



SCENARIO ANALYSIS

ScenarioName

InvestorName

PortfolioName

2Dii PACTA MODEL

Important Information & Legal Disclaimer: MODEL OUTPUT REPORTS

IMPORTANT INFORMATION

The 2Dii PACTA Model generates a limited 'point in time' estimate of the relative alignment of the Revealed Plans of Securities in the Scope versus the economic trends embodied in the Scenario(s), as identified by external data and scenario providers.

EXCLUSION OF LIABILITY: TO THE EXTENT PERMITTED BY LAW WE WILL NOT BE LIABLE TO ANY USER FOR ANY LOSS OR DAMAGE, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF STATUTORY DUTY OR OTHERWISE, EVEN IF FORESEEABLE, ARISING UNDER OR IN CONNECTION WITH USE OF OR RELIANCE ON ANY INFORMATION, DATA OR CONTENT OBTAINED VIA OUR SERVICES, INCLUDING (WITHOUT LIMITATION) THE MODELLING OUTPUTS STATED IN THIS REPORT.

No forecast or prediction: The PACTA Model does not purport to generate, nor does this Report contain or comprise, statements of fact, forecasts or predictions. The PACTA Model provides a 'point in time' analysis of economic and commercial variables that are inherently dynamic and variable over time. 2Dii neither makes nor implies any representation regarding the likelihood, risk or expectation of any future matter. To the extent that any statements made or information contained in this Report might be considered forward-looking in nature, they are subject to risks, variables and uncertainties that could cause actual results to differ materially. You are cautioned not to place undue reliance on any such forward-looking statements, which reflect our assumptions only and those of our data and scenario providers as of the date of modelling.

No financial advice: The information contained in this Report does not comprise, constitute or provide, nor should it be relied upon as, investment or financial advice, credit ratings, an advertisement, an invitation, a confirmation, an offer or a solicitation, or recommendation, to buy or sell any security or other financial, credit or lending product or to engage in any investment activity, or an offer of any financial service. This Report does not purport to quantify risk to the portfolio (or any part thereof), nor make any representation in regards to the performance, strategy, prospects, creditworthiness or risk associated with any investment, nor their suitability for purchase, holding or sale in the context of any particular portfolio. The Modelling Outputs reflected in this Report are provided with the understanding and expectation that each investor will, with due care, conduct its own investigation and evaluation of each security or other instrument that is under consideration for purchase, holding or sale.

Scope Securities: The PACTA Model is limited in its scope and application. It does not consider all securities across all sectors, nor all securities within those sectors. The PACTA Model applies only to the Scope Securities set out in the Methodology Statement, as updated from time to time.

Scenario(s): The PACTA Model will apply one or more Scenarios, as set out in the Methodology Statement. The choice of any Scenario should not be taken as any endorsement of those scenarios, nor any statement as to the accuracy or completeness of those scenarios' methodologies or assumptions, nor as a general preference of those scenarios over any other economic scenarios. The analysis provided by the PACTA Model may be carried out using other economic scenarios, and users must form their own view as to the decarbonisation scenarios, trajectories and models that are most appropriate to their portfolio. No explicit or implicit assumption is made in relation to the current or future alignment of the Scenarios with climate-related policies of any government at international, national or sub-national level.

TCFD: Use of the PACTA Modelling Tool may support you in initiatives undertaken with regard to the Recommendations of G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD). However, its use in isolation does not purport to provide 'TCFD compliance'.

PRI: Please note that the PACTA climate scenario tool is made available by 2Dii and not PRI Association or any of its affiliated entities ("PRI"). PRI takes no responsibility for the performance and/or use of the tool and shall have no liability whatsoever whether arising in contract, tort (including negligence) or otherwise arising under or in connection with these terms and conditions, this website or any use of the PACTA climate scenario tool.

EXECUTIVE SUMMARY

This report provides a scenario analysis of the investment portfolio.

It responds in part to the recommendations of the G20 Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD). Over 1,000 financial institutions have been assessed using the model applied in this report, as part of direct partnerships with over 200 institutional investors, and collaborations with a number of financial supervisors.

The outputs provided in this report provide an analysis of the portfolio relative to an economic transition consistent with limiting global warming to ScenarioTemp°C above pre-industrial levels, as well as a comparison to peers. The analysis provides answers to three questions:

1. What is the current exposure in the portfolio to economic activities affected by the transition to a low-carbon economy? (Section 2)
2. Does the portfolio increase or decrease its alignment with a ScenarioName transition over the next 5 years? (Section 3)
3. What is the expected future exposure to high- and low-carbon economic activities? (Section 4)

This report considers a ScenarioValue transition. ScenarioDescription The analysis covers two asset classes: listed equity and corporate bonds. These are compared to either an portfolio or market, as if they would transition aligned to the ScenarioValue. The equity market is represented by all securities from publically listed companies and the corporate bond market by all companies with outstanding debt from Bloomberg at the end of 2017.

The figure below shows the share of the total corporate bond and equity investments included in the analysis.



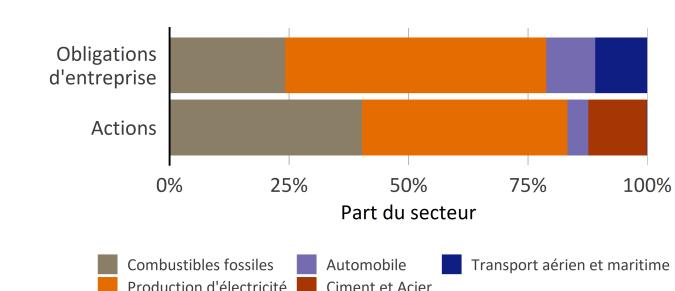
[View the full scenario analysis](#)

Scope of Analysis	
Investor Name	InvestorName
Portfolio Name	PortfolioName
Size of portfolio	SizeofPortfolio
Scenario	ScenarioText
Geography - Financial Assets	Global
Geography - Economic Assets	Global
Asset Class	AssetClass
Peers	PeerGroup
Portfolio Timestamp	ReportDate
Date of Analysis	TodaysDate

The analysis focuses on climate relevant sectors. Scenario analysis is undertaken for the fossil fuel, power, and automotive sectors: these account for between 70 and 90% of energy-related CO₂ -emissions in a typical equity portfolio. An analysis of the emissions intensity of the aviation, shipping, cement and steel sectors is also included in this report.

Of the total investment portfolio submitted, AnalysisCoverage% of the total value is in listed equity or corporate bonds and in climate relevant sectors. The chart on the left details the share of the equity and corporate bond portfolios included in the ScenarioValue scenario analysis (dark blue). The chart on the right shows the breakdown of the exposure between climate relevant sectors.

The figure below shows the breakdown by climate relevant sectors in the portfolio.



[View the full scenario analysis](#)

EXECUTIVE SUMMARY

The figure below shows the estimated percent of the portfolio currently exposed to activities across the high carbon sectors.

The results show the share of the portfolio potentially exposed to transition risks in the fossil fuel, power, and automotive sectors. The results are calculated by first calculating the exposure of the portfolio to companies active in each of these sectors, and then calculating the specific technology exposure on the basis of the breakdown of those companies' asset base.

The percentages are compared to the market, which is calculated in the same way.

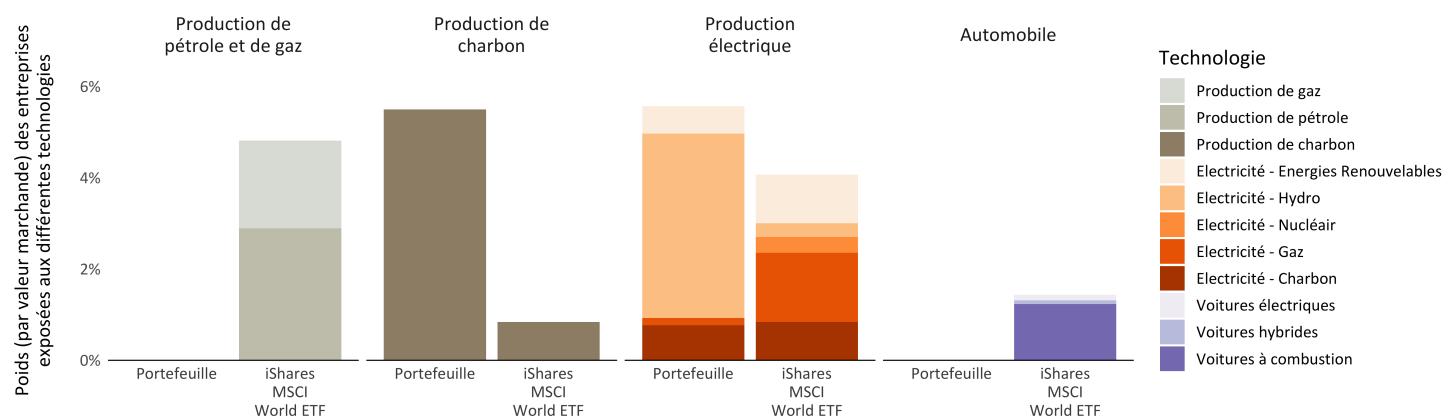
The extent to which these risks will materialize is likely to be in part a function of the evolution of the companies' activities over time.

Note: In the graphs below, coal is shown separately to highlight those results. In the graphs below and throughout this report, "ICE" refers to Internal Combustion Engine (petrol and diesel) vehicles.

Current exposure of the corporate bond portfolio to high-carbon and low-carbon activities, as a % of the portfolio, compared to the bond market

Aucune donnée dans le portefeuille.

Current exposure of the equity portfolio to high-carbon and low-carbon activities, as a % of the portfolio, compared to the equity market



EXECUTIVE SUMMARY

CORPORATE BOND PORTFOLIO

This scenario analysis presents the magnitude of the current exposure to each technology and the expected deviation of this from the portfolio aligned with the ScenarioValue in Startyear+5.

The exposure is the aggregated weight of each technology from each issuer currently in the portfolio. This is compared to the aggregated weight of each technology for all issuers in the corporate bond market.

The deviation from the aligned portfolio represents the percentage difference in production between the portfolio and the portfolio if it were to follow the ScenarioValue transition by Startyear+5. For lower carbon technologies, a positive value represents an over exposure to the technology compared to the aligned portfolio. For higher carbon technologies, a positive value represents an under exposure to the technology compared to the aligned portfolio.

The exposure of the corporate bond portfolio to each technology compared to the corporate bond market in Startyear.

Aucune donnée dans le
portefeuille.

EXECUTIVE SUMMARY

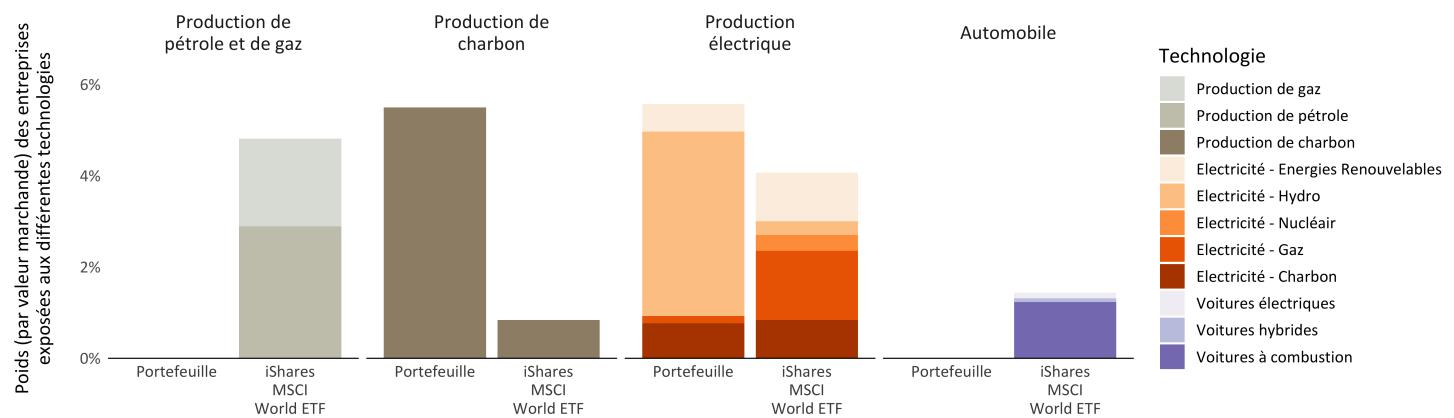
EQUITY PORTFOLIO

This scenario analysis presents the magnitude of the current exposure to each technology and the expected deviation of this from the portfolio aligned with the ScenarioValue in Startyear+5.

The exposure is the aggregated weight of each technology from each issuer currently in the portfolio. This is compared to the aggregated weight of each technology for all issuers in the listed equity market.

The deviation from the aligned portfolio represents the difference in production from the portfolio to the portfolio if it were to follow the ScenarioValue by Startyear+5. For lower carbon technologies, a positive value represents an over exposure to the technology compared to the scenario. For higher carbon technologies, a positive value represents an under exposure to the technology compared to the scenario.

