

AN OVERVIEW OF GREEN RECOVERY MEASURES IN THE EU AND CHINA

24-25/09/2020

EU-CHINA SYMPOSIUM ON GREEN RECOVERY
AND GREEN DEVELOPMENT

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FOREWORD

China and the EU are united in their commitment to act **against climate change** and to implement the 2015 Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC).

As leaders from both sides agreed in 2018¹, climate change is exerting increasing **stress on ecosystems** and infrastructure to the point of threatening hard-won developmental gains.

The EU and China therefore intensify their political, technical, economic and scientific **cooperation on climate change and clean energy**, in view of the necessary worldwide transformation to a resource efficient, sustainable, **low greenhouse gas** emission and climate resilient economy and society.

Practically, Chinese and European experts cooperate on **emission trading** systems, emissions modelling and long-term low emissions development strategies, greenhouse gas (GHG) emissions from vehicles and agriculture, on climate-smart cities, on scientific and technology development, and on other issues.

EU Member States also have bilateral cooperation dialogues and cooperation programmes with China on climate change, the environment and clean energy.

Domestically, the European Union is stepping up its climate action under the **European Green Deal** (EGD) presented in December 2019, while **China is fulfilling existing climate commitments** and might review them under its next **Five-Year Plan**. Both sides work to update their Nationally Determined Contributions (NDCs) to the Paris Agreement.

This vital work on climate change has been put to a severe test by the global **COVID-19** pandemic.

The **world is a different place** today compared to where we were at the beginning of this year. But the simple fact is that climate action made sense then - and it makes even more sense now.

This background paper gives a short overview on how the EU and China have so far reacted to stimulate their economies in the face of the COVID-19 crisis, while at the same time continuing and even strengthening climate and related green transition action.

This paper serves as background to the **EU-China Symposium** on Green Recovery and Green Development, held in Beijing, Brussels and online on **24-25 September 2020**. It builds upon a bilateral online workshop that took place on 29 June 2020.

The spirit of the publication and symposium is to **learn from each other's experiences** and discuss how to **further strengthen climate action and cooperation**.

While every effort has been made to check facts and present latest developments as of September 2020, the responsibility for any errors or omissions in this paper lies entirely with the authors and do not engage the EU or Chinese authorities.

Comments to the paper in English or Mandarin are welcome. Please send them to CLIMA-A02-ARES@ec.europa.eu with subject line (in English) "EU-China Symposium 24-25 September 2020".

1 https://ec.europa.eu/clima/sites/clima/files/news/20180713_statement_en.pdf

EUROPEAN UNION

1. THE EUROPEAN GREEN DEAL: THE BASIS FOR A GREEN RECOVERY

The COVID-19 outbreak has caused a devastating global health and economic crisis. While the focus in the European Union was initially on the immediate health, social and economic impacts, it is now evident that the crisis will also have medium- and long-term effects on economic, social, political and ecological development, presenting the region with a new normal. The European Commission estimates that in 2020, the EU economy will face a GDP contraction of

7.5%², with Southern European economies hit hardest (see figure 1).

In a first phase of crisis response the EU focused on containing the spread of the virus and providing immediate disaster relief assistance. The focus of the current post-emergency phase is to ensure that the recovery from the COVID-19 pandemic will be sustainable, inclusive and resilient. Whilst the exact modalities of a collective green recovery, notably its budget and spending, are still under negotiation, the European Council decided to **fully align the COVID-19 recovery with the European Green Deal, the European Union’s new growth strategy** (eg by the Ministers of the Environment of EU Member States on 23 June 2020³).

In the initial phase of the COVID-19 crisis, there have been voices calling for a reallocation of funds to short-term economic stimulus measures without concern for climate action and nature protection efforts. Broad consultation is a normal process in the EU and all voices are heard before proposals are implemented or turned into laws. However, a consensus soon emerged among the EU institutions and Member States that green investments are better investments in the short, medium and long term as they create jobs, benefit nature and avoid carbon lock-ins. Numerous studies⁴ have argued that investments in business models that heavily depend on fossil fuels bear the risk of producing stranded assets as

