RISKS AND OPPORTUNITIES MANAGEMENT RELATED TO CLIMATE CHANGE

GRIFOLS

INDEX

ABOUT THIS REPORT

This document describes the methodology and results of the analysis of the climate-related risks and opportunities stemming from Grifols' activities.

Grifols' most relevant industrial facilities and plasma centers were subject to a climate-risk and vulnerability assessment. The materialization time horizon, likelihood of occurrence, and potential inherent and residual impacts were evaluated for each of the 29 risks identified. The results of this evaluation allow Grifols to assess the financial impact of the most significant risks and opportunities.

INTRODUCTION

Climate change has unleashed several vast effects on all continents and oceans in recent decades, with varying degrees of risk depending on a region's vulnerability and exposure.

Effectually responding to climate-related risks requires the ability to make decisions amid change and uncertainty regarding the timing and severity of environmental impacts and the effectiveness of adaptation.

Today, stakeholders are increasingly demanding companies to provide clear, comprehensive and high-quality information on how their activities affect the environment, including how they identify, assess and manage climate-change-related risks and opportunities.

Grifols recognizes the value of informing its stakeholders on the company's climate-change impact and the measures established to manage related risks and opportunities.

In 2021, Grifols updated the climate risks and opportunities defined in 2019 in accordance with Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. As part of this process, Grifols revised its climate risk map and assessed the resilience of its strategy under a potential climate scenario of a 1.7 to 3.2°C temperature increase.

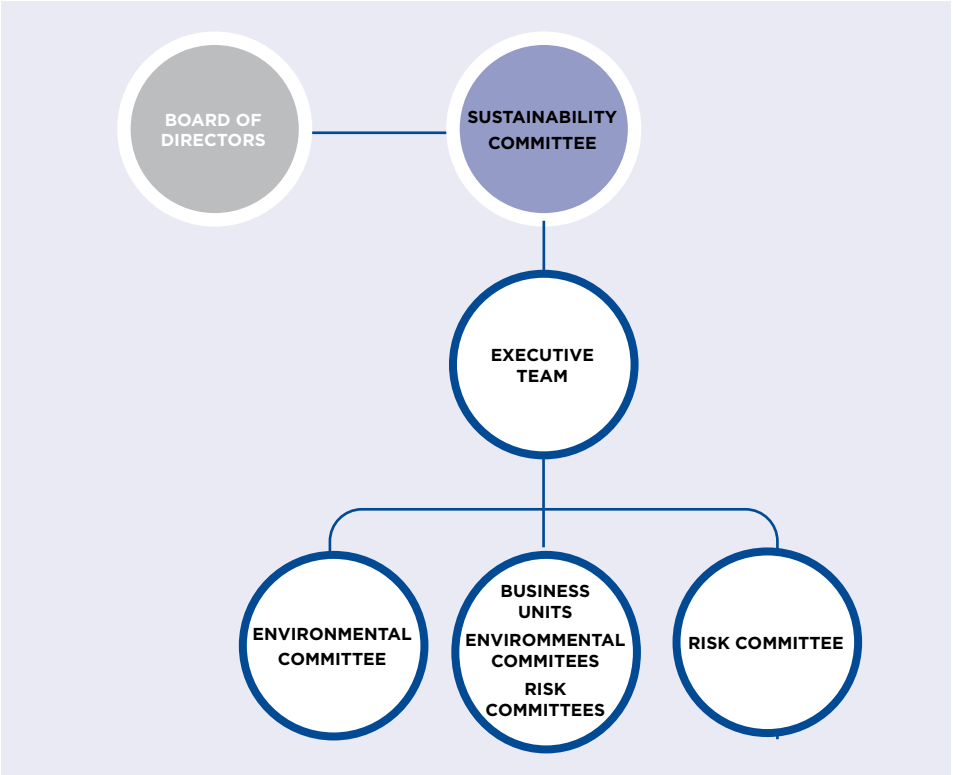
In parallel, the Board of Directors approved the Sustainability Policy and the Risk Control and Management Policy to further address the environmental risks tied to regulatory changes and define strategies to mitigate them. These efforts complement the Environmental Policy and Energy Policy already in place, which together outline the principles underpinning the company's environmental management system, while stressing the importance of sustainable resource consumption and reducing greenhouse gas (GHG) emissions.

Grifols also reinforced its corporate governance bodies in recent years by creating a Sustainability Committee, responsible for defining concrete values and commitments on the firm's environmental and social responsibility, and progressively integrating environmental, social and corporate governance (ESG) criteria in its financial and non-financial disclosures. In 2021, the company also launched a Sustainability Steering Committee to identify, define, implement and ensure compliance with the Sustainability Master Plan, among other objectives.

Grifols' Executive Committee routinely evaluates the performance of the Environmental Plan, monitoring climate-change indicators and lines of action.

The Chief Industrial Officer (CIO) serves on both the Executive Committee and Environmental Committee, which regularly updates the CEOs on the company's environmental performance and status of climate-change issues. The CIO approves the Environmental Plan, as well as the requisite economic and human resources to achieve it; authorizes energy-efficiency investments; and monitors energy costs and air emissions, among other core responsibilities.

Finally, the Risk Committee, which develops the risk management model and supervises its most salient risks, including those related to climate change. This committee reports to the Board of Directors.



All corporate policies mentioned are available at https://www.grifols.com/es/corporate-stewardship-reports

METHODOLOGICAL FRAMEWORK AND SCOPE

› Scenario selection

A scenario describes a hypothetical but possible development path. Grifols considered various scenarios, with a wide range of possible futures.