The exposure of the equity portfolio to each technology compared to the equity market in Startyear.





SECTION 1: INTRODUCTION

REPORT CONTENTS

This report provides a scenario analysis, following part of the recommendations of the G20's Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD). Specifically, it seeks to inform the reader about four issues.

1. What is the current exposure of the portfolio to economic activities affected by the transition to a low-carbon economy? (Section 2)

The first part of the report summarizes the exposures of the portfolio (in terms of % of the portfolio) to business activities potentially affected by the transition to a low-carbon economy and by extension to transition risk. Specifically, it will quantify the percent of the portfolio exposed to low-carbon and high-carbon activities across the fossil fuel, power, and automotive sectors. The results will be presented relative to the market.

2. Does the portfolio increase or decrease its alignment to the ScenarioValue over the next 5 years? (Section 3)

The second part of the report will quantify the extent to which the portfolio is building or reducing risk in terms of being aligned / misaligned with the ScenarioValue pathway over the next 5 years. The analysis will focus on technologies in the fossil fuel sector (oil production, gas production, coal mining), electric power sector (coal power, gas power, nuclear power, renewables power), and automotive sector (internal combustion engine vehicles and electric vehicles). Additionally, information is provided regarding the necessary progression of carbon emission intensity for the

aviation, shipping, cement and steel sectors compared to Energy Technology Perspectives scenarios from the IEA.

3. What is the expected future exposure to high- and low-carbon economic activities based on the current revealed production and investment plans of the companies in the portfolio? (Section 4)

Section 4 of this report will quantify the expected evolution of the portfolio's exposure to high-carbon and low-carbon activities in 5 years (Startyear+5) based on the current revealed production and investment plans of companies in portfolio with business activities in the fossil fuel, power, and automotive sectors. The section will show the portfolio's expected future technology mix in each sector compared to the expected future technology mix of both the aggregated investment portfolio of the peer group included in this analysis and the market aligned to a ScenarioValue. Additionally the regional exposure to coal mining activities shall also be displayed.

4. What is driving the results? (Section 5)

Section 5 will provide background on the securities and companies driving the results presented in the previous sections, including additional analysis on individual companies' profiles.

For clarity, background information outlining the context of scenario analysis, the scenarios and modelling and transition risk is provided at the end of the report (Section 6). The views of WWF are also included in Section 6.

Section 1: Introduction

Section 2: The current exposure

Section 3: Trajectory of the portfolio relative to transition scenarios

Section 4: The expected exposure in Startyear+5

Section 5: Company exposure

Section 6: Sovereign bonds physical and transition risk exposure analysis

Section 7: Background to the model



SECTION 2: THE CURRENT EXPOSURE

CURRENT EXPOSURE

COMPARISON TO MARKET

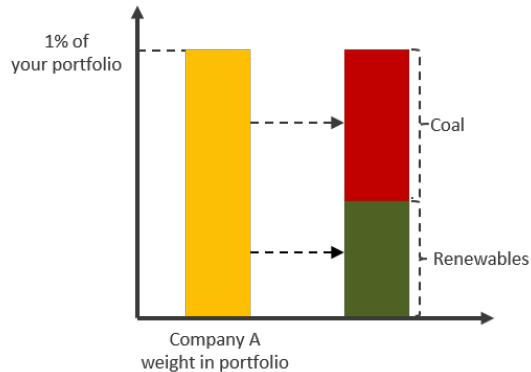
This page provides information on the estimated percent of the portfolio currently exposed to activities across the fossil fuel, power, and automotive sectors.

These business activities account for roughly 70-90% of energy-related CO₂-emissions in the typical investor portfolio. The graphs below show the weight of each technology/fuel in the portfolio by asset class and sector, and by extension the share of each portfolio potentially exposed to transition risks in the fossil fuel, power, and automotive sectors. For context, the results of the current bond and equity markets are also included.

The results are calculated by first calculating the exposure of the portfolio to companies active in the fossil fuel, automotive, and power sectors, and then calculating the

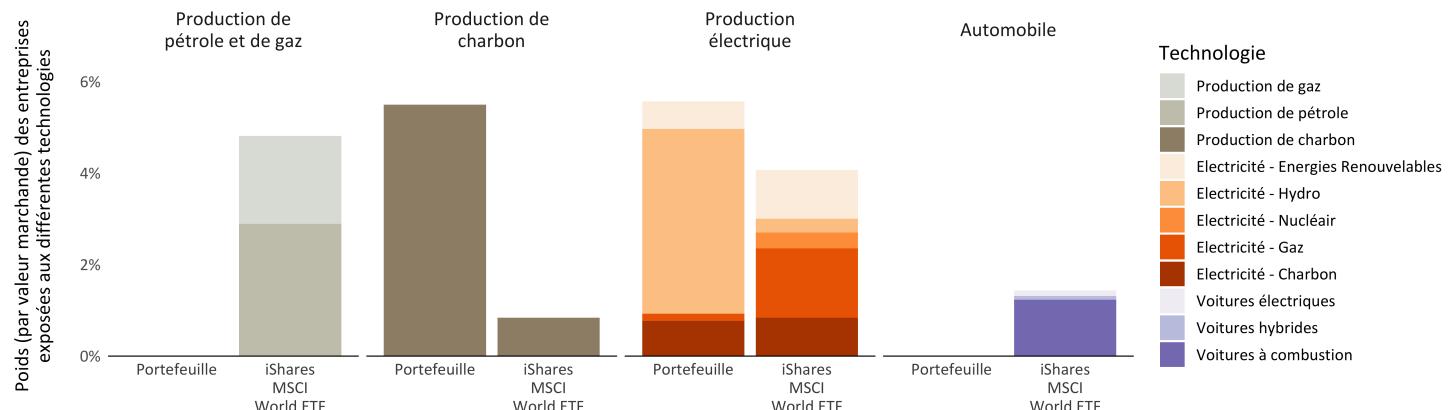
Current exposure of the corporate bond portfolio to high-carbon and low-carbon activities, as a % of the portfolio, compared to the bond market.

specific technology exposure on the basis of the breakdown of these companies' asset base (see Fig. below).



Aucune donnée dans le portefeuille.

Current exposure of the equity portfolio to high-carbon and low-carbon activities, as a % of the portfolio, compared to the equity market.





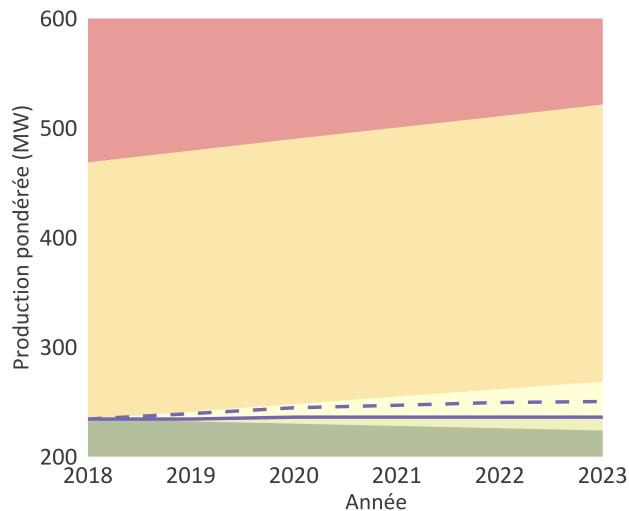
SECTION 3: TRAJECTORY OF THE PORTFOLIO RELATIVE TO TRANSITION SCENARIOS

5 YEAR TREND - CORPORATE BONDS POWER

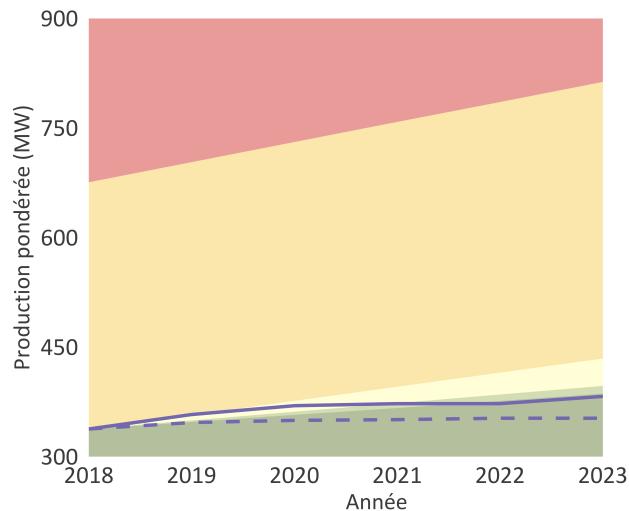
The alignment graphs below show the alignment of selected power technologies in the corporate bond portfolio relative to the IEA transition scenarios: B2DS (well below 2°C), SDS (2°C), NPS (4°C), CPS (6°C) and the bond market. For each technology, the value plotted for the portfolio (solid line) is the planned evolution or 'trajectory' of installed capacity allocated to the corporate bond portfolio

over the next 5 years. The lines separating the color-coded background areas plot the portfolio's 'target production' for each technology under the IEA scenarios. The dotted line shows the planned trajectory of installed capacity in the specific technology for the bond market, scaled to the same starting point as the portfolio.

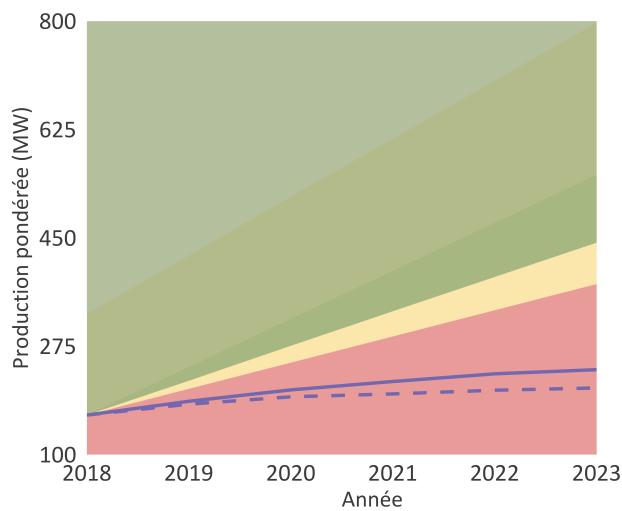
Trajectory of Coal Power Capacity



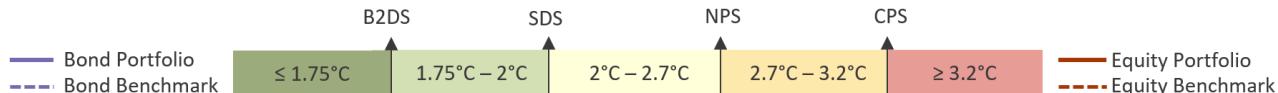
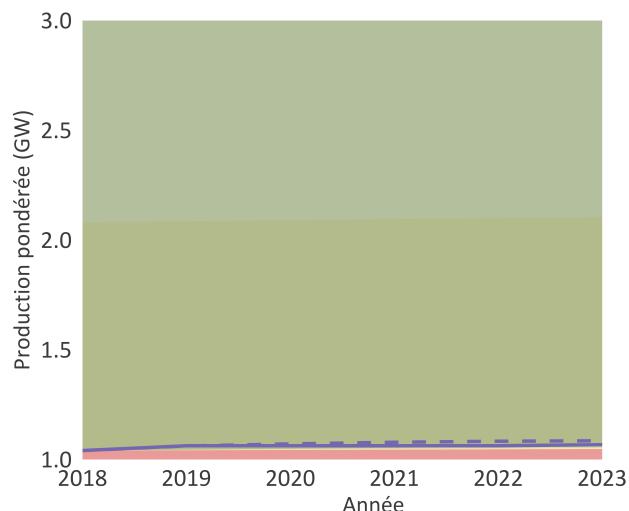
Trajectory of Gas Power Capacity



Trajectory of Renewable Power Capacity*



Trajectory of Nuclear Power Capacity



*Due to differences in assumptions about the technology mix within the renewable power sector between the B2DS and SDS, the SDS may appear more ambitious for renewable energy than the B2DS. However power generation from renewables is still expected to be greater in the B2DS despite the reduced capacity.

