

Weekly Summary

# Economics of Climate Change

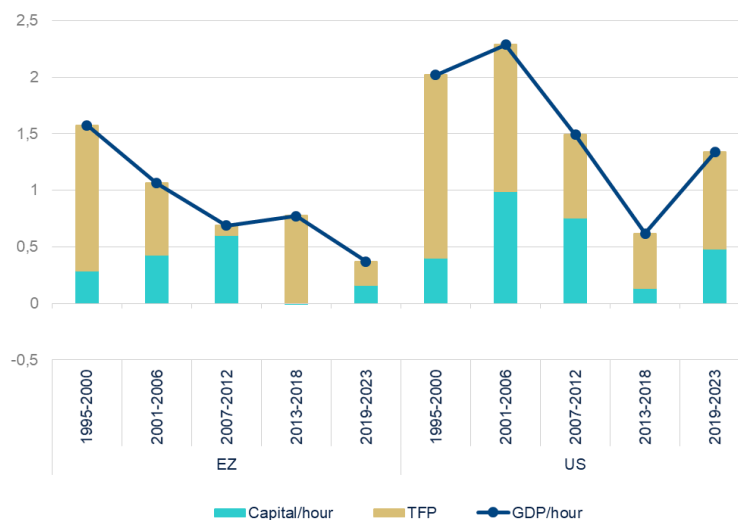
September 20, 2024

## Decarbonisation at the core of Draghi's industrial plan

Draghi's report has a strong focus on energy and climate, laying out a "joint decarbonisation and competitiveness plan", along with proposals for boosting security and reducing dependencies, closing the innovation gap with the US. The challenges are immense, but so are the opportunities. Europe must act soon, or risk losing its edge in an increasingly competitive world.

Draghi's [report](#) on the Future of European Competitiveness will likely have a significant influence on the new European Commission. It emphasizes key strategic sectors and policies and advocates for urgent and concrete changes in the European Union (EU) in order to close the productivity gap vs. the US (see Figure 1), presenting 170 proposals across three main areas to reignite growth and competitiveness: narrowing the innovation gap with the US; combining decarbonization with innovation; and fostering security and defense.

Figure 1. **EZ vs. US. GDP per Hour Worked Growth. Historical Decomposition (\*\*)**



(\*\*) Expressed in constant prices 2015 PPPs.  
Source: BBVA Research from AMECO.

**Europe is facing new global challenges affecting its competitiveness and economic growth.** The traditional open economic model of the EU has thrived on a combination of competitive markets, social policies and a commitment to sustainability and inclusiveness. These elements have enabled Europe to consistently outperform the US in terms of life expectancy, environmental sustainability, education and income inequality. However, GDP per capita growth has slowed in recent decades, the gap with the US has widened, and while in the past a low

productivity could be compensated by higher labor force or lower unemployment rate, these factors will no longer allow for growth in the future. **Europe has strengths in governance, equality, welfare state or life expectancy; yet productivity remains a challenge.** The slowdown in global trade, geopolitical instability, and the loss of cheap energy imports from Russia further compound this challenge.

**Three major transformations ahead for Europe.** To meet these challenges, three major transformations should be needed for Europe to regain its competitive advantage: **i) closing the innovation gap with the US; ii) decarbonising; and iii) fostering security by reducing dependencies** (see **Box 1**). Europe must regain productivity, new investments needs and scale up innovation across all sectors. According to the report, if Europe does not act decisively, it could be forced to scale back its ambitions on technology, climate and geopolitical independence.

## Box 1. Main action areas to reignite growth and competitiveness in Europe

Draghi's report advocates for urgent and concrete radical changes in the EU, presenting 170 proposals across three main areas (driving lines):

### 1. Close the Innovation Gap with the US, especially in advanced technologies

**The EU is lagging.** The leading EU firms in research and development (R&D) are the same as 20 years ago. In contrast, the top firms in the US are predominantly digital. The issue is not a lack of ideas or talent but the need to scale innovation within the EU. We are failing to translate innovation into commercialisation, and innovative companies that want to scale up in Europe are hindered at every stage by inconsistent and restrictive regulations.

