



# Repowering Europe

Transforming Europe into a more sustainable,  
self-sufficient energy economy



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# EU green transition – A 7-point synopsis

## 01

Europe intends to become the world's first climate-neutral continent by 2050. To achieve this target, the European Commission (EC) has developed its ambitious 'European Union (EU) Green Deal climate targets,' which will illustrate the EU member states' commitment to a green transition.

## 02

The EU Green Deal introduced the following targets, which engages all participants in this pursuit:

- At least a 55 percent decrease in greenhouse gas (GHG) emissions by 2030, compared to 1990 levels.
- More than 32 percent share of renewable energy in the energy mix.
- Minimum 32.5 percent improvement in energy efficiency.

## 03

Fit for 55, embedded into the EU Green Deal in 2021, is a set of proposals to revise and update current EU legislation to accelerate the path to reaching the minimum 55 percent emissions reduction target. These legislative proposals and policy initiatives highlight key policy developments in the making and their potential impact.

## 04

To gather the support of EU member states for this action plan, the EC has created the Green Deal Investment Plan, which aims to mobilize at least EUR1 trillion in sustainable investment over 10 years. This plan includes the 'Just Transition Mechanism' to support EU economic regions heavily reliant on carbon-intensive activities, helping to ensure that the European transition towards a climate-neutral economy happens fairly, leaving no one behind.

## 05

To provide necessary feedback and participate effectively in public consultations, the EC proposes, together with each policy change, the inception of Impact Assessments. These Impact Assessments examine whether there is a need for EU action and the impact of available or proposed solutions. Informing citizens and stakeholders of the impact of the proposed changes provides support in the decision-making processes.

## 06

With its unprecedented effort, firm policy and series of developments, Fit for 55 can keep the movement primarily focused on targeted areas, including finance, energy, transport, mobility, agriculture, corporate governance, forestry and biodiversity.

## 07

Fit for 55 aims to play a critical role in achieving the REPowerEU objective of phasing out the EU's dependence on the Russian energy supply. Full implementation of Fit for 55 proposals should trim the EU's annual fossil gas consumption by 30 percent by 2030.

# Pathways to secure, sustainable and affordable energy

This publication was developed in conjunction with a [webinar](#) hosted on May 25, 2022, featuring Pascal Canfin, Member of the European Parliament, Chair of the Environment, Public Health, and Food Safety Committee.



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# EU Green Deal, Fit for 55 and REPowerEU: A virtuous circle

Europe has been a front-runner in climate protection and a driver of the global environmental agenda, with the region aiming to become the **first climate-neutral continent by 2050**. It continues to develop a solid policy system to meet this target through its flagship European Green Deal (EGD), its July 2021 legislation package 'Fit for 55' and its recently introduced REPowerEU.

## Fit for 55 and REPowerEU

In response to the ongoing energy price crisis, which has been exacerbated (and brought to the fore) by the war in Ukraine, the EU published the REPowerEU plan on 22 March 2022. Dubbed the 'REPowerEU strategy' the proposal is geared towards making Europe independent from Russian fossil fuels and accelerating the green energy transition. Both investors and developers have had a strong positive reaction to the proposal for joint European action for more affordable, secure and sustainable energy that is not tied to Russia.

The combination of Fit for 55 and REPowerEU is expected to initiate a virtuous circle that will likely both accelerate the transition and cut the EU's reliance on Russian hydrocarbons:

- On the one hand, full implementation of the Fit for 55 proposals would lower gas consumption by 30 percent by 2030, consequently reducing hydrocarbon imports.
- On the other hand, REPowerEU may boost the Fit for 55 proposals regarding earlier and more ambitious targets for renewable energy and energy efficiency.

## The European Green Deal and Fit for 55

In December 2019, the EU implemented the EGD to enable a green transition. Pitted as equivalent to 'Europe's man-on-the-moon moment' by the president of the EC, the policy should translate targets into actions and help achieve the transformation to climate neutrality. As part of the EGD, the EC proposed the first set of revised targets to be met by 2030 and adopted Fit for 55 in July 2021 — a proposed legislation package designed to prepare for the implementation of the EGD, with a specific focus on cutting net GHG emissions by at least 55 percent by 2030.