After weighing the pros and cons of different scenarios (public and in-house), current public scenarios were used as a benchmark since they help she light on areas in need of more research; offer a blueprint to develop a more customized and company-specific scenario process; and provide a broader contextual framework.

Public scenarios fall into five main categories:





Climate scenarios

Focused on changes in future climatic conditions (temperature, precipitation and other climate aspects) caused by greenhouse gas concentrations, emissions and other atmospheric conditions. These alternative trajectories, or representative concentration pathways (RCPs), are used by the Intergovernmental Panel on Climate Change (IPCC) Assessment Report 5.

Emissions scenarios

Possible trajectories for greenhouse gases, aerosols, and other pollutants based on assumptions about global trends such as economic and population growth, energy consumption, land exploitation and technologies.

Established by the IPCC Assessment Report 4, they serve as the foundation of climate scenarios in the fifth report.

Vulnerability scenarios

Vulnerabilities and impacts arising from diverse demographic, economic, political, cultural and institutional factors to assess the impact of climate change, and how economic development patterns and social shifts might affect exposure and adaptive capacity.

Environmental scenarios

Focused on changes in environmental conditions as a result of climate change or for other reasons.

These factors include water availability and quality, the rise in sea levels, land cover and land use. In addition to climate impact, this area also assesses other factors like air and water pollution.

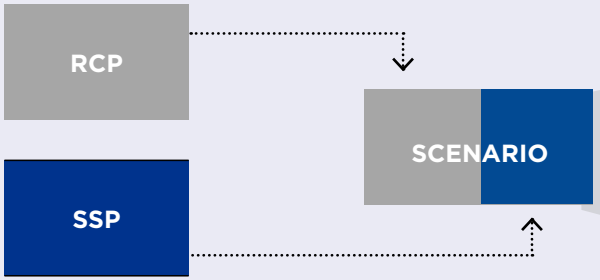
Socioeconomic scenarios

Centered on plausible socioeconomic development trajectories under different assumptions for population trends, demographic changes, technological advances, policies, economic growth and other factors. These shared socioeconomic pathways (SSPs) are used in IPCC Assessment Report 6 (AR6) to complement the aforementioned RCPs.

How to define a climate scenario?

Defining climate change scenarios starts with differentiating between "pathways" (RCPs and SSPs) and "scenarios", which combine the latter with other types of information such as emissions and climate projections, among others. A blend of pathways, rather than RCPs and SSPs on their own, should be used to perform climate change analyses.

Published in August 2021, the AR6[1] offers the five most appropriate SSP-RCP combinations based on the latest climate models to explore the most probable climate futures. To this end, the report considers population growth, urbanization, technological advances and other factors intrinsically linked to climate change.

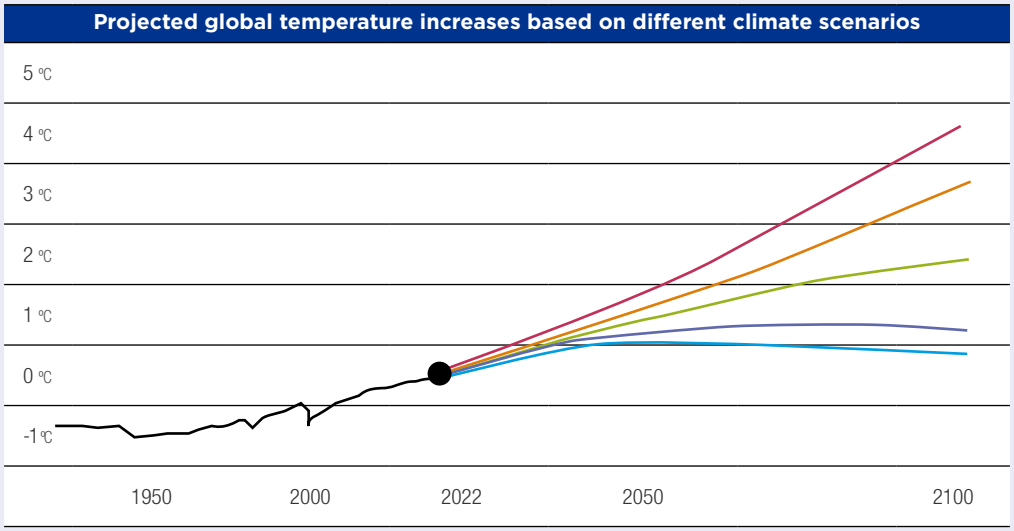


	SSP1 Sustainable sostenible	SSP2 Intermediate development	SSP3 Regional rivalry	SSP4 Inequality	SSP5 Fossil development	RCPs
8.5					●	RCP8.5
7			●			
6						RCP6.0
4.5		●				RCP4.5
3.4						
2.6	●					RCP2.6
1.9	●					

1. AR6

What does each climate scenario mean?

All climate scenarios predict a rise in global temperatures unless GHG emissions are drastically reduced



SSP5 – 8.5

The highest warming scenario, which does not consider a climate policy.

SSP3 – 7.0

This scenario expects lower CO_2 emissions in relation to SSP5-8.5, but these nearly double current levels by 2100. It does not consider a climate policy.

SSP2 – 4.5

This scenario aligns with the upper limit of Paris Agreement objectives and estimates global warming of approximately 2.7°C by the end of the 21st century.

SSP1 – 2.6

This scenario is designed to contain warming to below 2°C and implies reaching net zero CO_2 emissions by 2050.