**As a result, many European entrepreneurs prefer to go abroad.** Since 2008, nearly 30% of unicorns (tech start-ups expected to reach 1bn USD in market cap) founded in Europe relocated their headquarters abroad, moving the majority to the US. In the US economy, the majority of productivity is concentrated within the high-tech sector. If the high-tech sector were excluded from the comparison, the European Union (EU) would demonstrate slightly higher productivity levels. The key to addressing this disparity lies in fostering innovation, enhancing skills, and providing comprehensive training. A "new industrial strategy for Europe" will be needed.

**On skills,** the report outlines a roadmap for **collaboration between the EU and its member states**, contingent upon the willingness of member states to cooperate. The initial step involves a skills intelligence effort, which includes an assessment of the skills required. Currently, a prevalent form of skill acquisition occurs within companies, through on-the-job training. Therefore, the participation of firms is essential. Additionally, a portion of resources should be dedicated to adult learning, with a focus on strategic sectors. Thus, competitiveness should not be achieved through labor costs (as was done previously), but rather through innovation, training, and skills development.

### 2. Decarbonization with Innovation

**Decarbonization should be a source of growth and an opportunity to reduce energy costs.** The current energy market, designed for an era dominated by gas and fossil fuels, is outdated. In 2022, gas and fossil fuels set the price 60% of the time. The market is burdened by financial rents, and energy taxation in the EU is among the highest globally. Europe needs a Plan to decouple prices of clean technologies from dirty ones.

There is a need to provide **clean technologies** to enable decarbonization and increase the supply of clean energy. The US offers significant incentives for clean tech production, while competition from China poses a

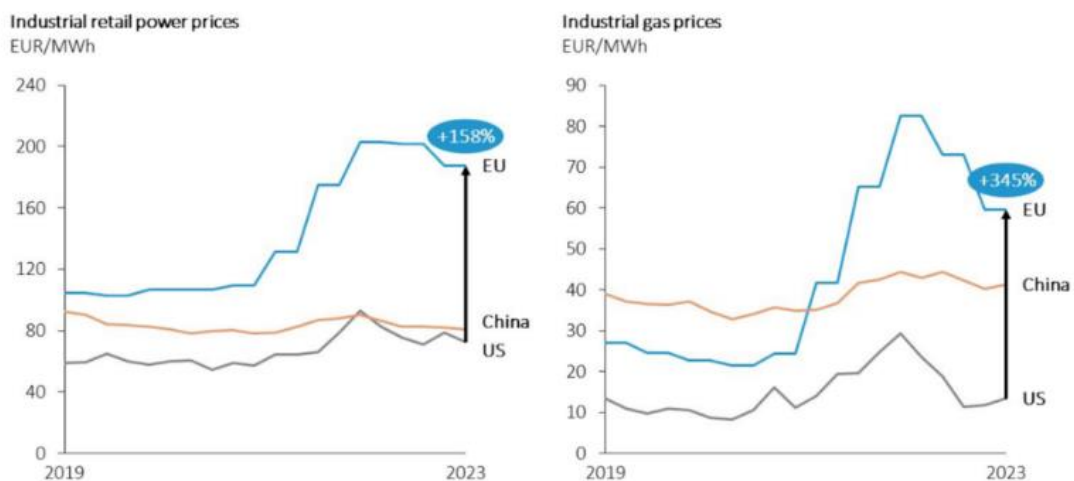
threat to the clean industry. Decarbonisation must happen for the sake of our planet. But for it also to become a source of growth for Europe, we will need a joint plan spanning industries that produce energy and those that enable decarbonisation such as clean tech and automotives.

### 3. Security and Defense

The report places special emphasis on the **defense** sector, given the recent changes in global geopolitics, with **security** being considered a precondition for growth. The European defense sector faces structural weaknesses in terms of public spending (one third of US spending in 2023), innovation in the sector (significantly lower than the US) and lack of coordination and standardization of products. The report further points out that increased defense investment can, if well managed, lead to strong technology spillovers to the rest of the economy (the DARPA case in the U.S.). It advocates increased defense spending and joint procurement, and calls for greater support from the European Investment Bank to finance the sector.