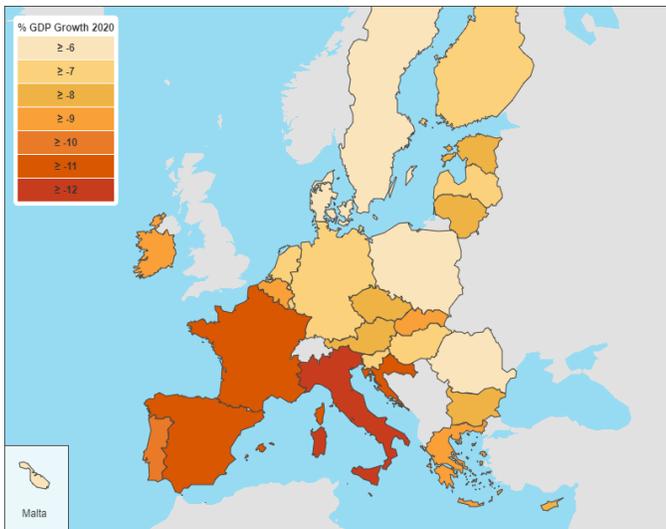


Figure 1 Not all EU economies were affected equally by COVID-19. Source: European Commission (July 2020)

² https://ec.europa.eu/commission/presscorner/detail/en/ip_20_799

³ <https://www.consilium.europa.eu/en/meetings/env/2020/06/23>

⁴ For instance, OECD, 2017 “Investing in Climate, Investing in Growth”

the costs of alternative green technologies are likely to further decrease and stricter climate policies including CO₂ prices may be enacted by many countries in the future. Beyond its effect on the economy, one of the main impacts of the European Green Deal will be to lessen the negative consequences of climate change and pollution for society.

subscribing to the goal of ‘building back better’ – the strategy to **address short-term recovery and long-term economic and societal transition goals simultaneously**.



© European Union, 2020
Source: EC - Audiovisual Service

“ *The recovery plan turns the immense challenge we face into an opportunity, not only by supporting the recovery but also by investing in our future: the European Green Deal and digitalisation will boost jobs and growth, the resilience of our societies and the health of our environment. This is Europe’s moment. Our willingness to act must live up to the challenges we are all facing. With Next Generation EU we are providing an ambitious answer.* ”

URSULA VON DER LEYEN, PRESIDENT OF THE EUROPEAN COMMISSION

Equally important, EU businesses could benefit from first mover advantages and gain in competitiveness on global green technology markets. Already in the past decades, the EU has proven that **economic growth, employment promotion and decarbonization can go hand-in-hand**. The International Labour Organisation estimated that the low-carbon transition could bring an extra 2 million EU jobs by 2030 compared to a business as usual case.⁵

These ambitions make the EU a global frontrunner in green recovery efforts, fully

1.1. Next Generation EU: Europe’s recovery plan

To ensure the recovery from the COVID-19 crisis is sustainable, inclusive and fair for all Member States, the European Commission proposed creating a new recovery instrument, Next Generation EU (NGEU), embedded within a revamped and powerful long-term EU budget. On 21 July 2020, the European Council (EUCO) – the leaders of Member States – followed-up on this suggestion and approved a EUR 750 billion COVID-19 recovery instrument⁶, linked to a EUR 1.1 trillion EU budget for the next seven

⁵ https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_analysis_in_support_en_0.pdf

⁶ European Council, 10/20, Special meeting of the European Council (17-21 July 2020).
<https://www.consilium.europa.eu/media/45109/210720-euco-final-conclusions-en.pdf>

years (multiannual financial framework, MFF) (see figure 2). This total budget of EUR 1.85 trillion comes in addition to the three safety nets⁷ of EUR 540 billion for workers (Support to mitigate Unemployment Risks in an Emergency, known as SURE), businesses (the Guarantee Fund of the European Investment Bank) and Member

Parliament welcomed the Council's decision to earmark 30% of the funds for climate action, but called for binding spending targets for climate and biodiversity. Negotiations between Parliament and Council will start shortly. The new EU budget and the recovery package shall enter into force on 1 January 2021.