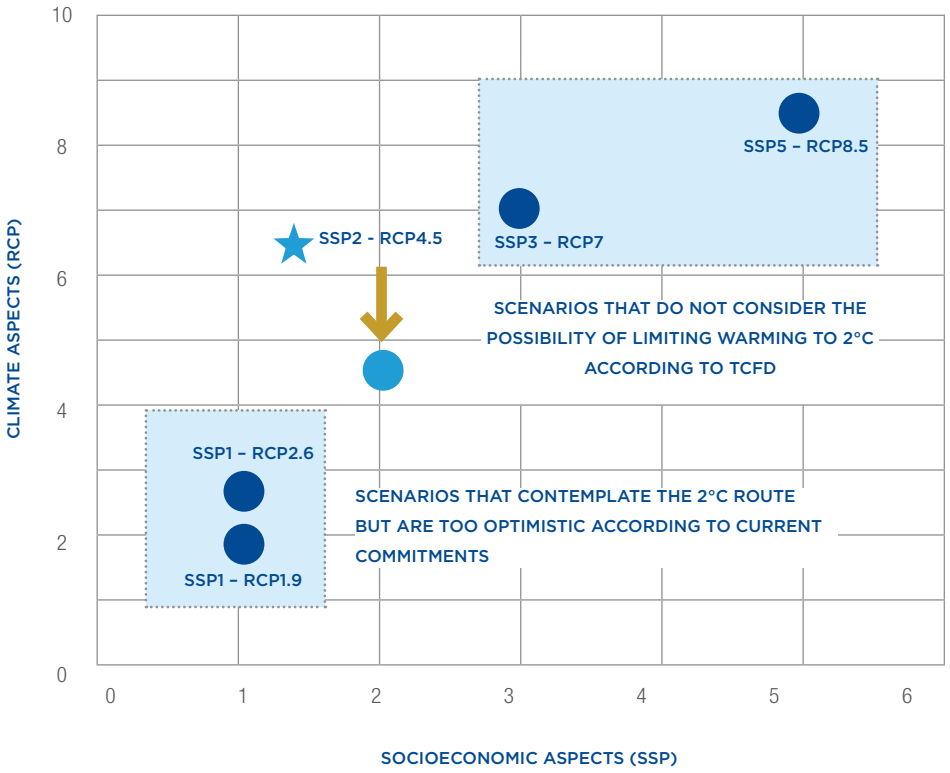
SSP1 – 1.9

This scenario keeps warming to about 1.5°C by 2100 and implies reaching net zero CO_2 emissions by 2050.

Scenario selection for Grifols' reality

While the TCFD understands organizations will choose the scenario that best aligns with their objectives, resources and capabilities, it encourages them to aim for a scenario consistent with a 2°C pathway in line with international climate-change commitments.

The process of selecting the most suitable scenario for Grifols entailed analyzing several SSP-RCP combinations:



1

TCFD asks us to consider a future in which global warming stays around 2°C: **RCP 8.5 y 6.0 are ruled out as simulate scenarios with a higher temperature rise.**

2

If countries meet the updated Nationally Determined Contributions (NDCs) outlined in COP26, the IEA estimates that projected warming by 2100 will fall by 2.4°C: **RCPs 2.6 and 1.9 are ruled out as simulate an overly optimistic temperature rise under current climate policies.**

3

In COP26, roughly 20 countries pledged to stop financing the purchase of fossil fuels by 2022, and 40-plus countries committed to stop using coal: **SSP5 and 3 are ruled out as consider a "no climate policy in place," which does not reflect the commitments made by global institutions and most countries.**

4

Despite global efforts, advances in sustainable development show different degrees of progress depending on the geographic region, as evidenced by the latest UN SDGs status report: **SSP 1 considers a world with across-the-board advances in sustainability, which does not reflect reality captured in the latest UN data.**

Based on these factors, the most suitable scenario for Grifols is SSP2-RCP4.5.

In compliance with TCFD recommendations, it contemplates a temperature rise of 1.7 to 3.2°C, while taking into account current climate actions, policies and commitments.

The SSP2-4.5 scenario: what does it mean?

The following table outlines the physical and socioeconomic ramifications of the SSP-4.5 scenario:

Socioeconomic narratives

- Current social, economic and technological trends are followed. Use of fossil fuel is phased out at varying speeds depending on the region.
- Development and growth proceed unevenly, with some countries making solid progress and others falling short of expectations.
- National and international institutions strive to achieve the SDGs but progress is slow.
- Environmental systems are degraded overall, although improvements are seen in some of them. There is a decline in the intensity of resource and energy consumption.
- Population growth is moderate and stabilizes in the second half of the century.
- Income inequality and problems persist in reducing vulnerability to social and environmental changes.

Physical narratives

- An average increase in the Earth's surface temperature of 1.6 to 2.5°C is expected for 2041-2060, and 2.1 to 3.5°C by the end of the century.
- A mean sea level rise of 0.66 to 1.33 meters is expected by 2100.
- Changes in precipitation will differ throughout the world, although a global increase of 1 to 13% is expected. Precipitation is projected to increase in high latitudes, the equatorial Pacific, and parts of the monsoon regions, and decrease in parts of the subtropics and limited areas in the tropics.
- A warmer climate will intensify very wet and very dry climatic events, with consequent floods and/or droughts, but their location and frequency will depend on the regional atmospheric circulation. It is highly likely that El Niño-related rainfall variability will amplify in the second half of the century.
- Rates of CO_2 absorbed by land and ocean are projected to decline in the second half of the 21st century.