- The package of proposals focuses on strengthening the current EU emissions trading system (ETS) (i.e., a faster reduction of allowances and a phase-out of free allowances) and extending the ETS to additional sectors (i.e., the inclusion of maritime transportation and creation of a new regime for buildings and road transportation), in addition to increased use of renewable energy, higher energy efficiency and less carbon leakage.

The package also aims to create a balance between carbon pricing, targets, emission standards and support measures, while focusing on green transition.

## The plan, combined with ...



The support to the COVID-19 response to revive the economy

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A policy directive to phase out the sale of internal combustion engine (ICE) vehicles

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A reform of the Energy Tax Directive and implementation of a Carbon Border Adjustment Mechanism (CBAM)

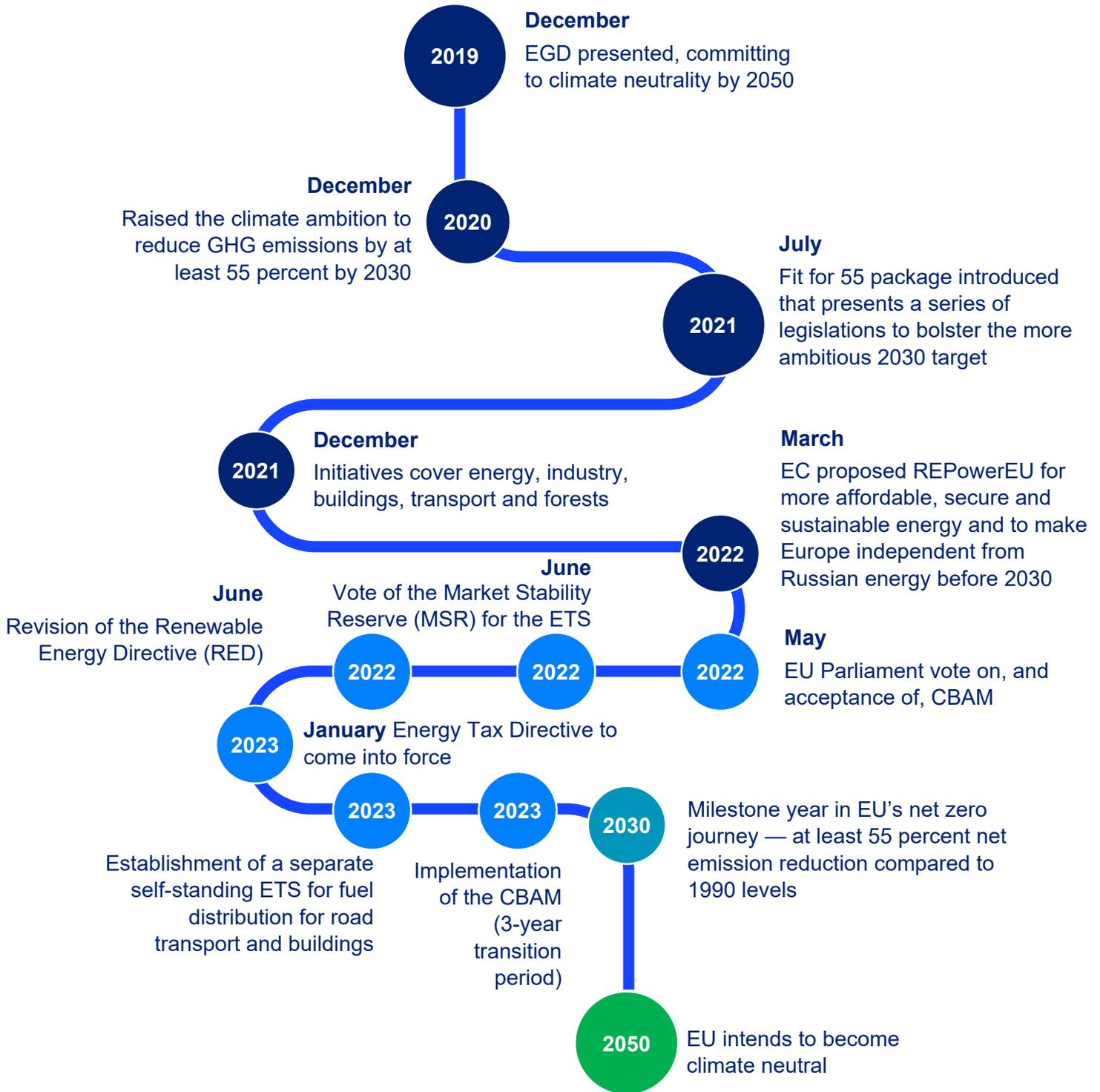
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An ETS (a 'cap-and-trade' mechanism on GHG emissions)