**Europe needs a coherent industrial strategy that links decarbonisation to competitiveness.** The EU has set the world's most ambitious decarbonization targets, seeking to reduce GHG by 55% by 2030 compared to 1990 levels. However, Europe's energy prices remain significantly higher than those in the US and China (see **Figure 2**), putting European industries at a disadvantage. The need to transition to clean energy sources, combined with high costs for energy-intensive sectors, poses a challenge for competitiveness. **Europe is also a world leader in clean technology innovation**, developing around 20% of the world's clean technologies, but competition from China threatens its industrial leadership. In this context, Europe needs a coherent strategy that prioritizes improving renewable energy capacity, reducing energy costs for businesses and scaling up clean technology industries, ensuring that Europe remains competitive in global markets. A "joint plan for decarbonisation and competitiveness" that matches the "[Green Deal Industrial Plan](#)" (see **Box 2**).

Figure 2. **Gas and retail price gap for industry**

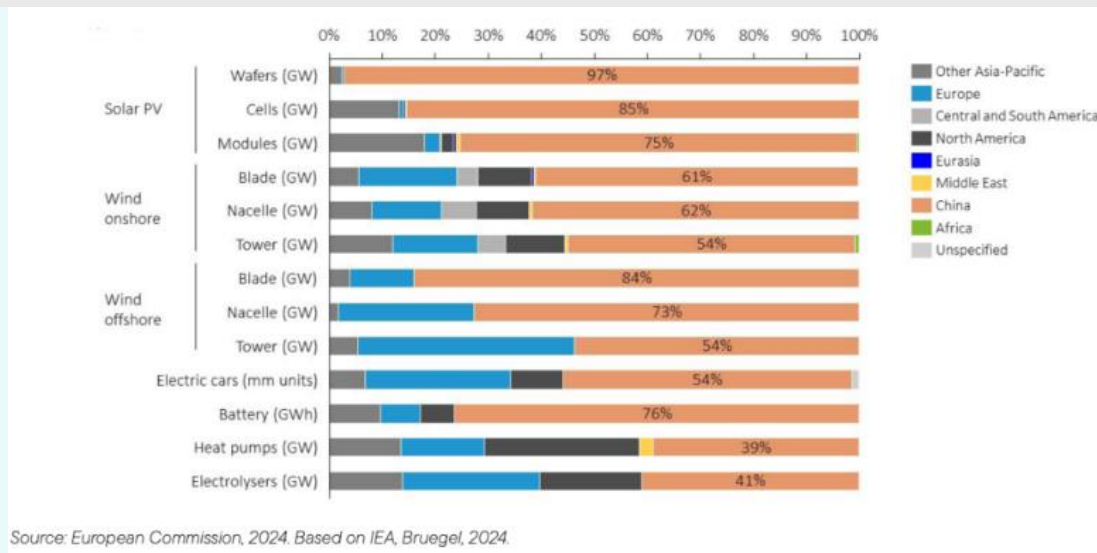


(\*) Cost of power (left) and gas (right) for industries in the EU, China and the US (€/megawatt hour).  
Source: [The future of European competitiveness report](#), with data from Eurostat, EIA and CEIC.

## Box 2. “Joint plan for decarbonisation and competitiveness”

Europe's green strategy is based on the creation of new green jobs, so its political sustainability could be compromised if decarbonisation leads instead to deindustrialisation. A “**joint plan for decarbonisation and competitiveness**” should be needed, which prioritizes enhancing renewable energy capacity, reducing energy costs for businesses, and scaling up clean tech industries, ensuring Europe remains competitive in global markets. A central element in accelerating decarbonisation will be unlocking the potential of clean energy through a collective EU focus on grids.

Figure 3. **Clean technology manufacturing capacity by region**



Clean technology manufacturing by region (%), highlighting Chinese dominance across multiple technologies.  
Source: The future of European competitiveness report, data from IEA, Bruegel.