5 YEAR TREND - EQUITY

POWER

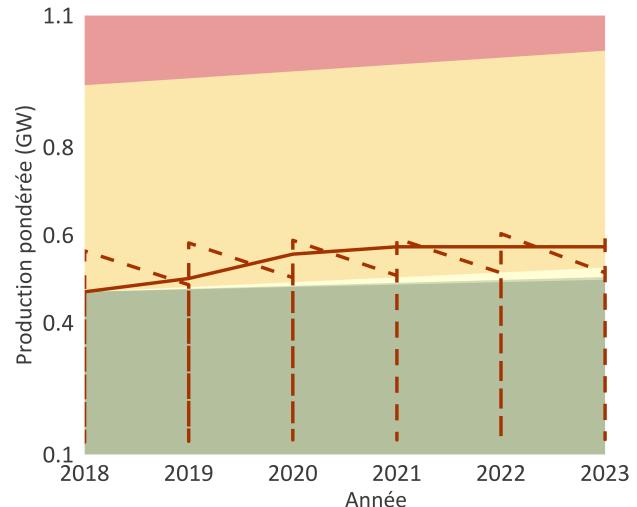
The alignment graphs below show the alignment of selected power technologies in the equity portfolio relative to the IEA transition scenarios: **B2DS** (well below 2°C), **SDS** (2°C), **NPS** (4°C), **CPS** (6°C) and the global listed equity market. For each technology, the value plotted for the portfolio (solid line) is the planned evolution or ‘trajectory’ of installed capacity allocated to

the equity portfolio over the next 5 years. The lines separating the color-coded background areas plot the portfolio’s ‘target production’ for each technology under the IEA scenarios. The dotted line shows the planned trajectory of installed capacity in the specific technology for the listed equity market, scaled to the same starting point as the portfolio.

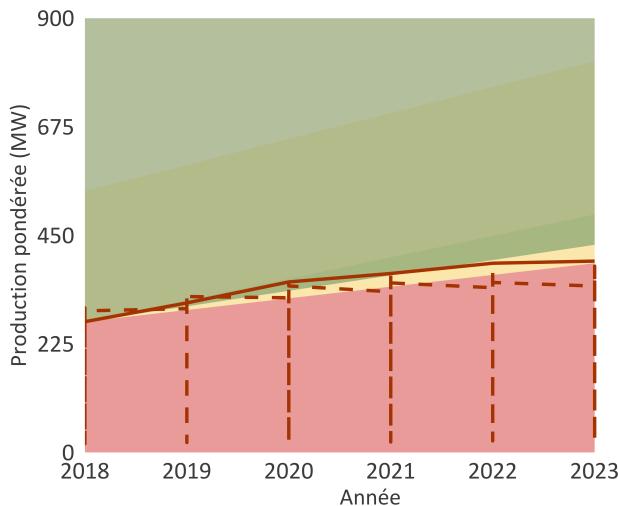
Trajectory of Coal Power Capacity

Votre portefeuille n'a pas de données de production pour la technologie, le scénario, la région et/ou le marché sélectionné.

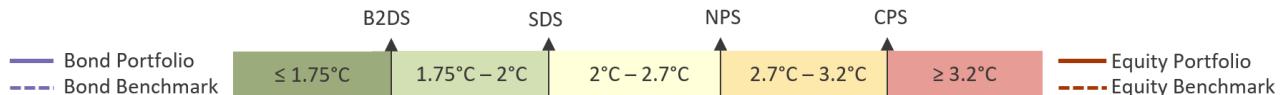
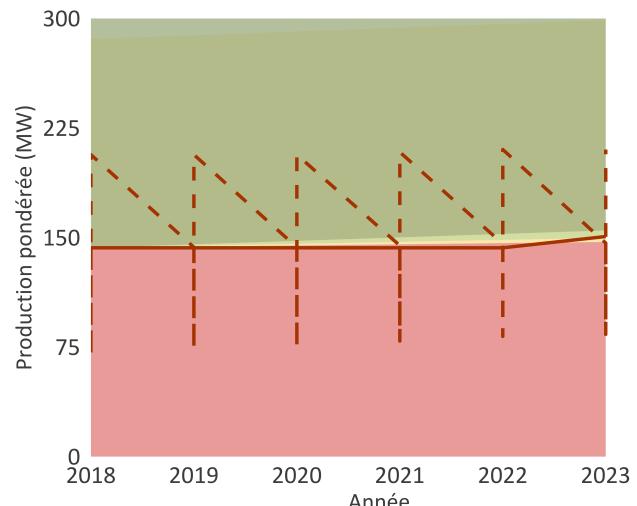
Trajectory of Gas Power Capacity



Trajectory of Renewable Power Capacity*



Trajectory of Nuclear Power Capacity



*Due to differences in assumptions about the technology mix within the renewable power sector between the B2DS and SDS, the SDS may appear more ambitious for renewable energy than the B2DS. However power generation from renewables is still expected to be greater in the B2DS despite the reduced capacity.

5 YEAR TREND - CORPORATE BONDS

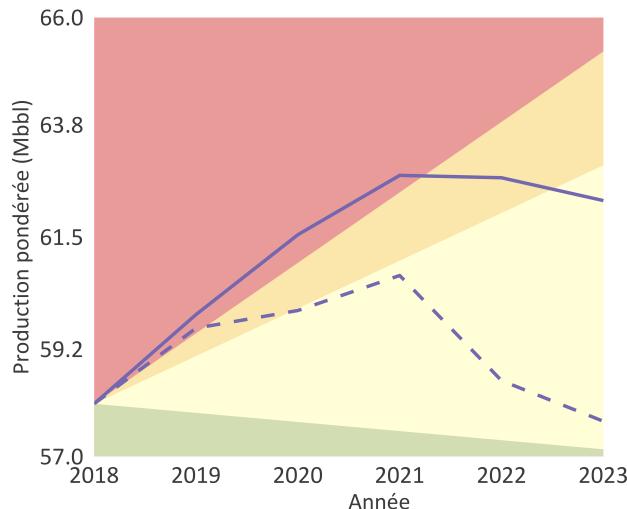
FOSSIL FUELS

The alignment graphs below show the alignment of fossil fuels in the corporate bond portfolio relative to the IEA transition scenarios: B2DS (well below 2°C), SDS (2°C), NPS (4°C), CPS (6°C) and the bond market. For each technology, the value plotted for the portfolio (solid line) is the planned evolution or ‘trajectory’ of fossil fuel production allocated to the corporate bond portfolio over

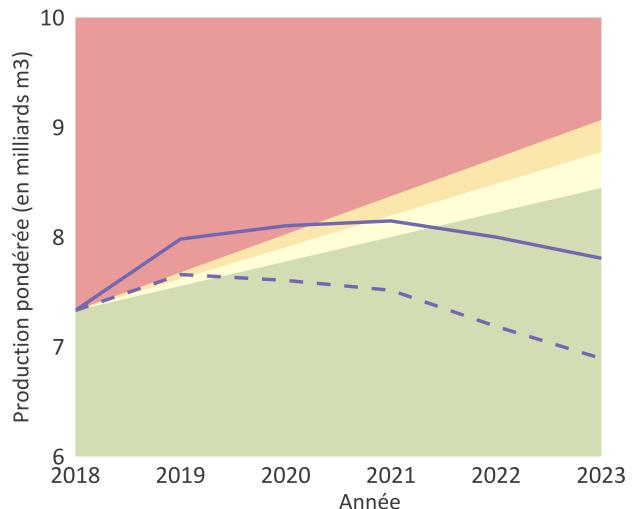
the next 5 years. The lines separating the color-coded background areas plot the portfolio’s ‘target production’ for each technology under the IEA scenarios. The dotted line shows planned production in the specific technology for the bond market, scaled to the same starting point as the portfolio.

Fossil Fuel Sector

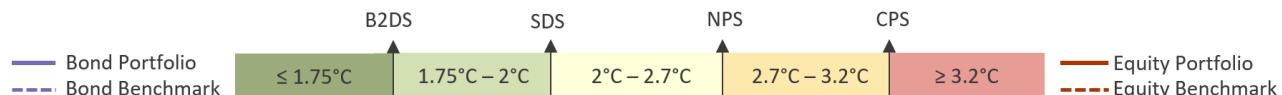
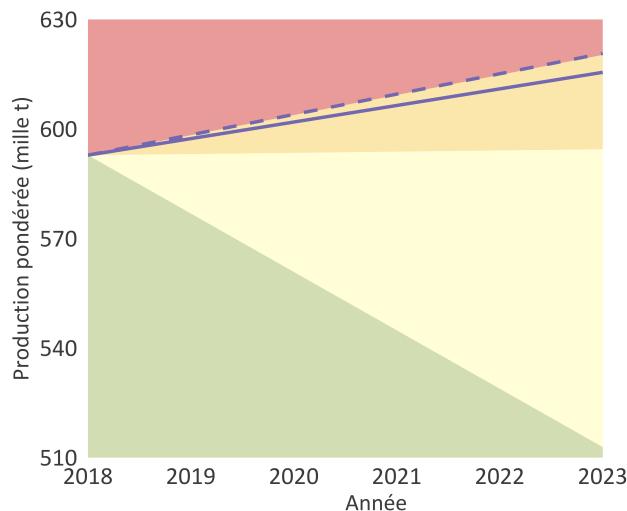
Trajectory of Oil Production



Trajectory of Gas Production



Trajectory of Coal Production



5 YEAR TREND - EQUITY

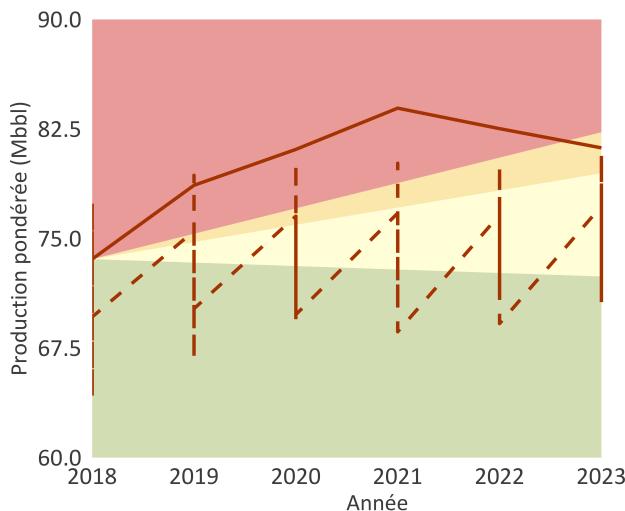
FOSSIL FUELS

The alignment graphs below show the alignment of fossil fuels in the equity portfolio relative to the IEA transition scenarios: B2DS (well below 2°C), SDS (2°C), NPS (4°C), CPS (6°C) and the global corporate bond market. For each technology, the value plotted for the portfolio (solid line) is the planned evolution or 'trajectory' of fossil fuel production allocated to the equity portfolio over the next

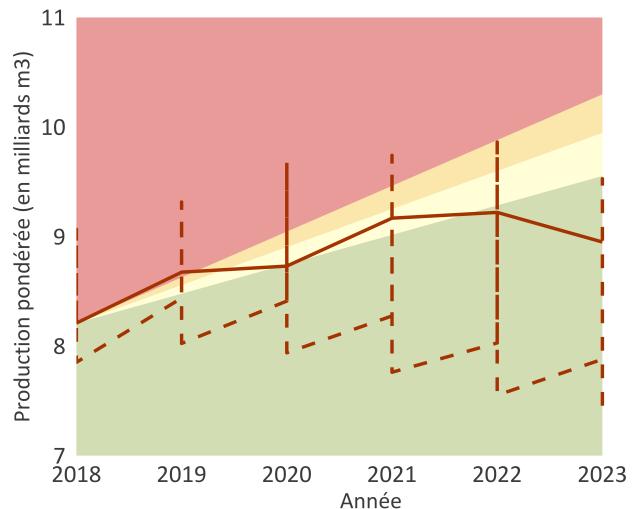
5 years. The lines separating the color-coded background areas plot the portfolio's 'target production' for each technology under the IEA scenarios. The dotted line shows planned production in the specific technology for the corporate bond market, scaled to the same starting point as the portfolio.