Main expected risks

- Risk of serious health problems and disruption of livelihoods as a result of tidal surges, rises in sea level and coastal flooding; interior flooding in some urban regions; and periods of extreme heat.
- Systemic risks due to extreme weather events, with consequent interruptions in infrastructure networks and services
- Risk of flooding and water insecurity and loss of rural livelihoods and rural income, particularly for the poorest populations.
- Risk of ecosystems, biodiversity and goods, functions and services of ecosystems losses.

Risk and opportunities assessment

After defining SSP2 - RCP4.5 as Grifols' climate scenario, the company evaluated climate-related probability and impact using the financial risk assessment model (ERM Risk Valuation Model) already employed in its corporate risk assessments. This decision ensures alignment in terms of terminology and scale of values, and enables integrating the study's outcomes into the company's global risk map.

The following variables were considered:

a) Time horizon materialization: Moment at which the impact derived from each risk and opportunity is expected to significantly materialize in line with the chosen scenario

RISK MATERIALIZATION TIME HORIZON
Short term (0 - 5 years)
Medium term (6 - 15 years)
Long term (16 - 30 years)
Unknown (>30 years)

Climatic time horizons are much longer than those used in financial risk assessments since climate change occurs slowly over time and may take years to generate a significant impact.

b) Likelihood of occurrence: The possibility of a risk or opportunity materializing. A scale of six values was used, with higher values assigned to events with a higher probability of occurrence and vice versa.

LIKELIHOOD OF OCCURRENCE
5 - Very high
4 - High
3 - Medium
2 - Low
1- Very low
0 - Unknown

c) Residual and inherent potential impact: Set of theoretical consequences that the company or one of its assets could suffer if a risk or opportunity materializes. A scale of six values was used, with higher values assigned to events with a higher probability of occurrence and vice versa. In evaluating the level of impact, two types of theoretical impact were defined:

- **Inherent potential impact (IPI):** Consequences caused by the materialization of a risk or opportunity with no consideration of possible mitigating measures.

- **Residual potential impact (RPI):** In contrast to IPI, RPI represents the consequences caused by the materialization of a risk or opportunity while considering the company's mitigating measures.

POTENTIAL IMPACT
5 - Very high
4 - High
3 - Medium
2 - Low
1- Very low
0 - Unknown

In order to delineate the values of the residual potential impact (RPI) from the inherent potential impact (IPI), Grifols turned to in-house experts with experience in the geographies under consideration. Each received a questionnaire asking them to assess the management of identified risks and opportunities using the following scales.

The assessment was carried out using two types of information sources:

- **External information sources:** Information generated by third parties, such as literature reviews and risk and opportunity mapping published by renowned organizations in the field of climate change: Task Force on Climate-Related Financial Disclosures (TCFD)[2], Intergovernmental Panel on Climate Change (IPCC)[3] and Climate Analytics[4], among others.

- **Internal information sources:** Information generated by Grifols specifically for this project based on the firm's unique characteristics, including both external and in-house information. This confluence of data allowed Grifols to map its exposure to various climatic factors that lead to the climate risks and opportunities analyzed. Geographic information processing (GIS) software tools were used for this purpose.

2 TCFD

3 Intergovernmental Panel on Climate Change (IPCC)

4 Climate Analytics

Variables studied for each physical risk

Rising global temperatures

The following criteria were used to calculate this variable:
– Projected rise in global temperatures
– Estimated variation in areas exposed to heat waves (estimated number of days with temperatures in excess of 40° C)

Extreme weather events: cyclones, hurricanes, typhoons and tornadoes

The following criteria were used to calculate this variable:
– Rise in temperature
– Estimated variation of relative humidity levels
– Wind speed
– Increase in sea temperature

Extreme rainfall: torrential rains, hailstorms, snowfall, etc.

The following criteria were used to calculate this variable:
– Estimated rainfall variations
– Estimated snowfall variations
– Standardized rainfall index
– Number of days with frost
– Amount of rain in five days

Rise in sea levels

The expected sea level rise was the sole reference year used to calculate this variable.

Pluvial and fluvial floods

The following criteria were used to calculate this variable:
– Land exposed to river flooding
– Estimated variation of relative humidity levels
– Estimated rainfall variations
– Qualitative downpour data

Extreme coastal phenomena

The following criteria were used to calculate this variable:
– Rise in sea level
– Variation in the global wind speed

Rapid alteration of terrestrial morphology

The following criteria were used to calculate this variable:
– Landslides caused by precipitation
– Estimated maximum amount of rain over five days

Forest fires

The following criteria were used to calculate this variable:
– Projected increase in ambient temperature
– The projected change in areas exposed to forest fires

Reduced availability of water resources

The following criteria were used to calculate this variable:
– Exposure to water-stressed areas and their projected water demand