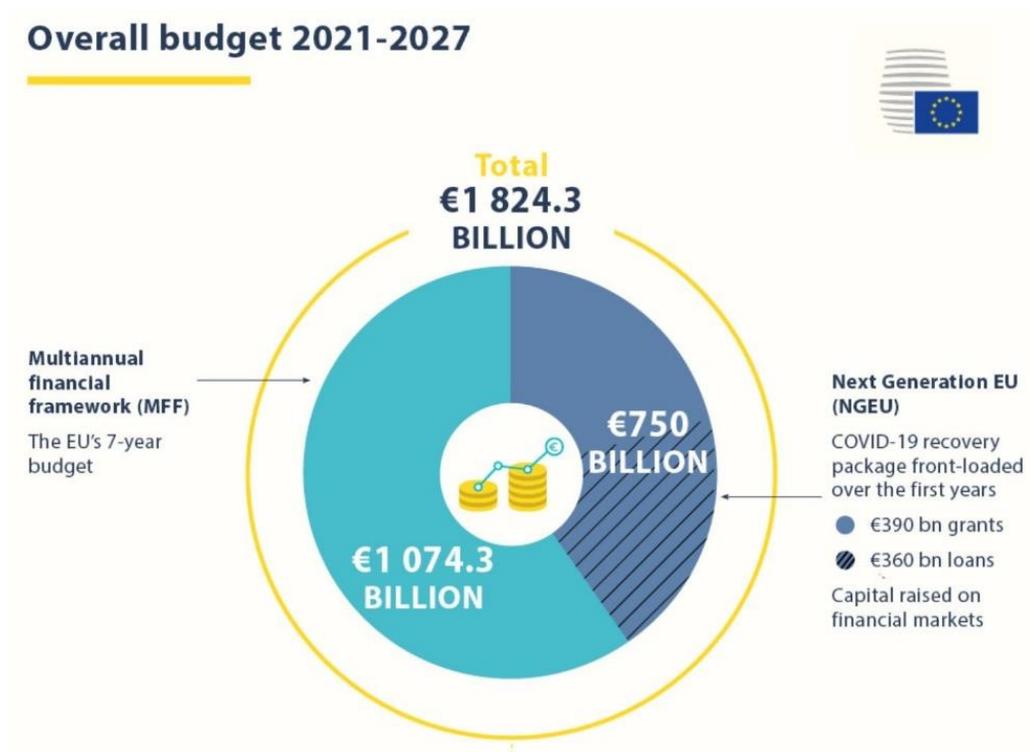


Figure 2 Overall EU budget 2021-2027. Source: EU Council, 20 July 2020.
Source: <https://www.consilium.europa.eu/en/infographics/recovery-plan-mff-2021-2027>

States (the precautionary credit line under the European Stability Mechanism) endorsed by the European Council in April. The EU Parliament in July 2020 suggested amendments to research and development and the Just Transition Fund to further strengthen the EU's green agenda.

The EUR 750 billion recovery fund temporarily reinforces the 7-year EU budget and will be split between loans (up to an amount of EUR 360 billion in latest EUCO agreement) and grants (up to an amount of EUR 312.5 billion - both in 2018 prices). The money will be raised by temporarily lifting the

⁷ <https://www.consilium.europa.eu/en/policies/coronavirus/covid-19-economy/>

EU's own resources ceiling, to allow the European Commission to use its very strong credit rating to borrow money on the financial markets. This is unprecedented - never before had the EU issued large scale debt. In addition, new revenue sources are being developed, focusing particularly on environmental negative externalities, such as Greenhouse Gas (GHG) emissions and non-recycled plastic waste. The investment package Next Generation EU will be structured into three key pillars:

- 1. Supporting Member States to recover:** The bulk of the funding from NGEU will be used to support public investment and key structural reforms in the Member States, concentrated where the crisis impact and resilience needs are greatest. The Recovery and Resilience Facility of EUR 672.5 billion together with cohesion policy and the Just Transition Mechanism (providing targeted support to regions and sectors most affected by the transition towards the green economy) will be instrumental in achieving these goals.
- 2. Kick-starting the economy and helping private investment:** The Commission estimates that investment needs amount to at least EUR 1.5 trillion in 2020-2021 in key sectors and technologies, from 5G to artificial intelligence and from clean hydrogen to offshore renewable energy. The InvestEU programme will mobilise private investment across the Union in areas such as sustainable infrastructure

and digitisation (see section 3 of this paper for details).

- 3. Learning the lessons of the crisis:** To boost capacity in health, civil protection and research, the European Commission agreed to increase investments in the health sector by EUR 1.7 billion to respond to COVID-19. The purpose of this investment is to strengthen health security and prepare for future health crises.

The centrepiece of the NGEU is the **Recovery and Resilience Facility** that will provide large-scale financial support to reforms and investments undertaken by EU Member States. It aims to help mitigating the economic and social impacts of the coronavirus pandemic and making Europe's economies more sustainable, resilient and better prepared for the challenges posed by the green and digital transitions.