Fossil Fuel Sector

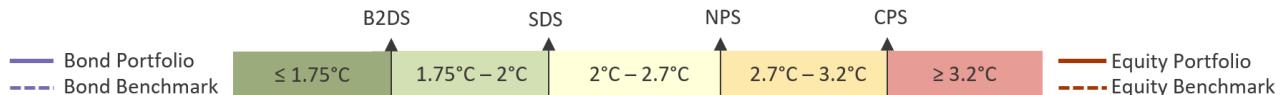
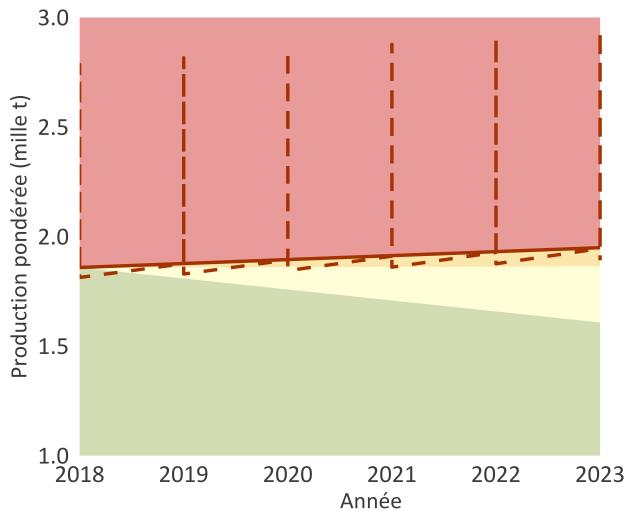
Trajectory of Oil Production



Trajectory of Gas Production



Trajectory of Coal Production



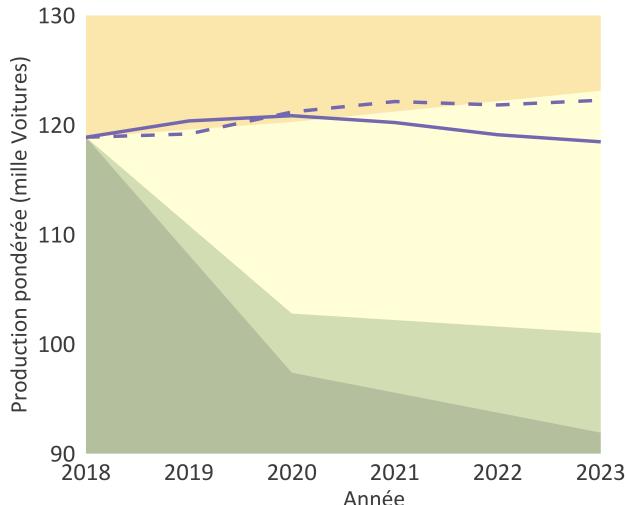
5 YEAR TREND - CORPORATE BONDS

AUTOMOTIVE

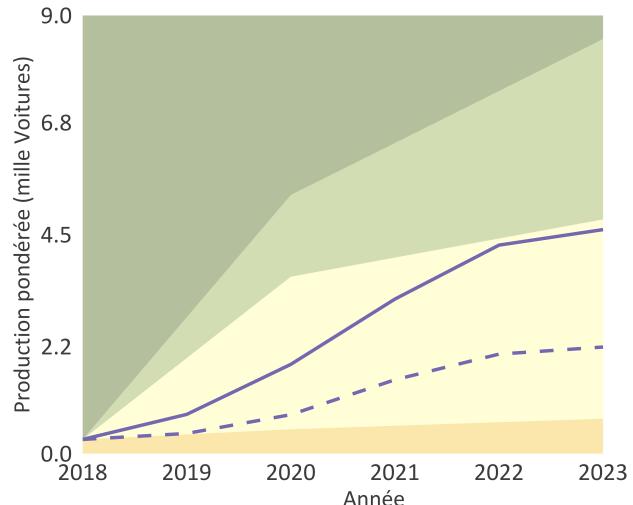
The alignment graphs below show the alignment of automobile technologies in the corporate bond portfolio relative to the IEA scenarios: B2DS (well below 2°C), SDS (2°C), NPS (4°C), CPS (6°C) and the bond market. For each technology, the value plotted for the portfolio (solid line) is the planned evolution of automobile production allocated to the corporate bond portfolio over the next 5

years. The lines separating the color-coded background areas plot the portfolio's target production for each technology under the IEA scenarios. The dotted line shows planned production in the specific technology for the bond market, scaled to the same starting point as the portfolio.

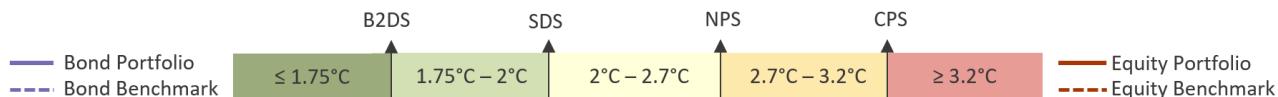
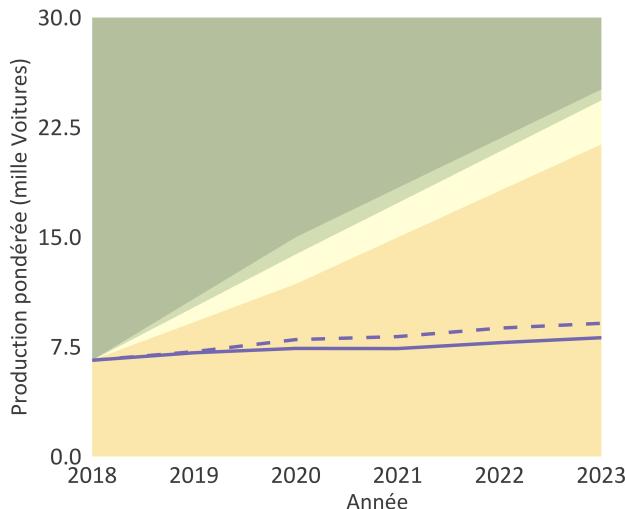
Trajectory of ICE Vehicle Production



Trajectory of Electric Vehicle Production



Trajectory of Hybrid Vehicle Production



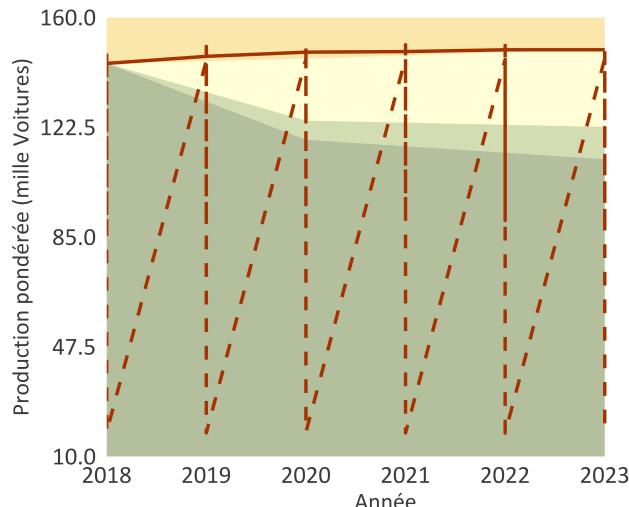
5 YEAR TREND - EQUITY

AUTOMOTIVE

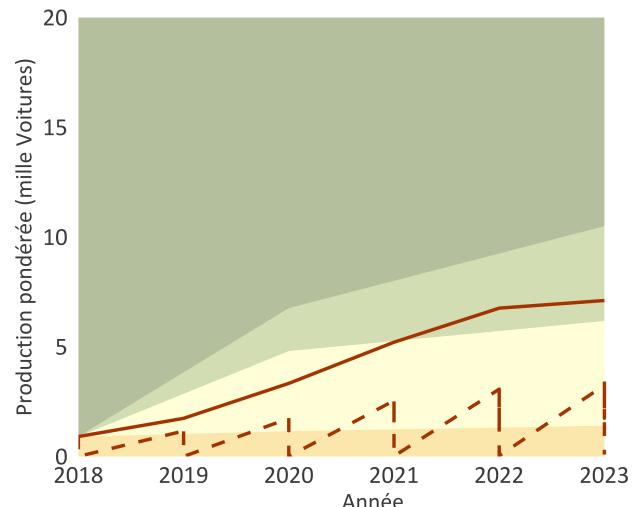
The alignment graphs below show the alignment of automobile technologies in the equity portfolio relative to the IEA scenarios: **B2DS (well below 2°C), SDS (2°C), NPS (4°C), CPS (6°C) and the global equity market.** For each technology, the value plotted for the portfolio (solid line) is the planned evolution of automobile production allocated to the equity portfolio over the next 5 years.

The lines separating the color-coded background areas plot the portfolio's target production for each technology under the IEA scenarios. The dotted line shows planned production in the specific technology for the listed equity market, scaled to the same starting point as the portfolio.

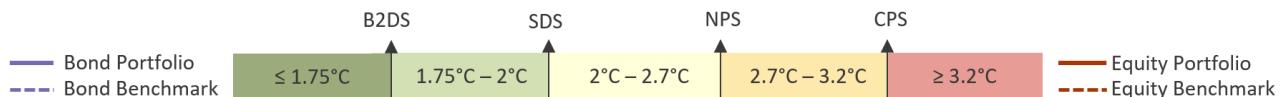
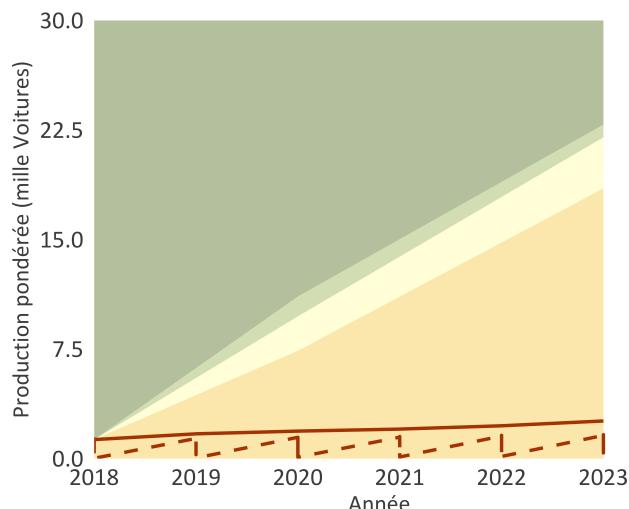
Trajectory of ICE Vehicle Production



Trajectory of Electric Vehicle Production



Trajectory of Hybrid Vehicle Production

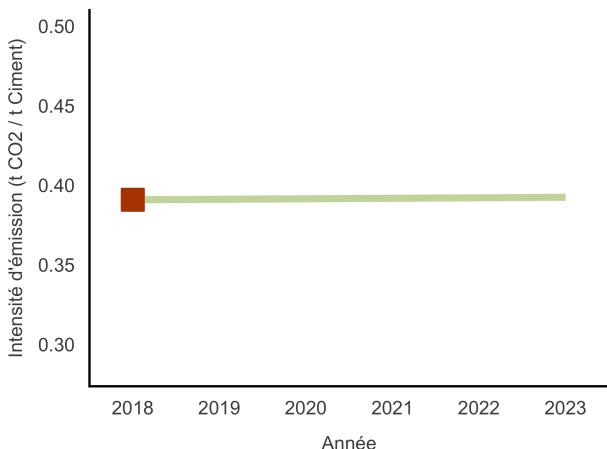


EMISSION INTENSITY ANALYSIS

There are a number of sectors for which no substitutable lower carbon technologies exist at scale on the market or there is insufficient asset level or scenario data. This is relevant to the steel, cement, shipping and air transport sectors. For these sectors, an analysis of the required changes in emissions intensity is conducted.

For these sectors, decarbonisation efforts are confined to increasing efficiency in production and use, as well as investment in research and development in the next 5-10 years, in order to bring CO₂-neutral alternatives to market maturity in the medium term. As a result, both the scenarios and the data are relatively imprecise.

Cement

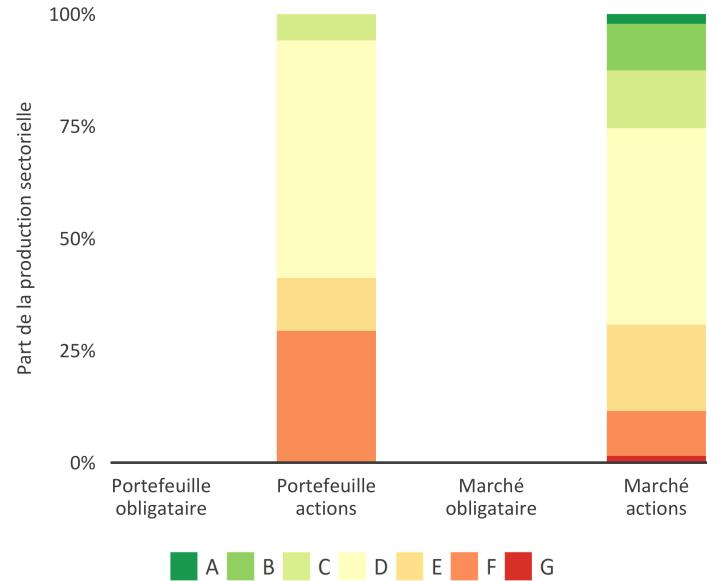


The figures presented below are based on external CO₂ intensity estimates, based on a publicly available emissions estimation model developed by 2Dii together with the consulting company Ernst & Young. For shipping, an external CO₂ rating model developed by Rightship and the Carbon War Room has been used. A rating of A is indicative of best in class ship efficiency and G worst in class. Since this model is estimated externally and top-down, it is associated with some uncertainties. The results should therefore be considered as estimates, in contrast to the scenario analysis of the energy, electricity and automotive sectors. More information can be found in Section 6.

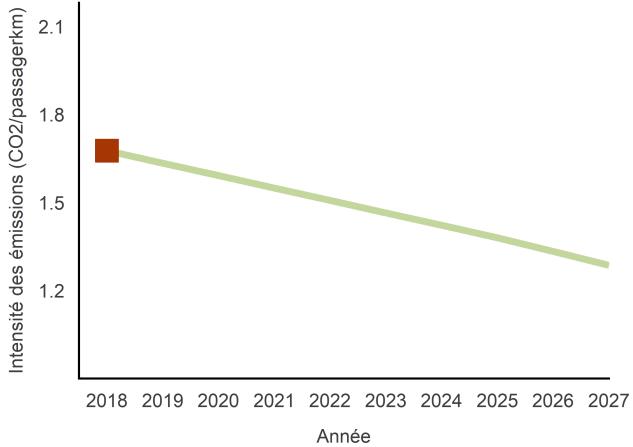
Steel

Le portefeuille n'a
aucune entreprise dans
le secteur de l'acier.