... has set the EU climate policy into motion...

# Timeline



# EU Green Deal policy sectors

The EGD consists of eight major policy areas (broadly categorized as either ‘Just Transition’ or ‘financing the transition’), each of which consists of dedicated regulations, strategies and funding sources for projects under different stages of maturity.



<sup>1</sup> European Green Deal, European Commission

<sup>2</sup> Energy and the Green Deal, European Commission

<sup>3</sup> Sustainable industry, European Commission

<sup>4</sup> Sustainable products initiative, European Commission

<sup>5</sup> Biodiversity strategy for 2030, European Commission

<sup>6</sup> How the Fit for 55 package affects drivers, EV Box

<sup>7</sup> Sustainable mobility, European Commission

<sup>8</sup> Farm to Fork strategy, European Commission

# Fit for 55 package

The Fit for 55 package is a set of 12 legislative proposals that align energy and climate policies, with a critical focus on 5 key proposals:



## Renewable Energy Directive (RED)

The proposal entails amending the RED and increasing the target share of renewables in the energy mix to 40 percent from 32 percent by 2030.<sup>9</sup> Emphasis is on sectors with relatively slower renewable integration, such as buildings, industry, heating and cooling, and transport.



## Energy Efficiency Directive (EED)

The proposal entails a revision of the EED to raise the energy efficiency target for primary and final energy consumption from 32.5 percent to 36 percent and 39 percent, respectively. The EED also offers multiple provisions to speed up the efforts to drive energy efficiency, including:

- New rules for cutting energy consumption by public buildings
- Higher yearly energy savings obligations by members
- Measures to protect vulnerable consumers



## Energy Taxation Directive

The directive is the framework for the taxation of electricity and energy products used as motor fuel or heating fuel. For the first time, the proposed revision links taxation levels to the energy content and environmental performance of an energy product. It aims to ensure that fossil fuels are subject to higher minimum tax rates. Taxation is, therefore, no longer determined by consumption volume.



## Carbon Border Adjustment Mechanism (CBAM)

The introduction of a CBAM, which works in conjunction with and complements the ETS, is proposed to prevent carbon leakage when strengthening the ETS. Carbon leakage would arise when EU consumption shifts production activities from EU producers to imports from non-EU countries where a lower (or no) carbon price is levied.



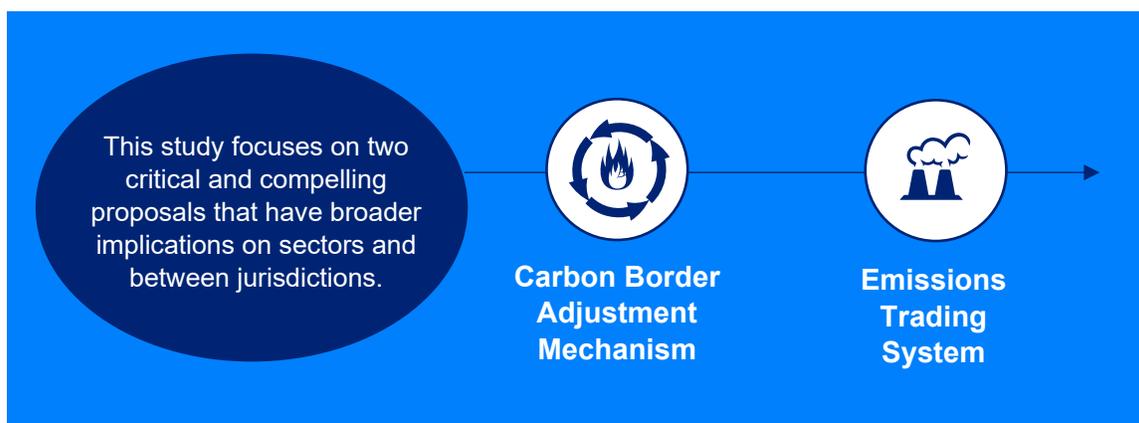
## Emissions Trading System (ETS)