The new strategy should include a **mix of horizontal and vertical actions** to set the right framework conditions for investment and to address sector-specific issues. The main policy actions proposed in the report are the following:

### ■ Horizontal policy actions

- The **EU Single Market** should be fully implemented along the lines envisaged in the report published by Letta in April.
- Measures to better **coordinate industrial, competition and trade policies**, in order to avoid the pitfalls of internal favoritism and external protectionism.
- Measures are needed to **mobilize the huge investments needed**, including new EU loans for European public goods such as cutting-edge innovations and cross-border electricity networks.

- **Industrial policy coordination at EU level** must be strengthened, to overcome the traditional fragmented approach that prevents the EU from achieving economies of scale and gaining global influence.

■ **Vertical policy actions.** The report spotlights the key trade-off of decarbonisation versus competitiveness and security. Examples are Chinese solar panels or electric cars; they can benefit European decarbonisation, they are also problematic for its competitiveness and security. To manage this trade-off, the report suggests avoiding black-and-white solutions in the European context. Most notably, it rejects the US approach of systematically shutting out Chinese clean technologies, which would make the European green transition more difficult and expensive. Instead, Europe should deploy smart and technology-specific green industrial policies, tailored to the circumstances of each industrial sector.

**Europe has a “major” energy price gap with key partners due to several causes:** Higher fossil dependency and its impact on marginal price formation, insufficient long-term price hedging, physical bottlenecks, taxation must be lowered at the same time that decarbonisation has to be accelerated. For enhancing both energy supply resilience and market efficiency, **22 key proposals** have been organized into three groups: **natural gas, electricity and "horizontal"**. The proposals are oriented to decoupling energy prices level and volatility from short-term movements (PPAs, CfDs, joint procurement of natural gas, maintaining nuclear supply); enhancing market efficiency (“true” Energy Union at least for grid investment and interconnections); and fostering decarbonization with fiscal support tailored to the innovation development (deep science<sup>1</sup>) (**Box 3**).

### Box 3. Proposals on energy

**NATURAL GAS PROPOSALS:** Aimed at stabilizing the supply and prices of natural gas, facing the transition towards more sustainable sources.

1. **Establishing reliable commercial partnerships:** Promoting strategic alliances with key natural gas suppliers outside the EU (Norway, Algeria, the US and Qatar) while reinforcing long-term contracts to reduce the EU’s exposure to the volatile spot markets and leverage potential downwards pressures on prices.
2. **Moving away from spot markets:** European companies will be encouraged to reduce their reliance on volatile spot gas markets, in favor of long-term contracts with pricing formulas reflecting less spot indexation.

1: Global | Deep Science | BBVA Research.

3. **Reinforce joint Procurement:** The aim is to implement joint purchasing mechanisms at European level, uniting the demands of several Member States to increase negotiating power on international markets and obtain better prices. The creation of funds or financial mechanisms to facilitate this coordinated purchasing is suggested.
4. **Develop import infrastructures and coordinate gas storage:** Key infrastructure such as liquefied natural gas (LNG) terminals and underground gas storage should be developed and optimized. It is crucial to ensure that all Member States have equal access to these infrastructures, thereby reducing the vulnerability of some regions to potential supply disruptions.
5. **Improve the quality of data and forecasts.** Map and address the needs and gaps concerning energy data to enable policy-makers to support the energy transition, as well as the monitoring of the security of supply and affordability. Centralize all public and open energy data sources (e.g. ENTSO-G, ENTSO-E, ACER and Eurostat) in a common hub or platform for energy data.
6. **Further regulate financial markets for energy** under a single EU trading rule book and limit the possibility of speculative behaviors: financial position limits, dynamic caps, and obligation to trade in the EU
7. **Progressively decarbonise moving to H2 and green gasses in the industry** when cost-efficient. To support the early production and deployment of hydrogen, Member States could use the revenues from ETS allowances to further decarbonise.
8. **Ensure natural gas price formation mechanisms are more cost-reflective** of different sourcing conditions. European gas prices should better reflect real supply conditions and costs, rather than relying exclusively on international indices, which would allow for fairer and more stable prices for European consumers.
9. **Facilitate industries exposed to international competition** to access to competitive energy sourcing. More transparency on contracts offered by retailers could increase the competitiveness of industrial players not sourcing natural gas themselves directly, and improve informed decisions on decarbonisation opportunities.