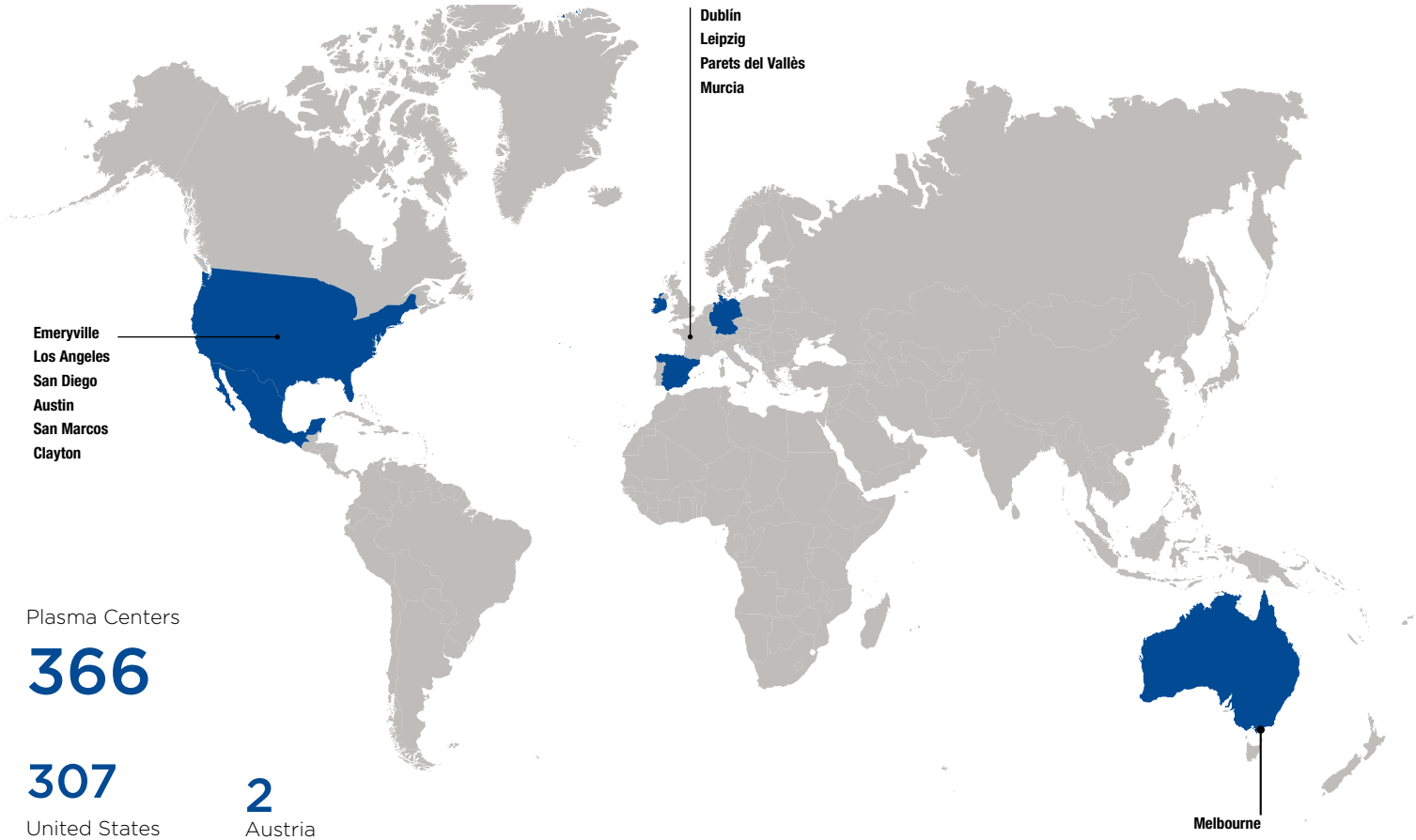
Following the analysis of physical risks, the potential transition risks posed by climate change were evaluated in accordance with reference scenarios, taking into account the regulatory frameworks and trends in Grifols' markets of operation (e.g., greater energy efficiency requirements in production processes).

Reference sources such as Climate Watch Data[5] and Climate Action Tracker[6] were also used, as well as specific documentation for each geographic location (legislative proposals, climate reports, etc.).

After assessing the variables extracted from the mapping study and literature reviews, the exposure-risk analysis focused on Grifols' 11 most relevant manufacturing facilities and plasma centers.

5 Climate Watch Data

6 Climate Action Tracker



Plasma Centers

366

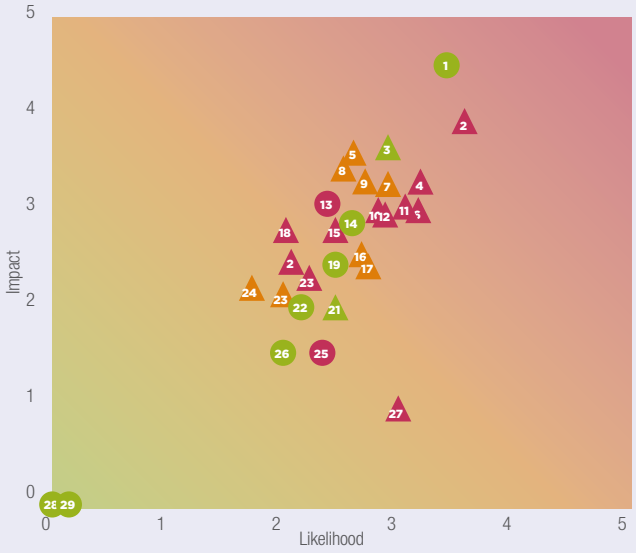
307 United States	**2** Austria
48 Germany	**1** Canada
7 Hungary	**1** Egipt

The exposure-risk analysis focused on Grifols' 11 most relevant manufacturing facilities and plasma centers

RISK ANALYSIS RESULTS

As a result of the analysis carried out, 29 climate-change risks have been identified, nine are physical and 20 are transitional. The most significant are transitional in nature, especially those with short-term time horizons based on their severity value (probability × impact).

Most risks analyzed present probability and impact thresholds below the "medium" level. The following sections detail the most severe risks for each time horizon, with a focus on the company's 10 most relevant risks and their impact on the value chain (supply chain, infrastructure and services). The potential financial impact of the four most severe risks was also assessed, as outlined in the following section.