Shipping



Aviation



- █ Current emissions intensity for your equity portfolio
- █ Current emissions intensity for your fixed income portfolio
- █ Target emissions intensity for the relevant portfolio

Source: 2Dii based on EY 2016, PlantFacts, FlightAscend, Rightship, Carbon War Room, IEA 2017 and SDA 2015



SECTION 4: THE EXPOSURE OF THE PORTFOLIO TO THE ScenarioValue IN Startyear+5

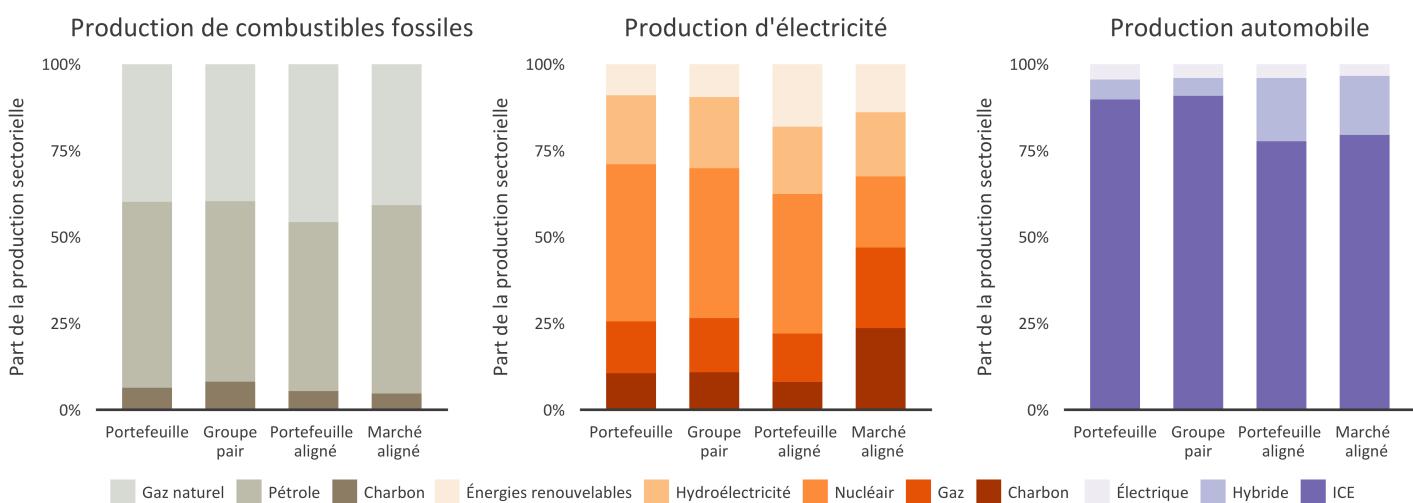
FUTURE TECHNOLOGY SHARE

The figure below shows the estimated exposure in Startyear+5 to high-carbon and low-carbon technologies for the fossil fuels, power, and automotive sector, in both the corporate bond and equity portfolios.

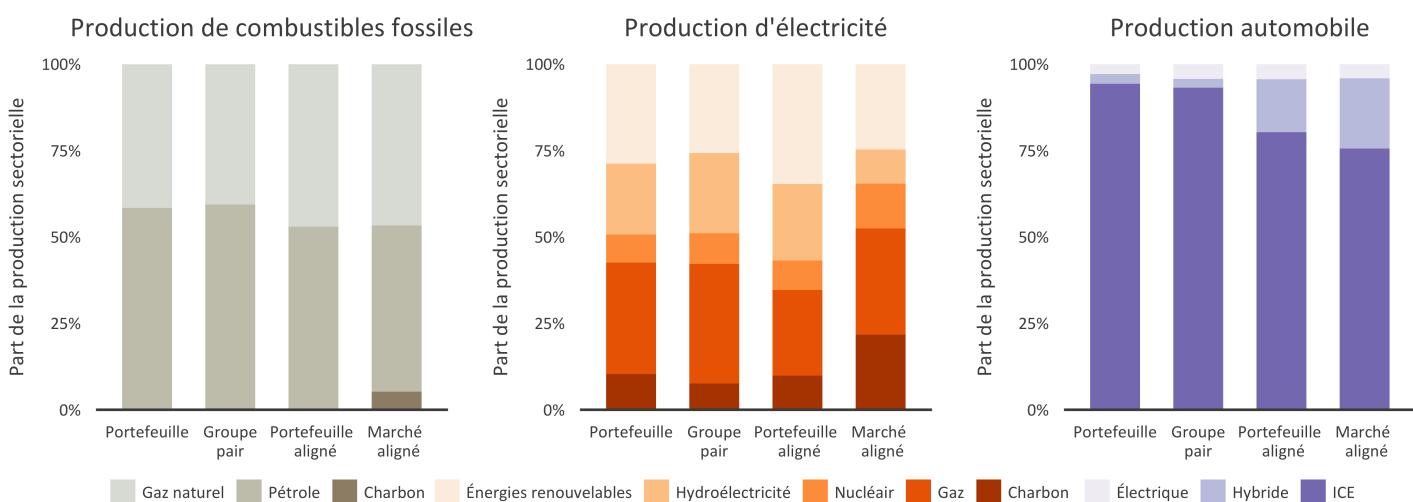
The results are a function both of the starting point of the exposure (Section 2) and the evolution of the exposure over time (Section 3) based on current revealed investment and production plans for all technologies. The results show the relative exposure of the portfolios across asset classes and technologies / fuels. The results are compared to the aligned market fuel mix under a ScenarioValue transition in Startyear+5.

As highlighted previously, the analysis does not include assumptions around changes in portfolio composition. Rather, it is limited to how the portfolio's exposure to high-carbon and low-carbon technologies is set to change over time as a function of changes in company exposures, independent of portfolio composition changes. The results help contextualize the share of the sectoral exposure in Startyear+5 exposed to transition risks in terms of the share of activities that can be classified as either high-carbon or low-carbon. Given the marginal nature of renewable activities across oil and gas companies, this share has not been considered in the analysis, although it may over time represent a growing share.

Corporate Bonds



Equity



PEER COMPARISON CORPORATE BONDS

The following chart summarizes the deviation of the corporate bond portfolio from the ScenarioValue and provides a comparison to the peers in Startyear+5. A value to the right of the line indicates an overalignment to the scenario; for example for

low carbon technologies more exposure, and for high carbon technologies under exposure. Low carbon technologies are defined as technologies that should increase in capacity over 5 years as defined by the ScenarioValue.

PEER COMPARISON EQUITY

The following chart summarizes the deviation of the corporate bond portfolio from the ScenarioValue and provides a comparison to the peers in Startyear+5. A value to the right of the line indicates an overalignment to the scenario; for example for low carbon

technologies more exposure, and for high technologies under exposure. Low carbon technologies are defined as technologies that should increase in capacity over 5 years as defined by the ScenarioValue.

REGIONAL EXPOSURE

COAL MINING

The following charts show the regional exposure of the corporate bond and equity portfolios to coal mining in Startyear+5. This is the aggregation of coal mining allocated to the portfolio in each region.

Regional exposure of the corporate bond portfolio to coal mining

Votre portefeuille ne possède aucune technologie de production, ni scénario, ni marché.

Regional exposure of the equity portfolio to coal mining

Votre portefeuille ne possède aucune technologie de production, ni scénario, ni marché.



SECTION 5: COMPANY EXPOSURE

CONTRIBUTIONS OF SECURITIES TO THE RESULTS

The objective of this section is to provide insight into the specific companies driving the results presented in the previous sections.

The following pages will show results for individual companies in the fossil fuel, power, and automotive sectors. The analytics provided show just one piece of information related to potential scenario analysis of companies and their contribution to a portfolio's performance. A range of additional indicators could be considered that go beyond the scope of this particular report. The indicators presented here should not be considered as investment recommendations, but rather as information about the companies driving the results of the portfolio scenario analysis. Section 6 provides further detail on the data sources informing this section.

As part of a partnership with a range of technical experts, 2Dii is currently developing a company scenario analysis report mirroring the portfolio reports presented here, designed to be made freely available and provide a more comprehensive and holistic picture of a company's positioning relative to a decarbonization scenario. This infrastructure can be used to inform future scenario analysis and actions and will be launched in the second half of 2018. The analytics in this report thus only show a snapshot of the type of data that can be explored.

The following will briefly summarize the type of data that is shown for each sector that is present in the portfolio.

Oil and gas. For oil and gas production, three types of indicators are shown.

1. The first indicator is the total planned change in production of oil and gas companies over the next 5 years, based on the currently revealed production plans in the asset-level databases. The graphs on the next page show the largest companies by amount of oil or gas production allocated to the corporate bond and equity portfolios in Startyear; these companies have the most influence on the portfolio's alignment results for the fossil fuels sector. For each asset class and technology, the results are shown relative to the portfolio's targeted total change in production during the 5 year period under the ScenarioValue (green bar). It should be noted that the figures provided are based on current estimated production and evolution of the existing

asset base. Mergers, acquisitions, and increases in capital expenditure relative to baselines may of course lead to changes in these trends over time.

2. The second indicator builds on analysis conducted by the Carbon Tracker Initiative in partnership with the UN Principles for Responsible Investment (UNPRI). This indicator takes a more long-term view and analyses the alignment of companies with a 2°C carbon budget from the perspective of the cost structure of their oil and gas assets. This indicator differs from the first in terms of the time horizon and the underlying allocation rules that allocate macro scenarios to microeconomic actors. More information on the methodology and the approach can be found at <http://www.2degreesseparation.com/>. This indicator can only be used to analyze the listed equity portfolio, as data is unavailable for corporate bond securities.
3. The third indicator shows the breakdown of oil assets of individual companies by type of oil (e.g., conventional, tar sands, etc.). Wood Mackenzie (2018) proposes that while shifting away from high-carbon fuels towards low carbon is necessary as an overall trend, within the oil and gas industry, shifting away from particular extraction methods is a transitional alternative. This report does not comment on the emissions by extraction type, however data is available on this. Investors need to look beyond resource themes and review the variations in upstream emissions intensity to see how companies can reduce their carbon footprints. Even assets of the same theme can have significantly different emissions intensity based upon maturity, location and other unique factors.

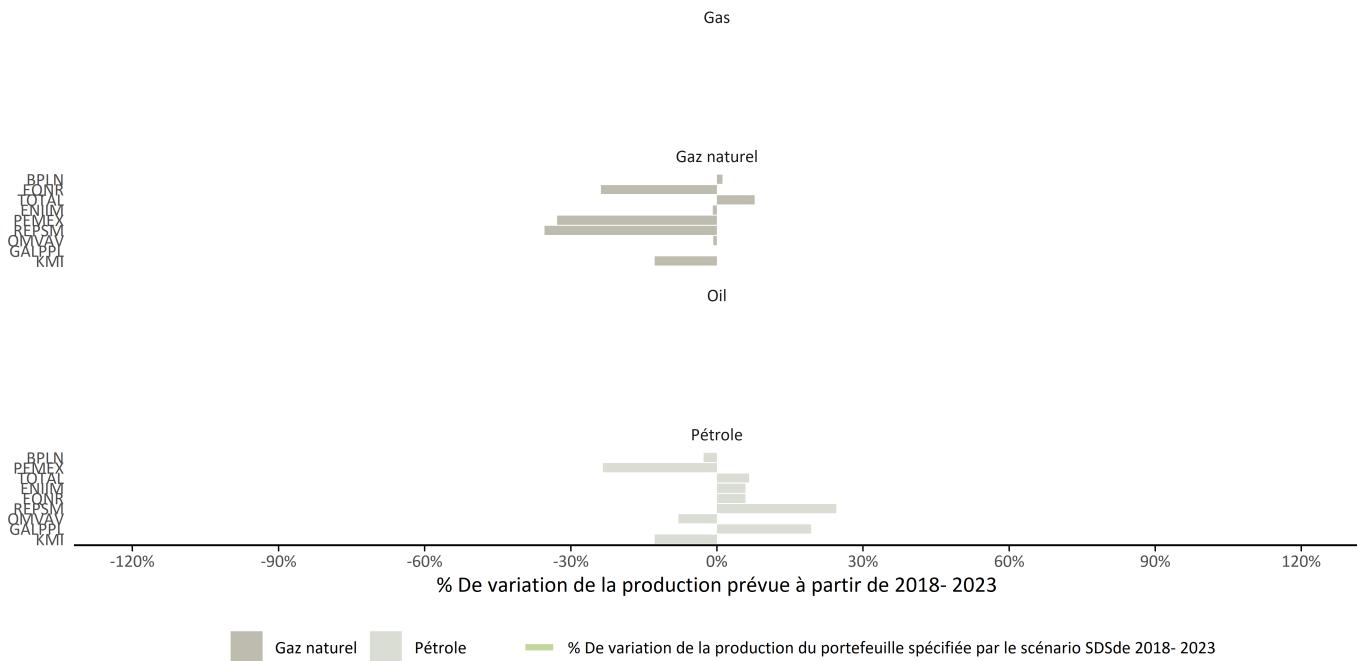
Power and automotive sectors. For the power and automotive sectors, the company level information focuses on the technology mix of the utilities and automotive manufacturers in the corporate bond and equity portfolios, informing in particular the results for Section 4. Additional information on the build out plans of these companies and the changes over time can be provided upon request.