The EC has proposed significant changes to the existing ETS that are likely to lead to an accelerated emissions reduction of 61 percent in concerned sectors by 2030 compared with 2005. The amendments seek to fortify current provisions (by decreasing free emission allowances and phasing them out for specific industries) and expand the scope of covered sectors to achieve the revised ambition.

<sup>9</sup> Revision of the Renewable Energy Directive: Fit for 55 package, Think Tank European Parliament

The Fit for 55 package's other 7 legislative proposals are summarized as follows.

- **Effort Sharing Regulation (ESR)** – The proposal raises national reduction targets to achieve an EU-wide GHG emissions reduction of 40 percent (up from 29 percent) over 2005 levels in the ESR sectors.<sup>10</sup>
- **GHG emissions and removals from Land Use, Land Use Change and Forestry (LULUCF)** – The proposal intends to reverse the declining net GHG removals by the EU's agricultural and forestry sectors, bolstering the LULUCF's contribution to the Union's increased climate ambition. The revision of the LULUCF Regulation sets a net GHG removal target of at least 310 million tonnes of CO<sub>2</sub>e by 2030.
- **Alternative Fuels Infrastructure (AFI)** – The proposed AFI Regulation, which will replace the AFI Directive, aims to expedite deployment of a dense, widespread network of alternative fuels infrastructure throughout the EU for refueling and recharging road vehicles, vessels and stationary aircraft. The proposal also aims to offer consumers a transparent, fair price structure and seamless payment.
- **Stricter CO<sub>2</sub> emission standards for new passenger cars and light commercial vehicles** – The proposal sets out a target to reduce CO<sub>2</sub> emissions from vehicles by 100 percent by 2035, meaning that, from 2035, placing ICE vehicles in the EU market will not be possible.
- **Sustainable Aviation Fuels (SAF)** – The proposed ReFuelEU Aviation Regulation aims to reduce the environmental footprint of the aviation sector by imposing a SAF blending mandate from 2025 for all flights taking off from an EU airport, regardless of destination.
- **Greener fuels in shipping** – The proposed FuelEU Maritime Regulation aims to stimulate the uptake of low-carbon maritime fuels and renewables and zero-emission technologies to curtail the GHG intensity of energy used by ships at European ports by up to 75 percent by 2050. This proposal applies to vessels arriving at, departing from, or staying within EU ports, regardless of their flag.
- **Social Climate Fund** – The proposal establishes a fund of EUR72.2 billion for an initial period from 2025 to 2032 to assist EU countries in mitigating the effects of expanding the ETS to include road transport and buildings.