**ELECTRICITY PROPOSALS:** Focused on strengthening the development of clean energy and guaranteeing an affordable and sustainable electricity supply.

1. **Accelerating the development of cheaper and more sustainable energy.** A priority is to more aggressively promote renewable energy (wind, solar, hydro) and other energy sources such as nuclear and hydro. A decoupling of the price of electricity from fossil fuels is advocated, ensuring that electricity costs more directly reflect cheaper energy sources.
2. **Simplifying administrative procedures for renewable energy.** To accelerate the deployment of renewable energy infrastructure, simplifying and streamlining permitting processes and bureaucratic procedures is proposed. This measure seeks to reduce implementation times for new wind and solar projects.
3. **Developing electricity networks and better interconnections.** A focus on modernizing and expanding European electricity networks, including interconnections between countries, will allow for greater



integration of renewable energy and more efficient distribution of electricity, reducing regional differences in costs.

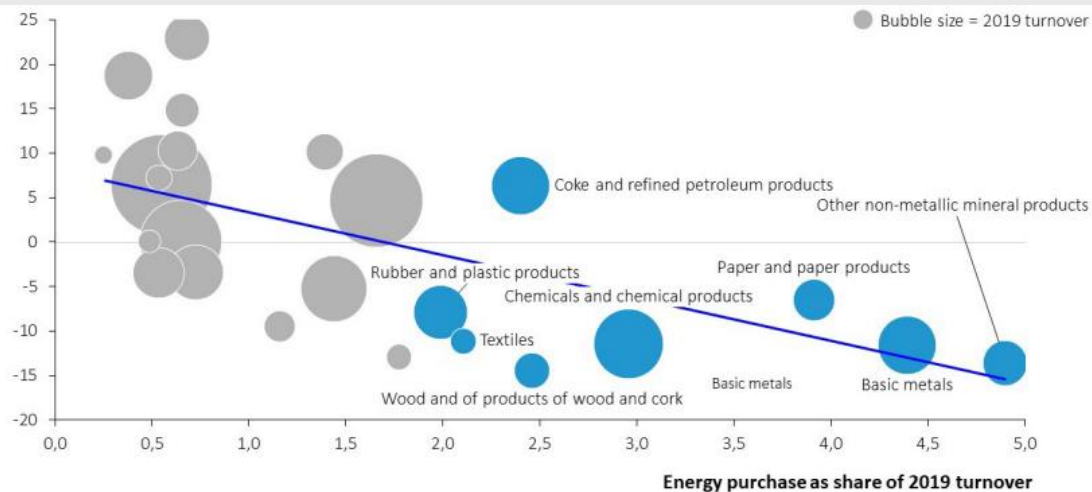
4. **Decoupling remuneration for renewables and nuclear energy.** It suggests that renewables and nuclear energy should have a remuneration scheme independent of that of fossil fuels, through long-term contracts, guaranteeing more predictable prices and reducing the impact of gas price volatility.
5. **Financial support for power purchase agreements (PPAs):** The creation of specific guarantees and financial products that facilitate long-term contracts between large industrial consumers and renewable energy generators is proposed, thus promoting greater use of these clean sources.
6. **Promoting self-generation and self-consumption of energy.** Remove legal and economic barriers that hinder self-generation of energy by companies and households. This would include reforms to network tariffs, incentivizing more actors to generate their electricity from renewable sources.
7. **Integration of storage and flexibility technologies.** Investment in energy storage technologies (batteries, hydrogen, among others) and flexibility mechanisms, such as smart grids, would be promoted to balance energy supply and demand in times of high renewable production and low demand.
8. **Ensuring competitive energy access to key industrial sectors.** European industries most dependent on energy consumption, such as steel, aluminum and chemicals, would have preferential access to clean and affordable energy, with specific measures to avoid industrial relocation due to high energy costs.
9. **Nuclear capacity.** It highlights the need to maintain and, in some cases, expand the capacity of existing nuclear plants in Europe, including investments in emerging technologies such as small modular reactors (SMR), which could offer a more flexible and cost-effective solution for future electricity supply.

