND EMPLOYEE, RESPECT FOR HUMAN RIGHTS, ANTI-CORRUPTION AND ANTI-BRIBERY MATTERS			
Social and employee matters	10. Violations of UN Global Compact principles and Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises	X	Exclusion of companies violating UNGC and OECD principles and monitoring of exposure to violations as part of controversy monitoring process.
	11. Lack of processes and compliance mechanisms to monitor compliance with UN Global Compact principles and OECD Guidelines for Multinational Enterprises	X	Systematic integration in qualitative internal analysis.
	12. Unadjusted gender pay gap	X	Systematic integration in qualitative internal analysis and systematic engagement with relevant investee companies on this issue.
	13. Board Gender Diversity	X	
	14. Exposure to controversial weapons (anti-personnel mines, cluster munitions, chemical weapons and biological weapons)		Exclusion (any involvement)
INDICATORS FOR SOCIAL AND EMPLOYEE, RESPECT FOR HUMAN RIGHTS, ANTI-CORRUPTION AND ANTI-BRIBERY MATTERS			
Human Rights	16. Number of identified cases of severe human rights issues and incidents	X	Systematic integration in qualitative internal analysis and monitoring of exposure to violations as part of controversy monitoring process.
Anti-corruption and anti-bribery	17. Number of convictions and number of fines for violation of anti-corruption and antibribery laws	X	

The information provided reflects Mirova's opinion/the situation as of the date of this document and is subject to change without notice. Our minimum standards policy also provides more information on thresholds for Principal Adverse Impacts Indicators : Mirova Minimum standards Source: Mirova.

Useful Resources

SFDR

- Sustainable Finance Disclosure Regulation (SFDR): positioning of Mirova Funds
- Description of the principal adverse impacts on sustainability factors

POLICIES AND METHODOLOGIES

- Our approach to impact
- Our approach to impact & ESG assessment
- Minimum standards
- Voting and Engagement policies
- Temperature alignment of listed investment portfolios
- Transparency codes
- Our Taxonomy for Sustainable Solutions

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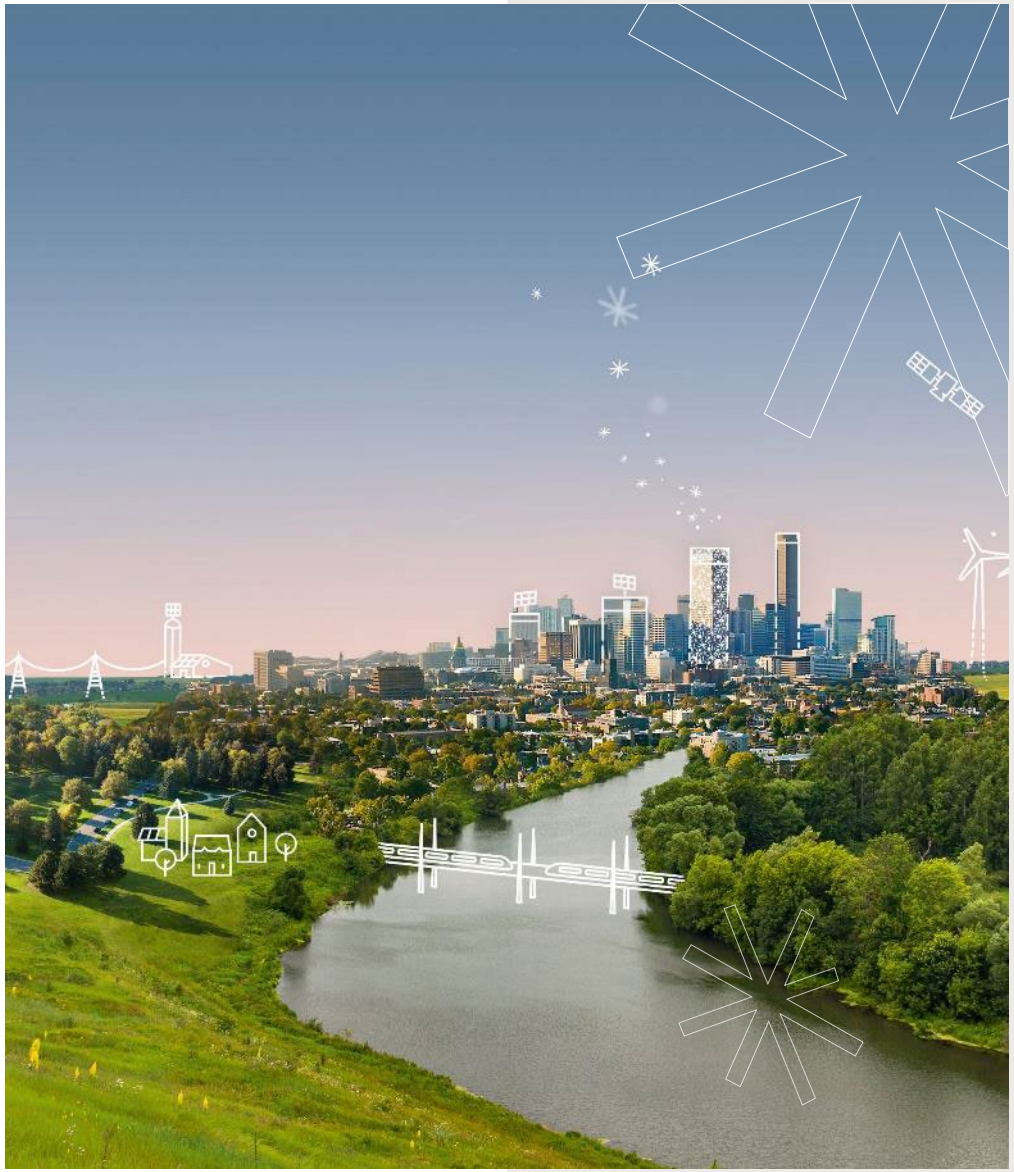