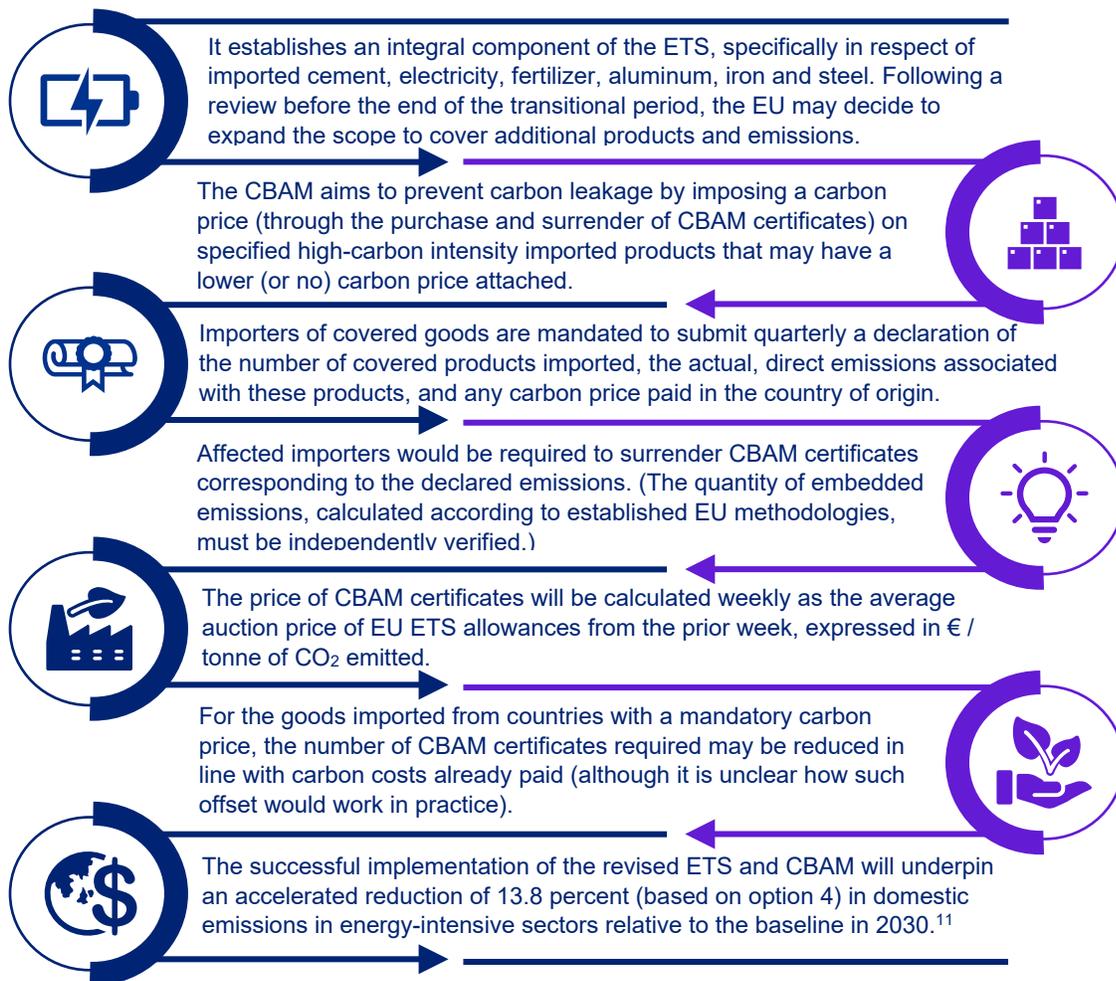
<sup>10</sup> ESR sectors: [https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets\\_en](https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en)

### 3.1 Carbon Border Adjustment Mechanism (CBAM)

The Fit for 55 proposal is explicitly designed to cause a significant increase in the price of carbon emissions in the EU. Therefore, the CBAM is intended to counter concerns about ‘carbon leakage’. This would occur if consumers switched from buying EU-produced goods to purchasing substitutes from non-EU countries where a lower (or no) carbon price is levied or firms shifted production activities from the EU to such countries. CBAM operates by imposing a charge on the embedded carbon of certain imports equal to the charge imposed on domestic goods under the ETS.

The Council, in March 2022, reached an agreement on CBAM. The mechanism requires EU importers to buy and surrender carbon certificates equivalent to the embedded carbon content of listed products imported into the EU. The cost of the certificates will mirror the cost of emissions permits under the ETS. Since CBAM is a new mechanism without precedent globally, and some legislative aspects are yet to be finalized, the practical application remains relatively uncertain.

#### Structure



<sup>11</sup> EU Carbon Border Adjustment Mechanism, European parliament



The CBAM is a landmark initiative in the EU's fight against climate change. The key objective of the mechanism is to ensure that the price of imports accurately reflects their carbon content, thereby preventing unfair competition from carbon leakage in the EU economy.