Time horizon

- Short term
- Medium term
- Long term

Type of climate risk

- Physical risk
- Transition risk

1. Reduced availability of hybrid resources
2. New legal requirements related to GHG emission reduction and climate risk management
3. Variation in resource availability
4. Transition to low-emission technologies
5. Modifications in insurance conditions
6. New legal requirements regarding energy efficiency
7. Increased operational challenges of equipment and facilities
8. Inadequate insurance coverage
9. Difficulties in obtaining financing
10. Changes in customer perception
11. Tarnished corporate image due to use of resources/ services
12. Increased stakeholder concerns or negative reactions
13. Forest fires
14. Increase in ambient temperature
15. New reporting requirements
16. New legal requirements regarding environmental protections
17. Extreme precipitation: torrential rains, hailstorms, snowfall, etc
18. Failure to meet climate targets
19. Changes in customer behavior/preferences
20. Increased exposure to environmental litigations/ infractions
21. Geopolitical and social instability
22. Storms and river flooding
23. New legal requirements regarding waste management
24. New legal requirements regarding infrastructure safety
25. Rapid alteration of land morphology
26. Extreme weather phenomena: cyclones, hurricanes, typhoons and tornadoes
27. Fees linked to GHG emissions
28. Extreme coastal events
29. Rise in sea levels

CLIMATE-RELATED RISK MANAGEMENT

The financial impacts of the most significant risks are described below:

Risk 1: Reduced availability of water resources

Potential impact

Under the simulated scenario, Grifols operates facilities in areas at risk of shrinking water resources, which could lead to supply problems such as higher water prices and water restrictions. Specifically, this risk could translate into higher costs related to accessing own water resources (well-water), cleaning procedures, and the proper maintenance and usage of water-dependent infrastructures and manufacturing processes.

The potential financial impact considered the possibility of production shutdowns and price increases per m^3 of water in areas with a negative price elasticity of demand. The estimated financial impact of these expenditures is between EUR 2.8 to 8.6 million.

Risk management

Based on the analysis, Grifols' facilities in Barcelona (Spain) and Los Angeles (USA) have the highest risk exposure. The company applies a different risk management strategy for each. In Los Angeles, Grifols could move production to other plants in the group, while in Barcelona, it disposes of several water-main connections and the option of well-water extractions. As in the case of the Los Angeles plant, a 5- to 20-day manufacturing shutdown could be addressed by moving production to other plants. The cost of transporting plasma and other intermediate pastes – 50% to the Clayton plant and 50% to the Barcelona plant – range from EUR 90,000 to 330,000.

Risk 2: New legal requirements related to reducing GHG emissions

Potential impact

Grifols aspires to achieve carbon neutrality by 2050. In the meantime, new requirements to reduce GHG emissions (scopes 1 and 2) could be introduced, requiring additional investments. These include the installation of renewable energy sources and/or changes in their electrical supply, among others.

If Grifols were unable to make these investments, it foresees the need to invest in more carbon credits in order to offset its carbon footprint. Based on current objectives, this scenario would have an estimated financial impact of EUR 1.7 and 6.3 million by 2040, assuming a carbon price between EUR 20 and 75 per ton emitted.

Risk management

Under the 2020-2022 Environmental Plan, Grifols aims to cut emissions by using 68 million kWh of renewable electricity, obtained through PPAs (Power Purchasing Agreements), in addition to building two photovoltaic plants (Barcelona and Murcia), and installing a new refrigeration plant using refrigerant gases with zero global warming potential. In 2021, Grifols had reached over 60% of the plan's climate-change targets.

The Environmental Plan will be updated in 2023 with even more ambitious targets, some of which will follow the Science-Based Targets initiative methodology. Grifols' exposure to this risk is expected to decline as its meets its established targets.

Failing this, the company would invest in carbon credits to offset its carbon footprint, with a maximum estimated cost of EUR 6.3 million.

Risks

Risk 3: Changes in the availability of plasma resources

Potential impact

According to the IPCC's AR6, anthropogenic climate change, particularly global warming, could increase both the likelihood and frequency of extreme precipitation.

For Grifols, the regions of operation at highest risk are the U.S. states of Texas and North Carolina. Its installations in these states are robust and fully equipped to respond to extreme weather events, with the option of transferring production and plasma collection to other installations in the case of temporary shutdowns. Nonetheless, plasma donors might have greater difficulty getting to plasma centers in the case of extreme weather.

This lack of access could lead to subsequent drops in plasma collections and sales of plasma-derived products, with an estimated financial impact between EUR 2.2 and 6.0 million.

Risk management

Based on the analysis, Grifols' plasma centers in these states have a higher exposure risk than its manufacturing facilities. That said, the company operates plasma collection sites throughout the country, mitigating potential impacts. The risk exposure analysis for the plasma centers considered severe weather events like hurricanes and tropical storms. In a worst-case scenario of collection-center shutdowns, Grifols' production would not be significantly affected. Its impact would be limited to a temporary lack of collections in these centers, leading to a lower availability of plasma-derived medicines.

Risk 4: Transition to low-emission technologies

Potential impact

Grifols' compliance with 2030 decarbonization targets is grounded on the principles of technological neutrality and cost efficiency, requiring sizeable innovation and infrastructure investments. Of note are technology investments in air-conditioning and heating systems, boilers, and renewable energy installations aimed at reducing emissions and boosting energy efficiency. Of these, the biggest contributor to Grifols' carbon footprint is the fossil-fuel-based boilers and reducing their impact would entail replacing them for lower-emission options.