**HORIZONTAL PROPOSALS.** Concerning taxation, price support schemes, innovation and energy sector governance from a 'horizontal' perspective.

1. **Energy taxation reform.** An EU-wide tax reform is proposed that would establish a common level of energy taxes and surcharges, incentivising the use of clean technologies. This approach seeks to avoid tax distortions between Member States and create a more homogeneous European energy market.
2. **Harmonize price relief and avoid distortions in the single market.** In the case of national interventions to reduce energy prices, these must be harmonized to avoid distorting the single market and generating competitive inequalities between countries.
3. **Boosting energy innovation.** Increase funding and support for research and development of new energy technologies. Priority areas: energy storage, green hydrogen, smart grids and carbon capture and storage (CCUS).
4. **Strengthening energy governance at European level.** To ensure the effectiveness of reforms, the creation of a more centralized governance framework is suggested, where key energy decisions can be taken in a coordinated and rapid manner, inspired by the model of the Economic and Monetary Union.

All these proposals should be the basis to develop the European Clean Industrial Deal. The EU already has the [Net Zero Industry Act](#), a law aimed at supporting clean-tech manufacturing by addressing some of the barriers to the scaling-up of clean-tech companies. This represented a first step in the right direction and should be promptly implemented, but the Draghi report makes clear that stronger actions, on both clean-tech manufacturing and on the decarbonisation of established energy-intensive industries, including steel, aluminum, cement and chemicals, are still required to ensure that Europe can efficiently combine decarbonisation and technological leadership. **Energy-intensive industries have been particularly hard hit by high energy costs:** production has fallen by 10-15% since 2021 and the composition of European industry is changing, with increasing imports from countries with lower energy costs. Energy prices have also become more volatile, increasing the price of hedging and adding uncertainty to investment decisions (**Figure 4**).

Figure 4. **Energy-intensive manufacturing challenges. % change in industrial production (Apr. 24 vs Apr. 21)**

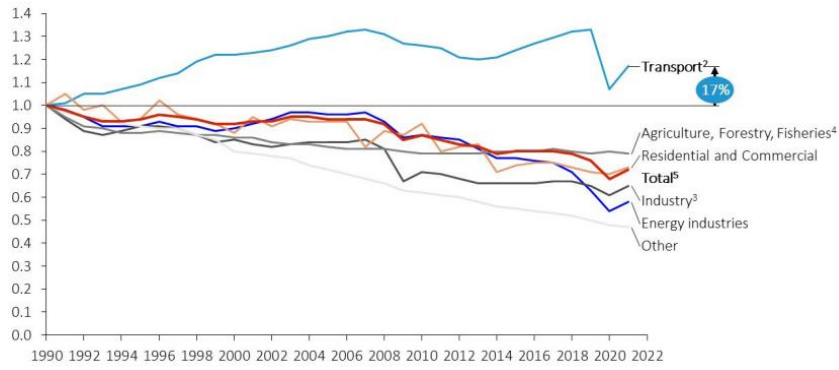


Source: The [future of European competitiveness report](#), with data from Eurostat, OECD Trade value added (TiVA database) and ECB staff calculations.

**Transport will also play a critical role in the decarbonisation process, but whether it proves to be an opportunity for Europe will depend on planning.** Transport accounts for a quarter of Europe’s GHG emissions and, unlike other sectors, emissions from transport are still higher than in 1990 (see **Figure 5**). However, a lack of EU-level planning for transport competitiveness is hampering Europe’s ability to capitalize on the potential of multimodal transport to reduce carbon emissions. **Sustainable mobility requires an integrated approach** in relation to energy networks, infrastructure, manufacturing equipment, telecommunications and finance. However, while transport is part of the Commission’s 2040 Climate Target Plan, it is excluded from the National Energy and Climate Plans in which Member States outline their strategies for implementing decarbonisation. The transition to sustainable mobility is further hampered by a lack of infrastructure and limited uptake of digitalisation.