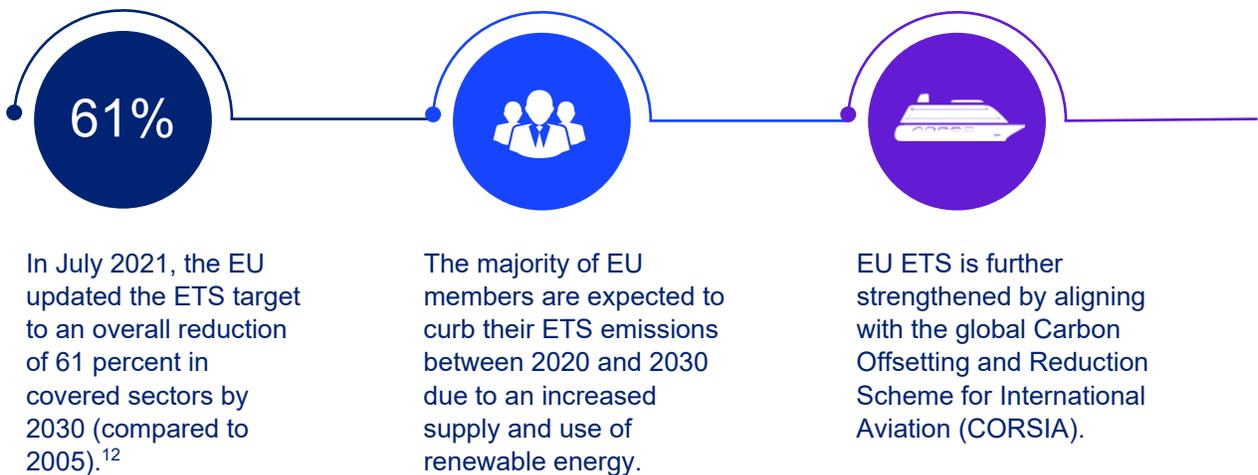
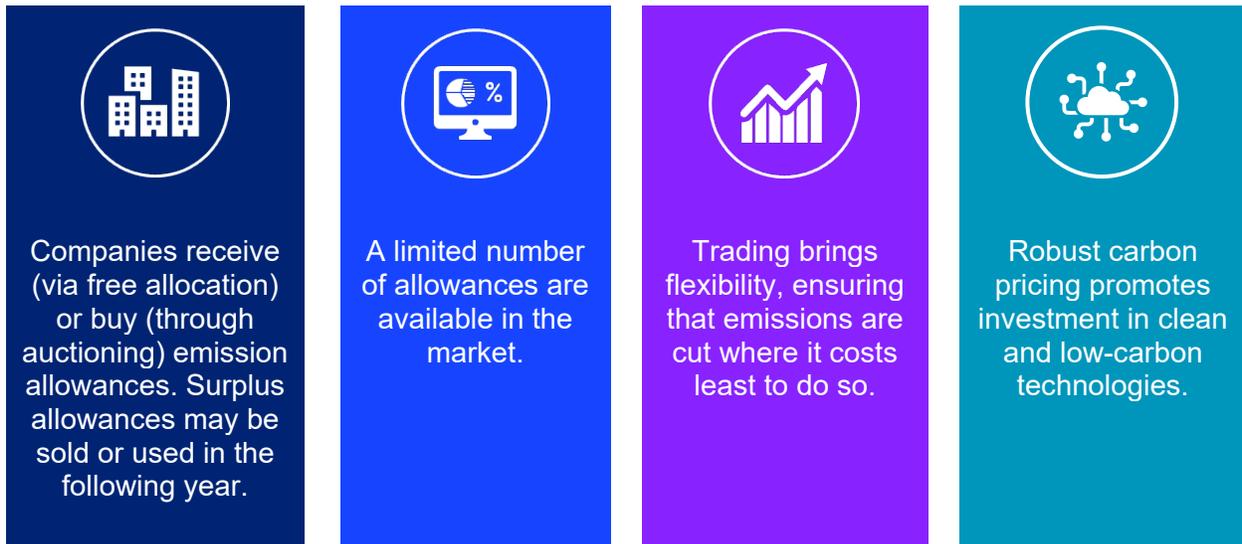
The full adoption of the CBAM would impact the EU's Member States and its trading partners. While the CBAM is designed to orientate the EU economy towards a low carbon model in conjunction with all other EGD proposals, some concerns regarding the "internationalization" of emissions have been raised. Some EU Member States, such as Bulgaria, Ireland and Greece, may risk higher input costs due to their heavy reliance on imports from non-EU countries. This risk would, of course, be dependent on the emissions intensity of these imports. Developing nations have accused the mechanism of being discriminatory, while some third countries have been critical of the compatibility of the CBAM with the rules of the World Trade Organization (WTO). However, the EC has expressly stated that the EU CBAM will align with the WTO framework, particularly the General Agreement on Tariffs and Trade 1994 (GATT).