The company estimates an investment of EUR 26 million through 2040 to substitute the current boilers with alternatives that use renewable hydrogen and other fuels.

Risk management

Grifols regularly evaluates alternatives on the market to replace its most polluting technologies, especially those that could elevate its climate resilience. At present, there is no consensus on a single technology capable of generating enough heat for Grifols' manufacturing processes that does not entail fossil fuels. Renewable hydrogen could be a valuable and cost-effective energy vector for end-uses yet is still an emerging alternative. That said, Grifols is closely monitoring its progress as a future option.

In the simulated scenario, Grifols recognizes the need to progressively replace the boilers in order to effectively manage this risk, and consequently closely monitors market advances and new developments.

It is also considering the option of using heat-generation processes with thermo-compression.

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CLIMATE-RELATED OPPORTUNITIES MANAGEMENT

Grifols has identified several climate-related opportunities after conducting a competitive benchmark and analysis of industry trends.

Opportunity 1: Adoption of energy-efficiency measures

Potential impact

In a context of rising prices, companies must strive more than ever to improve their energy efficiency. In addition to countering inflationary pressures, enhanced energy efficiency forms a core pillar in the decarbonization strategies in Grifols' countries of operation. While leading to lower emissions, the company's success in reducing energy consumption would also represent a unique opportunity.

The company estimates savings of around EUR 63 million through 2030 and EUR 11 million per year thereafter based on demand forecasts for electrical energy and natural gas – the group's primary energy source – in its manufacturing installations.

Opportunity management

Among its 2030 environmental targets, Grifols aspires to increase its energy efficiency per production unit by 15%. Together with the systematic application of eco-efficiency measures in new projects and facilities, the growing trend toward digitalizing manufacturing processes is expected to disrupt how energy is managed.

Over the last three years, yearly investments in electricity and other energy-saving measures amounted to EUR 1.04 million on average. Under the new 2023-2026 Environmental Plan, the company intends to allocate EUR 16 million for energy-efficiency investments, resulting in a EUR 4 million outlay per annum.

Opportunity 2: Greater investor confidence

Potential impact

Stakeholders around the world are demanding greater accountability in the fight against climate change, making it an especially critical issue for companies. At the same time, investors are increasingly aware of organizations' core economic role in decarbonization and the unique investment opportunities it offers. In this regard, decision making relies on the information these companies provide.

According to mounting evidence, companies that consistently publish their environmental performance are better able to uphold and enhance their reputation, stay ahead of regulatory change, boost competitiveness, and gain access to lower capital costs, among other advantages. In parallel, these organizations also tend to report better financial outcomes.

Like all publicly traded companies, Grifols is subject to investor and shareholder expectations. High sustainability performance can exert a positive impact on corporate reputation, bosot investor confidence, and provide additional financial returns. This effect is reflected in global indices like the Dow Jones Sustainability Index (DJSI) World, which Grifols joined in 2021. The DJSI's profitability was 18% in 2021.

Opportunity management

Grifols has strived to ensure sustainability in its operations since its origins. In reflection of these ongoing efforts, the company has gained renown as an industry trailblazer and recipient of several ESG distinctions from premier global indices, including the FTSE4Good, Euronext Vigeo and the aforementioned DJSI.

Moving forward, it will continue its efforts to maintain these recognitions and increase investor confidence.

Opportunity 3: Reduced operating costs

Potential impact

Grifols spearheads initiatives to cut GHG emissions and boost energy efficiency under the umbrella of its 2020-2022 Environmental Plan. To this end, it takes measures to reduce emissions derived from transportation and employee commutes, while progressively equipping its office buildings in adherence to LEED criteria.

The company has detected an opportunity to cut its carbon footprint via new ways of working, which could lead to lower operational costs for lighting, air conditioning, heating, IT systems and other services in its global workspaces.

Potential savings of EUR 7 million per year could be realized by reorganizing areas and optimizing office spaces, including EUR 1.2 million in energy savings.

Opportunity management

Grifols rolled out a volunteer remote-working initiative in positions where applicable. In force since 2022, the "Flexibility for U" program, among other measures, gives employees the option of working up to 40% of their timetable. This opportunity also offers a strategic advantage since remote work bolsters business continuity in light of the greater frequency and severity of weather events.

The company estimates roughly 2,300 of its employees could work remotely, resulting in an implementation cost of EUR 15,000.

Opportunity 4: Changing customer preferences

Potential impact

Stakeholders are increasingly concerned about how companies can contribute to solving the world's most complex challenges, especially climate change. As a global corporation, Grifols appreciates its role in enhancing climate resilience, as well as the need to understand and analyze its own exposure to climate risks.

The gradual inclusion of climate criteria in corporate performance assessments offers companies the opportunity to stand out as industry leaders. Society's growing demand for non-financial information is expected to continue, making response capacity a critical factor in the decision making of investors, public entities and corporate clients.

Opportunity management

Grifols consistently and routinely discloses information on its sustainability performance. In terms of climate change, the company follows TCFD recommendations and participates in the Carbon Disclosure Project (CDP) initiative. In 2021, it also disclosed information in accordance with EU Taxonomy Regulation.

In 2021, Grifols announced its new commitment to achieve net-zero carbon emissions by 2050 and extended its 2030 commitments. It also began setting objectives following the Science-Based Target Initiative methodology, a process expected to conclude in 2022.