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MAIN RISKS

ESG Investing Risk & Methodological limits

By using ESG criteria in the investment policy, the relevant Fund's objective would in particular be to better manage sustainability risk and generate sustainable, long-term returns. ESG criteria may be generated using Mirova's proprietary models, third party models and data or a combination of both. The assessment criteria may change over time or vary depending on the sector or industry in which the relevant issuer operates. Applying ESG criteria to the investment process may lead Mirova to invest in or exclude securities for non-financial reasons, irrespective of market opportunities available. ESG data received from third parties may be incomplete, inaccurate or unavailable from time to time. As a result, there is a risk that Mirova may incorrectly assess a security or issuer, resulting in the incorrect direct or indirect inclusion or exclusion of a security in the portfolio of a Fund.

Sustainability risks

The Sub-Funds are subject to sustainability risks as defined in the Regulation 2019/2088 (article 2(22)) by environmental, social or governance event or condition that, if it occurs, could cause an actual or a potential material negative impact on the value of the investment.

Sustainability Risks are principally linked to climate-related events resulting from climate change (i.e. Physical Risks) or to the society's response to climate change (i.e. Transition Risks), which may result in unanticipated losses that could affect the Sub-Funds' investments and financial condition. Social events (e.g. inequality, inclusiveness, labour relations, investment in human capital, accident prevention, changing customer behaviour, etc.) or governance shortcomings (e.g. recurrent significant breach of international agreements, bribery issues, products quality and safety, selling practices, etc.) may also translate into Sustainability Risks. Sustainability factors consist in environmental, social and employee matters, respect for human rights, anti-corruption and anti-bribery matters (the "Sustainability Factors"). Portfolio investment process includes binding and material ESG approach to focus on well rated securities from an ESG viewpoint in order to mitigate potential impact of Sustainability Risks on portfolio return. More information on the framework related to the incorporation of Sustainability Risks is to be found in the sustainability risk management policy of the Management Company on its website.

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Portfolio management company - French Public Limited liability company
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 an affiliate of Natixis Investment Managers.

NATIXIS INVESTMENT MANAGERS
French Public Limited liability company
RCS Paris n°453 952 681
Registered Office: 59, Avenue Pierre Mendes France – 75013 – Paris
Natixis Investment Managers is a subsidiary of Natixis.

NATIXIS INVESTMENT MANAGERS INTERNATIONAL
Portfolio management company - 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
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UK Private limited company
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A Company registered in Delaware
State File Number: 5125699
Registered Office: 2810 N Church Street, Wilmington - Delaware - 19802 USA
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KOFISI,
c/o Sunbird Support Service Kenya Limited,
Riverside Square, 10th Floor, Riverside Drive,
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