Please note, for the corporate bond portfolio, the results are provided at debt ticker level. This is because a single debt ticker could be associated with multiple companies.

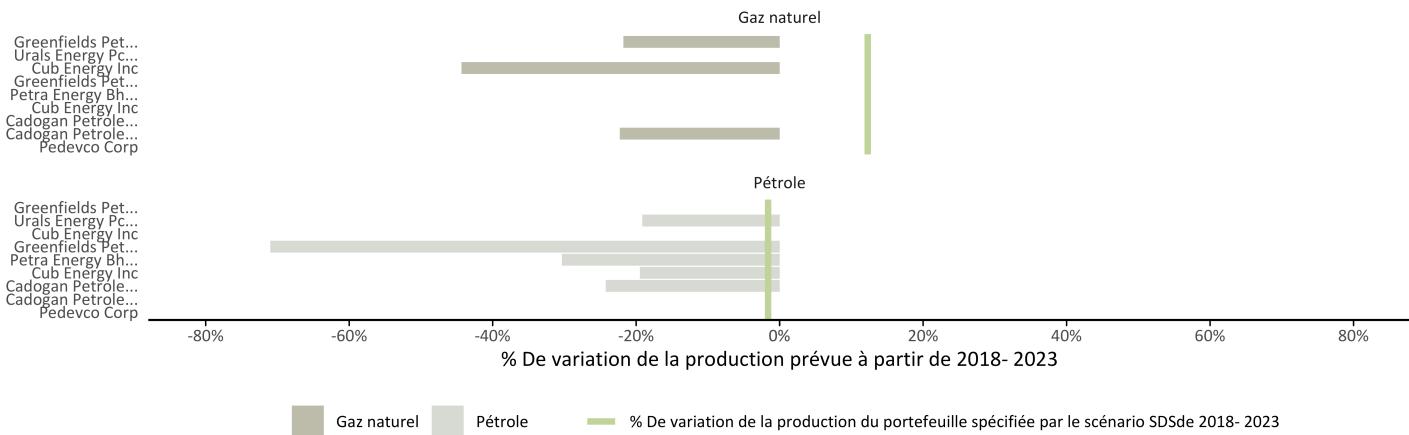
CONTRIBUTIONS OF SECURITIES TO THE RESULTS

OIL AND GAS

Planned changes in oil and gas production of companies with most production allocated to the corporate bond portfolio in Startyear+5.
 This graph shows the planned increases and decreases in production for gas and oil for the largest companies in this sector in the corporate bond portfolio over the next five years. This is compared to the required change as per the ScenarioValue.



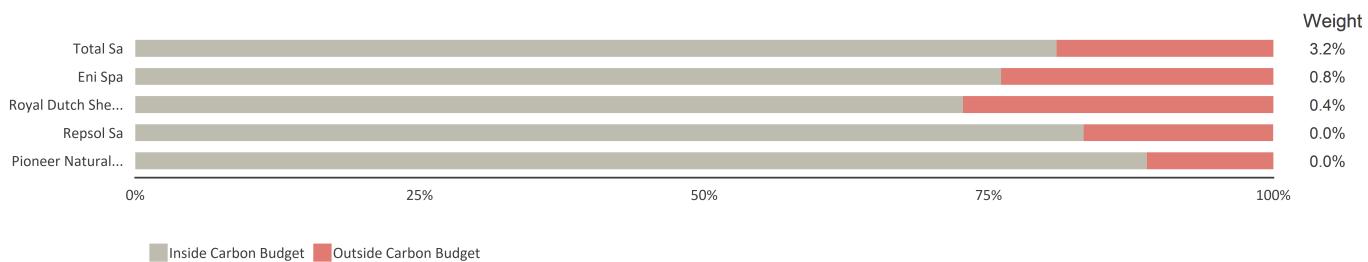
Planned changes in oil and gas production of companies with most production allocated to the equity portfolio in Startyear+5. This graph shows the planned increases and decreases in production for gas and oil for the largest companies in this sector in the equity portfolio over the next five years. This is compared to the required change as per the ScenarioValue.



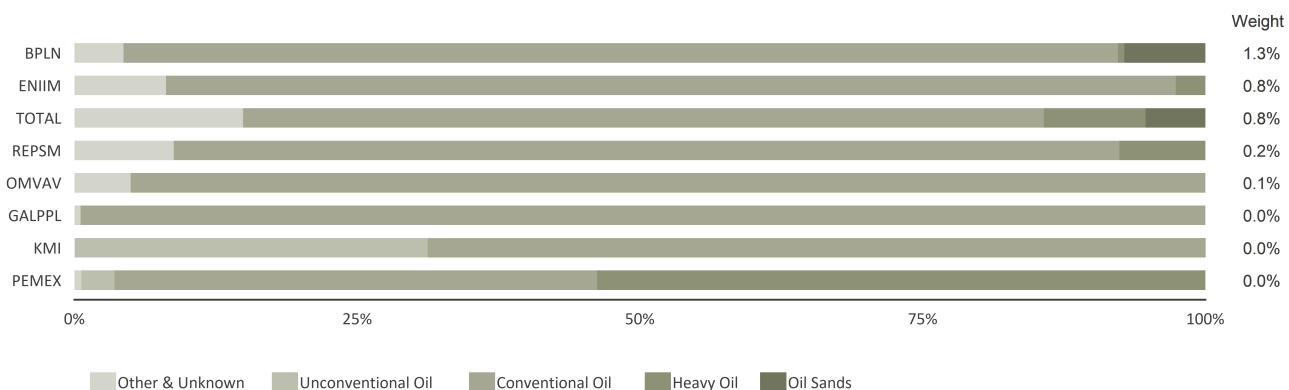
CONTRIBUTIONS OF SECURITIES TO THE RESULTS

OIL

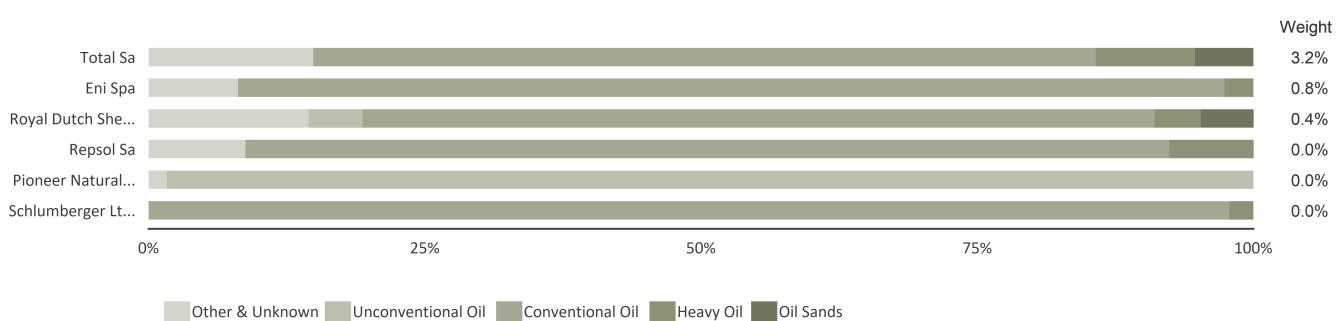
Carbon budget alignment of the largest oil companies in the equity portfolio in Startyear+5. This graph is based on the work of the Carbon Tracker Initiative and shows the carbon budget alignment, and by extension the level of potential exposure to unneeded capex, of the largest oil and gas producers (by market value).



Resource breakdown of oil production of the largest holdings in the corporate bond portfolio in Startyear+5. This graph shows oil production by type of oil for the largest holdings (by market value) of oil producers in the corporate bond portfolio.



Resource breakdown of oil production of the largest holdings in the equity portfolio in Startyear+5. This graph shows oil production by type of oil for the largest holdings (by market value) of oil producers in the equity portfolio.



CONTRIBUTIONS OF SECURITIES TO THE RESULTS

POWER

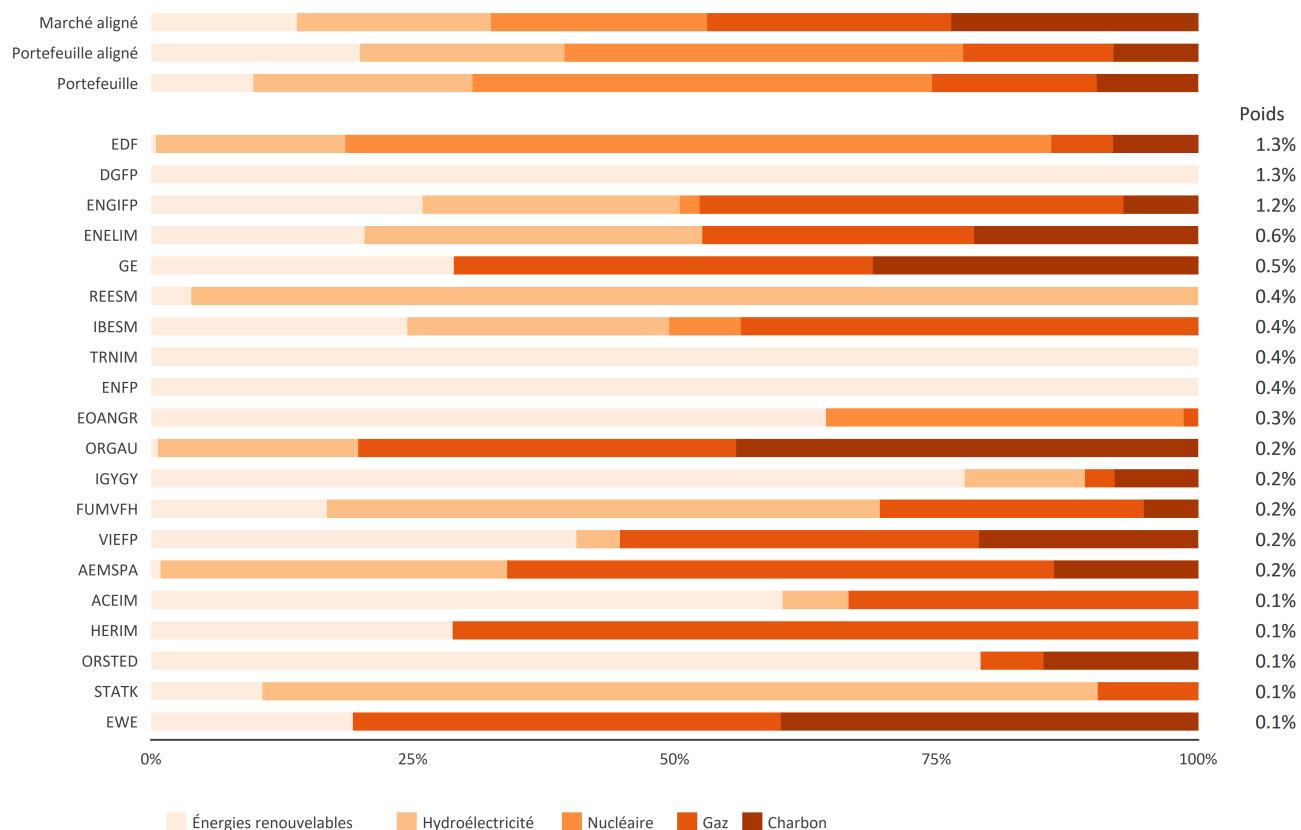
CONTRIBUTIONS OF SECURITIES TO THE RESULTS

POWER AND AUTOMOTIVE

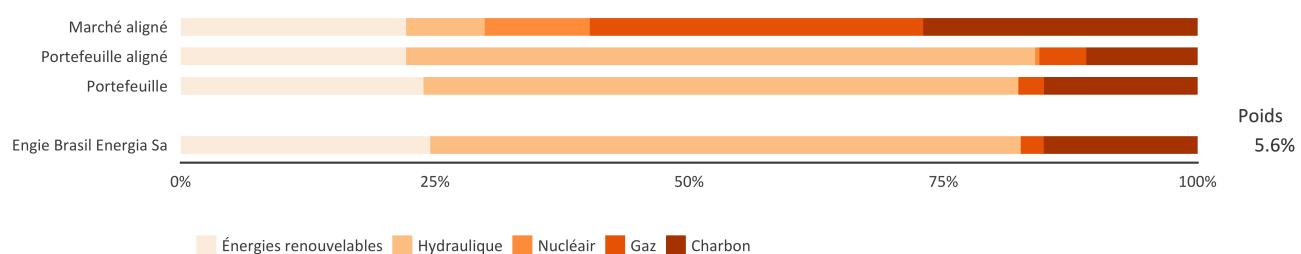
The figures below show the currently planned fuel mix in Startyear+5 for the largest holdings (by market value) of utilities in the corporate bond and equity portfolios.