ADDITIONAL INFORMATION

CLIMATE-RELATED RISK ANALYSIS METHODOLOGY

The variables considered for each physical risk and the scenario applied are detailed below:

Threat	Variable	Scenario	Time Horizon	Base Year	References
Rise in global temperature	Global temperature rise	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Days with temperatures above 40°C	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Rise in sea level	Rise in sea level	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced) Climate Central - COASTAL RISK SCREENING TOOL
Rapid alteration of terrestrial morphology	Landslides	-	-	2004 - 2016	Global fatal landslides 2004 to 2016
	Accumulated rainfall over 5 days	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Extreme weather events: cyclones, hurricanes, typhoons and tornadoes	Global temperature rise	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Hurricane and cyclones	-	-	1842-2019	Historical Hurricane Tracks
	Relative humidity	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Atmospheric pressure	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Wind speed	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Sea temperature rise	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Reduced availability of water resources	Areas exposed to water stress	SSP 2 – RCP 4.5	2040	2013	WRI Water Risk Atlas: Beta Aqueduct
	Demand for water resources	SSP 2 – RCP 4.5	2040	2013	WRI Water Risk Atlas: Beta Aqueduct
Pluvial and fluvial floods	Total precipitation	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Land fraction exposed to river flooding	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Soil humidity	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Rise in sea level	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Extreme rainfall: torrential rains, hailstorms and snowfalls	Snowfalls	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Standardized rainfall index	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Number of frost days	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Accumulated rainfall over 5 days	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Forest fires	Land fraction exposed to forest fires	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Soil humidity	RCP 4.5	2050	1986 - 2006	Climate Anlytics - Climate impact explorer
	Consecutive dry days	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
Extreme coastal phenomena	Rise in sea level	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)
	Wind speed	SSP 2 – RCP 4.5	2041 – 2060	1995 - 2014	IPCC WGI Interactive Atlas: Regional Information (Advanced)

EXPOSURE SUMMARY FOR THE 29 CLIMATE RISKS

GENERAL TYPE OF RISK	PARTICULAR TYPE OF RISK	CLIMATE THREAT	TIME HORIZON	SEVERITY (IMPACT X PROBABILITY)
Physical	Chronic	Reduced availability of water resources	Long	High
Physical	Acute	Forest fires	Short	Medium
Physical	Chronic	Increased global temperature	Long	Medium
Physical	Acute	Extreme rainfall: torrential rains, hailstorms, snowfall, etc.	Long	Low
Physical	Acute	Pluvial and fluvial floods	Long	Low
Physical	Acute	Rapid alteration of land morphology	Short	Low
Physical	Acute	Extreme weather events: Cyclones, hurricanes, typhoons, and tornadoes	Long	Low
Physical	Acute	Extreme coastal phenomena	Long	N/A
Physical	Chronic	Rising sea levels	Long	N/A
Transition	Policy and legal	New legal requirements related to the reduction of GHG emissions	Short	High
Transition	Policy and legal	New legal requirements related to energy efficiency	Short	Medium
Transition	Policy and legal	New information reporting requirements	Short	Low
Transition	Policy and legal	Increased exposure to environmental litigation/infractions	Short	Low
Transition	Policy and legal	New legal requirements related to waste management	Medium	Low
Transition	Policy and legal	New legal requirements related to infrastructure security	Medium	Low
Transition	Policy and legal	New legal requirements related to the protection of the environment	Medium	Low
Transition	Market	Resource availability variation	Long	High
Transition	Market	Change of insurance conditions	Medium	Medium
Transition	Market	Inadequate insurance coverage	Medium	Medium
Transition	Market	Changes in client preferences	Short	Low
Transition	Market	Geopolitical and social instability	Long	Low
Transition	Market	Difficulties in obtaining financing	Medium	Medium
Transition	Technological	Transition to low-emission technologies	Short	High
Transition	Technological	Increased operational difficulties of equipment and facilities	Medium	Medium
Transition	Reputational	Changes in customer perception	Short	Medium
Transition	Reputational	Degradation of reputation due to the use of resources/services	Short	Low
Transition	Reputational	Increased stakeholder concerns or negative stakeholder feedback	Short	Low
Transition	Reputational	Non-compliance with climate objectives	Short	Low

GLOSSARY

IPCC (Intergovernmental Panel on Climate Change): United Nations intergovernmental organization aimed at providing objective and scientific opinions on the impacts of climate change, as well as natural, political and economic risks and possible courses of action.

EIA (International Energy Agency): International organization created by the Organization for Economic Cooperation and Development (OECD) in the wake of the 1973 oil crisis to coordinate energy policies of member states and ensuring reliable, affordable and clean energy to their residents.

RCP (Representative Concentration Pathway): Greenhouse gas concentration trajectory (not emissions) adopted by the IPCC. Four pathways were used for climate modelling and research for the IPCC Fifth Assessment Report in 2014. These describe different climate futures, all of which are considered plausible depending on the trend in greenhouse gas (GHG) emissions in the coming years.

SSP (Shared Socioeconomic Pathways): Trajectories to define how socioeconomic factors might change over the 21st century, including population shifts, economic growth, education and technological advances. The SSPs explore five different ways in which the world might evolve without climate policy, and how differing degrees of climate-change mitigation might be achieved when RCP targets are combined with SSPs.

SPA (Shared Policy Assumptions): Assumptions on the effectiveness of diverse national and international climate-change policies, and the degree of commitment and response by signatory countries. These are a valuable complement to SSPs.

CMIP (World Climate Research Programme's Coupled Model Intercomparison Project): PCollaborative framework designed to improve knowledge of climate change, developed in phases to foster the climate model improvements and support national and international assessments of climate change.

GRIFOLS