Figure 5. Evolution of GHG by sector in the EU. GHG<sup>1</sup>, Index 1990=1



<sup>1</sup> Excluding LULUCF emissions and international maritime, including international aviation and indirect CO<sub>2</sub>. <sup>2</sup> Excluding international maritime (international traffic departing from the EU), including international aviation. <sup>3</sup> Emissions from Manufacturing and Construction, Industrial Processes and Product Use. <sup>4</sup> Emissions from Fuel Combustion and other Emissions from Agriculture.

Source: The future of European competitiveness report with data from European Commission, 2023

In summary, Draghi's report identifies the main current challenges of Europe and makes concrete proposals on multiple fronts (energy, capital market union, innovation, financing, regulation), which gives an idea of the multiplicity of areas to be taken into account to boost growth and competitiveness. The challenge for the new European Commission is going to be to design from it a sufficient subset of measures that will be meaningful to give a new impetus to growth in Europe, which certainly faces major challenges in this decade.

## Highlights of the Week

- **Global** | [Global Energy Perspective 2024. McKinsey](#). As the global energy transition enters a new phase, our Global Energy Perspective 2024 presents a data-driven view of the possible road ahead.
- **Global** | [Climate Change through the Lens of Macroeconomic Modeling](#). There is a rapidly advancing literature on the macroeconomics of climate change. This review focuses on developments in the construction and solution of structural integrated assessment models (IAMs), highlighting the marriage of state-of-the-art natural science with general equilibrium theory.
- **America** | [Can the voluntary carbon market save the Amazon? The Economist](#). Entrepreneurs in Brazil are betting big on planting trees.
- **US** | [US supply chains face the biggest jump in 'weather shocks' due to climate change - Carbon Brief](#). The US will face a bigger rise in weather-induced supply disruption over the next 15 years than any other country, a new study suggests – although current risks to its consumers are very low.
- **Spain** | [The Impact of Climate Change on Tourism Demand in Spain. BBVA Research](#). Changes in climate conditions could alter the seasonal and geographical pattern of tourism in Spain, with the impact depending on the adaptation policies implemented.

## DISCLAIMER

The present document does not constitute an “Investment Recommendation”, as defined in Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (“MAR”). In particular, this document does not constitute “Investment Research” nor “Marketing Material”, for the purposes of article 36 of the Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive (MIFID II).

Readers should be aware that under no circumstances should they base their investment decisions on the information contained in this document. Those persons or entities offering investment products to these potential investors are legally required to provide the information needed for them to take an appropriate investment decision.

This document has been prepared by BBVA Research Department. It is provided for information purposes only and expresses data or opinions regarding the date of issue of the report, prepared by BBVA or obtained from or based on sources we consider to be reliable, and have not been independently verified by BBVA. Therefore, BBVA offers no warranty, either express or implicit, regarding its accuracy, integrity or correctness.

This document and its contents are subject to changes without prior notice depending on variables such as the economic context or market fluctuations. BBVA is not responsible for updating these contents or for giving notice of such changes.

BBVA accepts no liability for any loss, direct or indirect, that may result from the use of this document or its contents.

This document and its contents do not constitute an offer, invitation or solicitation to purchase, divest or enter into any interest in financial assets or instruments. Neither shall this document nor its contents form the basis of any contract, commitment or decision of any kind.

The content of this document is protected by intellectual property laws. Reproduction, transformation, distribution, public communication, making available, extraction, reuse, forwarding or use of any nature by any means or process is prohibited, except in cases where it is legally permitted or expressly authorised by BBVA on its website [www.bbvarresearch.com](http://www.bbvarresearch.com).

### ENQUIRIES TO:

BBVA Research: Azul Street, 4. La Vela Building – 4th and 5th floor. 28050 Madrid (Spain).  
Tel. +34 91 374 60 00 y +34 91 537 70 00 / Fax (+34) 91 374 25  
[www.bbvarresearch.com](http://www.bbvarresearch.com)