The results are shown compared to the portfolio's currently planned fuel mix, the portfolio's target fuel mix under the ScenarioValue, and the aligned market's fuel mix all as of Startyear+5. The weight is the size of the total investment in each company as a percent of the total value of the relevant portfolio.

Technology breakdown of power companies within the corporate bond portfolio



Technology breakdown of power companies within the equity portfolio



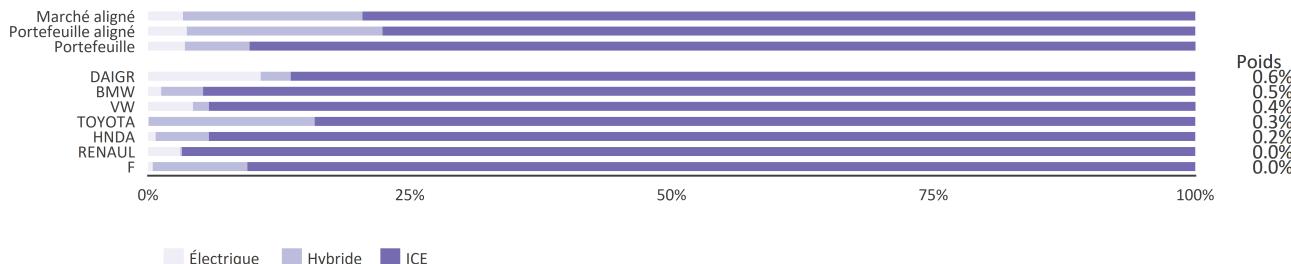
CONTRIBUTIONS OF SECURITIES TO THE RESULTS

AUTOMOTIVE

The figures below show the currently planned production mix of engine technologies in Startyear+5 for the largest holdings (by market value) of automobile manufacturers in the corporate bond and equity portfolios.

The results are shown compared to the portfolio's currently planned production mix, the portfolio's target production mix under the ScenarioValue, an the aligned market's currently planned production mix all as of Startyear+5. The weight is the size of the total investment in each company as a percent of the total value of the relevant portfolio.

Technology breakdown of automotive companies within the corporate bond portfolio



Technology breakdown of automotive companies within the equity portfolio

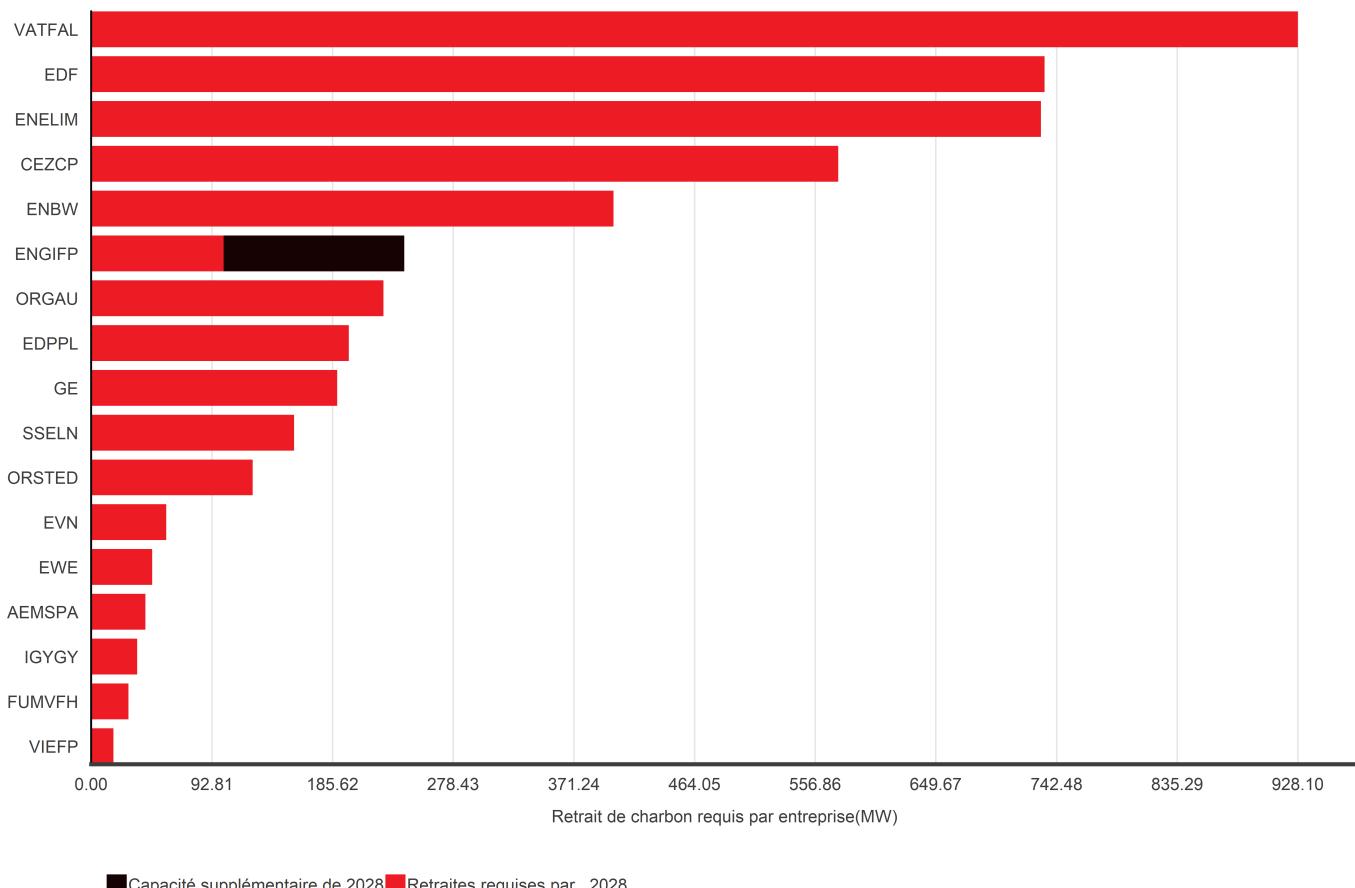
Votre portefeuille n'a
aucune entreprise dans
le secteur de
l'automobile.

COMPANY ENGAGEMENT

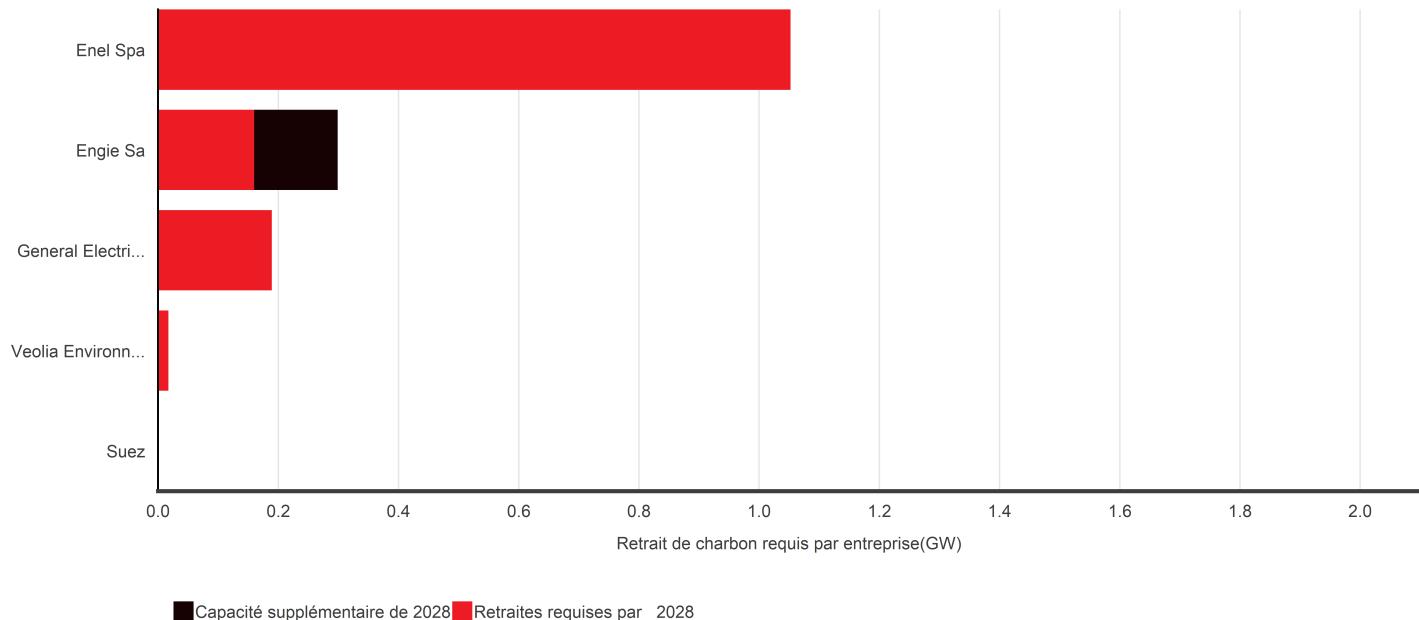
COAL POWER

The following figures show the required retirements and excessive additions of companies with the portfolios required by Startyear+10 to be aligned to the ScenarioValue. As capacity should decrease under the ScenarioValue, all new installed capacity should be offset by the retirement of existing capacity; this is represented by the additional capacity. The required retirements represent the existing capacity that should be retired on top of the additional installments.

Coal capacity retirements and additions of the companies within the corporate bond portfolio.



Coal capacity retirements and additions of the companies within the equity portfolio.