International trading partners have questioned whether the CBAM is a tariff and, if so, whether it complies with the EU's commitments under the GATT tariff schedule. A successful defense of the CBAM call fall under Article XX GATT, which permits a state to adopt "measures necessary to protect human, animal or plant life or health or to conserve natural resources" (i.e., carbon leakage, rather than competitiveness, is cited as the underlying concern, thereby employing the EU legal basis for environmental policy and not trade policy), may well result in an unobstructed route to implementation.

## 3.2 EU Emissions Trading System

Set up in 2005, the EU ETS is the world's first and most developed international carbon market, which covers approximately about 40% of the EU's GHG emissions. This 'cap-and-trade' system is an annual cap on the amount of GHGs that companies in covered sectors may emit. Companies either receive emission allowances for free or buy within the cap. Failure to secure allowances covering total emissions will result in substantial fines. As previously highlighted, the proposed amendments extend the scope of the ETS to include additional sectors (maritime transport) and cover emissions for road transport and buildings.

### ETS structure



<sup>12</sup> The EU Emissions Trading System in 2021: trends and projections, European Environment Agency

**Industries and sectors that need to pay:** The system has been designed to shift away from energy generation from conventional fuels, polluting transport and industry towards a more climate-neutral future. The proposed ETS will likely impact the following sectors:



Electricity and heat generation; energy-intensive industry sectors (including oil refineries, steelworks and production of iron, aluminum, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals); commercial aviation; maritime transport; and aluminum production.



The EU ETS applies to limited energy-intensive, high emitting industries, providing a cap on their annual carbon emissions and levying substantial penalties when these caps exceed or where allowances held do not cover emissions generated. By fixing the price of an emission allowance, economies are free to decide the quantities of allowances purchased or sold.

To date, the EU has been using free allowances to safeguard the regulated industries' competitiveness and avoid carbon leakage. The more ambitious EU proposals mean a faster reduction in the overall cap and withdrawal of free allowances, thus increasing the carbon price. Therefore, to ensure a level playing field and avoid carbon leakage as EU carbon prices rise, the proposed CBAM will work with and complement the ETS.

Due to the generosity of the free allowances that have been issued, there has been little to incentivize investment in the innovation of clean processes. But, as the CBAM kicks in, free allowances are likely to become a low-priority solution and not a default policy. The EC aims to phase out free allocations by the 10th year of CBAM's operation.

# REPowerEU: Six emergency measures

REPowerEU primarily aims to diversify gas supplies; replace gas in heating and power generation, and expedite the roll-out of renewable gases.