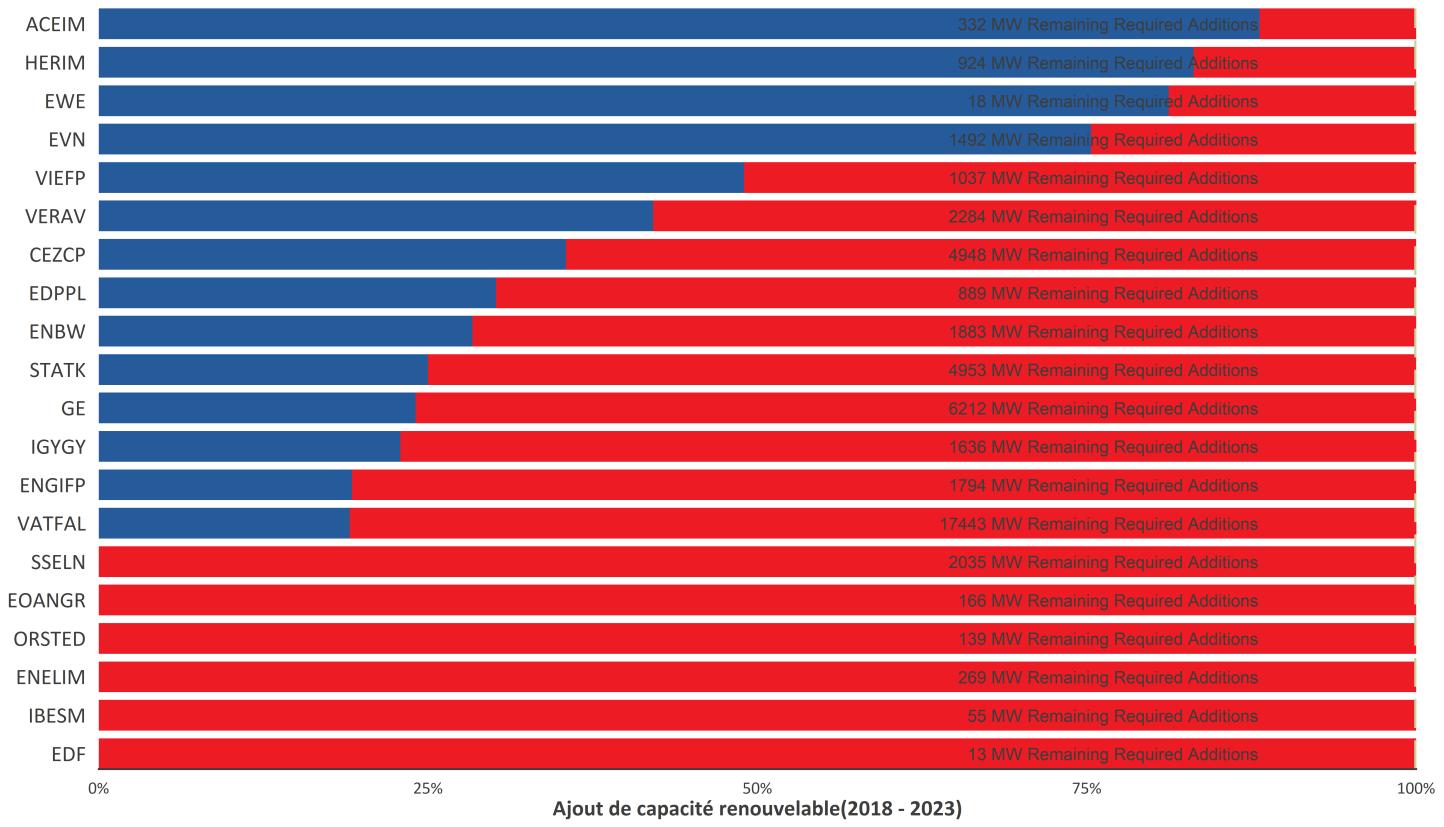


COMPANY ENGAGEMENT

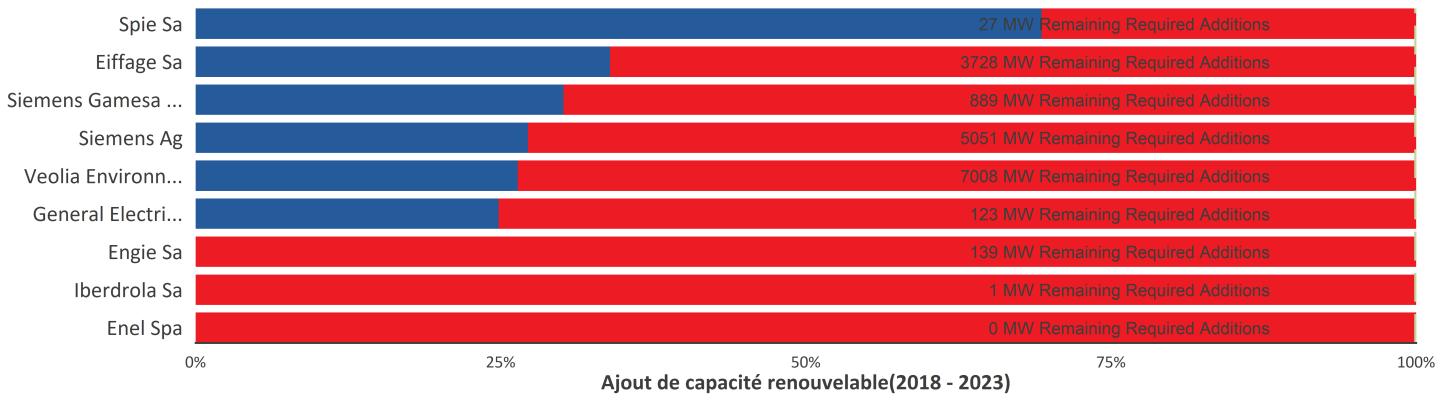
RENEWABLE POWER

The following figures show the required renewable energy build out of the companies within the portfolios to meet the capacity defined by the ScenarioValue in Startyear+5. The red bar shows the additional capacity that is required to meet the necessary capacity as defined by the ScenarioValue target. The blue bar shows the planned build out in the next five years. The difference in actual capacity is written in text.

Renewable capacity additions of the companies within the corporate bond portfolio.



Renewable capacity additions of the companies within the equity portfolio.





SECTION 6: SOVEREIGNS BONDS PHYSICAL AND TRANSITION RISK EXPOSURE ANALYSIS

SOVEREIGNS BONDS PHYSICAL AND TRANSITION RISK EXPOSURE ANALYSIS

Physical and transition risk may affect sovereign bonds ratings and yields through changes in the economic, institutional and fiscal strength of countries. Policy changes may as well have an impact on ratings as countries fail to strengthen their climate change policies. Revisions of country outlooks addressing changes in policy have already taken place (e.g. S&P on Mexico due to changes in energy policy). Changes in ratings and yields may eventually lead to a drop in sovereign bonds portfolios value and signify potential default at some point in the future.

Physical risks can impact sovereign bonds value through a broad set of factors that influence sovereign bonds' ratings and thus yield including:

- **Institutional strength:** Extreme weather events test the capacity of governments to deal with infrastructure damages, displaced population, etc. while incremental changes such as sea-level rise challenge the state's planning capacity.
- **Fiscal strength:** Climate change will lead to increased expenditures (social programs, reconstruction & mitigation costs, costs of displacement), decreased revenues due to lower economic activity, and increased cost of borrowing.
- **Economic strength:** Both acute and incremental effects of climate change impact economic activity, and therefore GDP. High GDP concentration in exposed sectors increases the sovereign's susceptibility to climate risks.

Transition risks can equally impact sovereign bonds value. A low-carbon transition, if it isn't well designed and/or initiated early enough, can have severe implications for a country's economy – although less severe on the long run than taking no action to mitigate climate change.

The credit implications can be captured in a broad set of factors that influence sovereign bonds' ratings and thus yield including:

- **Institutional strength** through the capacity of governments to build effective and predictable policies. A delayed transition would face higher challenges in design and implementation.
- **Fiscal strength** through increased expenditures (green investments, social policies, etc.), decreased fiscal revenues due to lower economic activity of high-carbon sectors, and increased cost of borrowing.
- **Economic strength** through lower revenues from high-carbon economic sectors having an impact on GDP. High GDP concentration in exposed sectors increase the sovereign's susceptibility to transition risks.

Managing climate-related risks. The identification of the types of climate-related risks at portfolio and/or issuer level and the factors driving those risks is essentially the first step in the management of climate-related risks. Once these vulnerabilities are identified, one should notably think about climate actions for the mitigation of such risks. The main climate actions considered in investment portfolios are generally divestment or engagement. Engagement in sovereign bonds on climate topics is rather limited due to high burdens associated to the amount of parties involved (e.g. different local ministries) and diverging priorities. To our knowledge, there is no public evidence on results of government engagement on climate-related topics other than specific engagement on green bonds issuance. This dynamic notably diminishes the mitigation potentials in this asset class and often pushes investors towards the divestment of risky assets leading to a risk transfer rather than an economy's de-risk.

EXPOSURE ANALYSIS - PHYSICAL RISKS

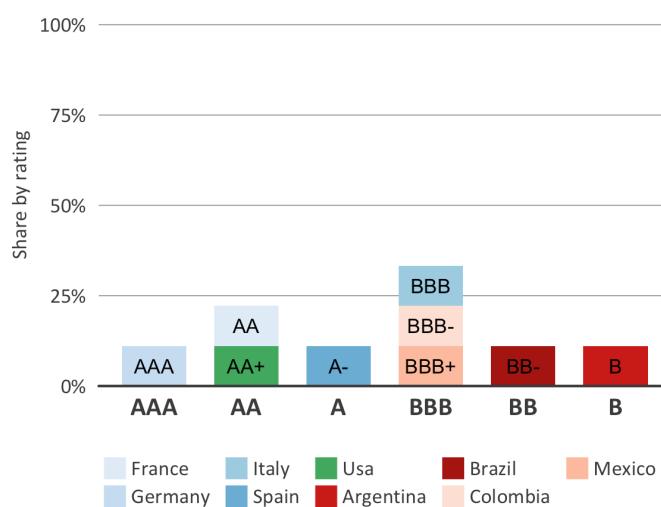
This section presents the exposure to physical and energy transition risks of the issuers in your sovereign bonds' portfolio. For physical risk, it uses as proxy the Moody's country classification and for transition risks it uses as proxy the GDP dependency to high-carbon intensive industries and the related physical asset base for the different issuers in your portfolio. To contextualize the analysis, it considers the local regulatory limits in international sovereign bonds investments as well as the avenues available to mitigate these risks (e.g. divestment vs. engagement).

There are two channels through which physical and transition risks could impact sovereign bonds portfolios of Colombian insurers: i. changes in portfolio composition to comply with investment limits in case of a downgrade; and/or to ii. changes in the sovereign bonds' portfolio value as a consequence of a market misprice of climate-related risks.

There are two channels through which physical and transition risks could impact sovereign bonds portfolios of Colombian insurers: i. changes in portfolio composition to comply with investment limits in case of a downgrade; and/or to ii. changes in the sovereign bonds' portfolio value as a consequence of a market misprice of climate-related risks.

The chart below shows the breakdown of the sovereign bonds' portfolio by country and credit rating. Research shows that the impact of transition and physical risks could cause a decrease in the rating from one to up to three notches due to the economic dependency to high-carbon sectors and the effects of extreme weather events (2ii 2019, S&P 2015). To put this into context we estimate that a downgrade of one or two notches would imply that X% of foreign debt in your portfolio would have to be reallocated, while no reallocation would be necessary in the case of Colombian debt.

Breakdown of portfolio by country and rating

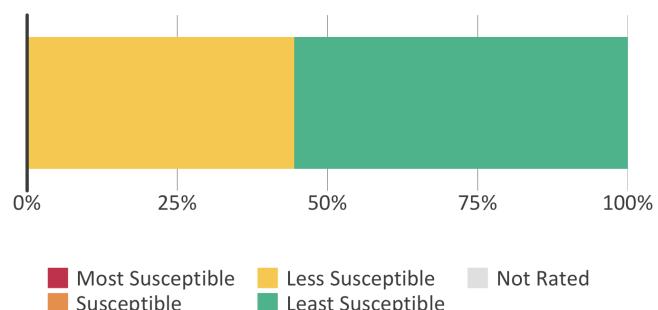


The materialization of physical and transition risks might therefore have a higher impact in terms of changes in the sovereign bond's portfolio value. The analysis below shows the exposure of the issuers in your portfolio to both physical and transition risks.

Physical risks. No analytics currently exists to quantify the changes in ratings or yield that can be expected from climate change for the countries in the portfolio, but the susceptibility of these countries to being affected by climate change can be assessed thanks to Moody's heatmap: In 2016, Moody's assessed the physical effects of climate change on sovereign issuers considering four primary channels: i. the potential economic impact (e.g. weaker activity due to a loss of agricultural production); ii. damage to infrastructure as result of the destruction incurred from climate shocks; iii. rising social costs (e.g. by food security concerns); and iv. population shifts due to forced migration resulting from climate change.

The chart below shows the physical risk exposure of the portfolio. It considers each country's degree of exposure to climate change trends (e.g. temperature warming) and shocks (e.g. droughts, wildfires) classifying it from most susceptible to least susceptible, and the AUM held in sovereign bonds of each country.

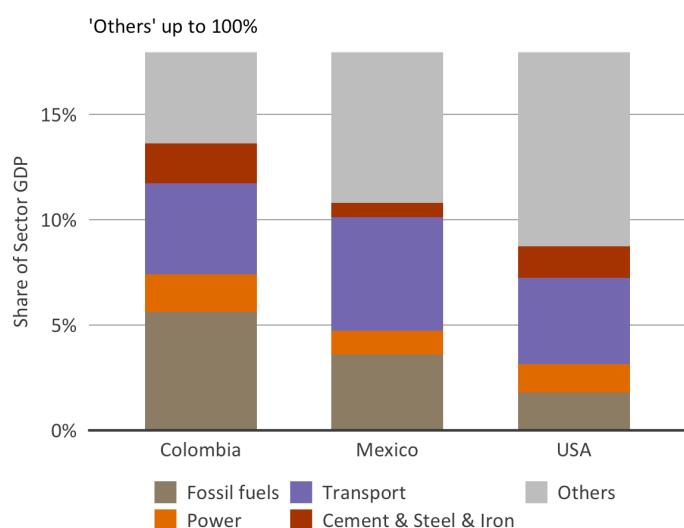
Susceptibility to being impacted by climate change of sovereign bonds portfolio



EXPOSURE ANALYSIS - TRANSITION RISKS

Transition risks. No analytics currently exists to quantify the changes in ratings or yield that can be expected from a low carbon transition for the countries in the portfolio (see 2ii 2019), but the susceptibility of these countries to being downgraded due to a low-carbon transition can be assessed by looking at the dependency of the GDP to high-carbon intensive industries of the issuers in the portfolio. The following chart shows the breakdown of each issuers' GDP by sector.

GDP exposure to high-carbon sectors



Carbon intensive industries would likely suffer from an energy transition. Indeed, a transition would impact their levels of production (e.g. less oil will be produced, less gasoline vehicles constructed, etc.), the prices at which they sell their products, and the expenditures that they have to bear (e.g. high levels of carbon tax, high raw materials prices, etc.).

Research done by the 2Dii shows that the South American oil sector could lose 74% of its value added by 2040 (2ii, 2019).

A technology exposure analysis can provide further insights on the susceptibility of countries to transition risks. It allows to understand if economies are adapting their technology mix to the transition. The figure below shows the estimated current and future technology mix for the fossil fuels, power, and automotive sector. The results are a function of the weight of each issuing country in your portfolio and the current revealed investment and production plans of the companies producing in each country. The results are compared to a regional scenario under an SDS transition in 2023.

To understand these countries' pathway towards the transition, we have compared the exposure to high-carbon and low-carbon technologies of the issuing countries in your portfolio in 2023 with the exposure required under the SDS scenario. This shows if current policy and the local market conditions suffice to foster an ambitious transition. A low share of low carbon technologies in 2023 compared to the share in the SDS implies that current policy and market conditions are not favorable enough to push the industry to align with towards a 2°C .