The EU relies on Russian imports to meet 40 percent of its gas demand, with its energy imports reaching €99 billion (US\$108 billion) in 2021. However, the invasion and the ongoing conflict in the region has placed the already high-priced energy market under further pressure. As a result, the EU drafted REPowerEU, a set of emergency measures, to counteract the imminent energy threat:

- 01** Reduce dependence on Russian energy by two-thirds before the end of 2022 by diversifying supplies.
- 02** Accelerate renewable permitting (recommendation will be published in May)
- 03** Add more rooftop solar panels, heat pumps and increase energy efficiency
- 04** Speed up the transition to electrification and renewable hydrogen to decarbonize the industry
- 05** Increase annual biomethane production, particularly from agriculture waste and residues, to 35 bcm by 2030
- 06** Develop a hydrogen accelerator to build infrastructure, storage facilities and ports; replace Russian gas demand with an additional 10 mt of imported renewable hydrogen (from varied sources) and 5 mt of domestic renewable hydrogen

# How REPowerEU boosts Fit for 55

Fit for 55 will likely play a critical role in helping the EU achieve its REPowerEU objectives. Full implementation of the Fit for 55 proposals would boost energy efficiency, thus reducing gas consumption by 30 percent by the end of this decade.

RePowrEU	REPowerEU measure	Additional to Fit for 55 by 2020 (billion of cubic meter equivalent)
		All figures are estimated
Gas diversification	LNG diversification	50
	Pipeline import diversification	10
	Boost biomethane production to 35bcm by 2030	18
	Boost hydrogen production and imports to 20mt by 2030	25-50
Electrify Europe	EU-wide energy saving, e.g. by turning down the thermostat for buildings' heating by 1°C, saving 10bcm	10
	Solar rooftops front loading – up to 15 TWh within a year	frontloaded
	Heat pump roll out front loading by doubling deployment resulting in a cumulative 10 million units over the next 5 years	frontloaded
	Wind and solar front loading, increasing average deployment rate by 20%, saving 3bcm of gas, and additional capacities of 80GW by 2030 to accommodate for higher production of renewable hydrogen.	Gas savings from higher ambition counted under green hydrogen, the rest is frontloaded
Transform industry	Front load Innovation Fund and extend the scope to carbon contracts for difference	Gas savings counted under the renewable hydrogen and renewables targets

# Impact assessment

Fit for 55 is the EU's most ambitious initiative to reduce its impact on the environment by transforming the workings of the economy, industry and society. The revised policy package has been proposed with the intention to steer the region towards its goal of carbon neutrality faster.



## Economic implications

### For the EU

Low-carbon technologies are in the nascent stage of development and will need some time to become financially feasible. The transition will likely increase the carbon price for fossil-based systems with limited alternatives and increase the cost, potentially negatively impacting vulnerable consumers.

### For the world

The introduction of CBAM has raised concerns among key EU trade partners, including China and the US, particularly related to the effective implementation of the carbon charge and whether it will be compliant with WTO principles.

- The introduction of CBAM will impact Russia the most as it is the largest provider of CBAM products to the EU, followed by Turkey, China and the UK.<sup>13</sup>



## Sectoral implications

The agenda strengthens the eight existing carbon neutrality focus legislations and implements five new initiatives across climate, energy and fuels, transport, buildings, land use and forestry. The energy generation sector in the EU will likely witness a decrease in gas demand due to increasing emission reduction targets, paving the way for cleaner and renewable solutions by incentivizing utility companies and consumers. Renewable energy upgrades will be made across sectors by integrating policies and measures.

- The infrastructure policy may be required to support the flow of investments in developing renewable energies and hydrogen infrastructures.

The policy will likely deepen the integration between the EU's climate and energy laws, thus increasing the pressure on the energy sector to comply with the legislative proposals set out in the package.

As a result of placing a price on the carbon content of EU imports, the CBAM, in essence, also makes non-EU sectors and companies responsible for their emissions.

<sup>13</sup> Weekly data: EU's CBAM to impact Russia, China and the UK the most, Energy Monitor



## Societal implications

The social dimension of Fit for 55 is covered under the Social Climate Fund, innovation fund, and modernization fund, which use revenues from the ETD, ETS, and CBAM to support vulnerable households and micro-enterprises.

- The Social Climate Fund will likely or aims to enable increased energy efficiency and renovations of buildings, clean heating and cooling, and integrated renewable energy.<sup>14</sup>

The energy management and sustainability initiatives for buildings ('Directive on the Energy Performance of Buildings') are expected to become global standards for other economies.

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<sup>14</sup> Analysis of EU's 'Fit for 55 Agenda', Indian Council of World Affairs





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