To access the facility, Member States will have to prepare **National Recovery and Resilience Plans**⁸ setting out their reform and investment agendas for the subsequent four years, until 2024. The plans should be consistent with the challenges and priorities identified within the annual economic and fiscal policy coordination cycle of the EU and its Member States, called the 'European Semester', as well as the National Energy and Climate Plans, the Just Transition Plans, and the Partnership Agreements and Operational Programmes adopted under the Union funds.

⁸ https://ec.europa.eu/info/sites/info/files/com_2020_408_en_act_part1_v9.pdf

The European Commission will assess whether the plans of the Member States strengthen their growth potential and resilience and whether they contain effective measures for a green recovery and digital transition. Measures put forward must **avoid adverse impacts on climate and**

currently assessed via a public consultation and an inception impact assessment.⁹ Final results are expected by October this year. Later in 2020, a new **climate law** is expected to irrevocably set the EU on a trajectory to climate neutrality by 2050.

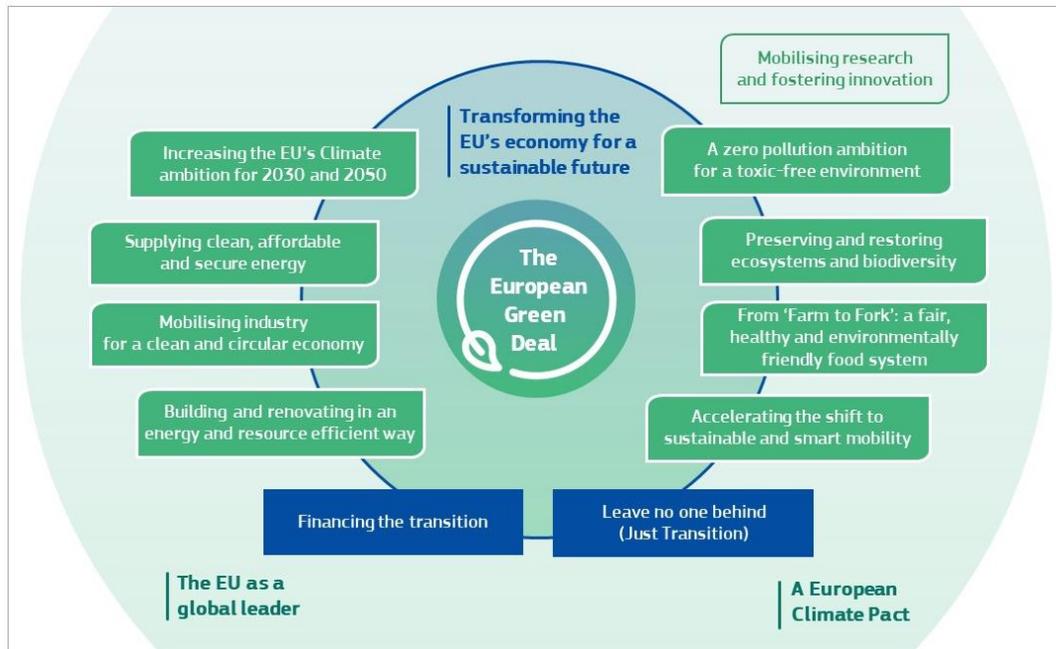


Figure 3 The main elements of the European Green Deal. Source: European Commission (<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=EN>)

biodiversity. Once negotiations with the European Parliament are finalised, it is expected that both the recovery fund and the EU budget 2021-2027 will be required to be spent consistently with the Paris Agreement, comply with the objective of EU climate neutrality by 2050 and contribute to achieving the Union's new 2030 climate targets (which will be updated by the end of 2020). The impact of setting this target is

The European Green Deal and the recovery package will allow the EU to rebuild its economy and to invest in the future. Leaders agreed that **30% of the total amount of expenditure from both MFF and NGEU will support EU climate objectives.** The increase in the EU climate expenditure ambition¹⁰ represents around EUR 285 billion (in current prices) that are available for investing in climate-related projects.

⁹ <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12265-2030-Climate-Target-Plan>

¹⁰ In comparison to the 25% climate mainstreaming target proposed by the Commission for the next MFF 2021-2027.

1.2. The European Green Deal

In the EU, transitioning the economy to climate neutrality was a central point on the political agenda already before the crisis. In June 2019, the European Council agreed on a new strategic agenda for the EU for the next five years, which included as a main priority building a climate-neutral, green, fair and social Europe. In a Communication in December 2019¹¹, the European Commission followed-up on this commitment and outlined its new **European Green Deal (EGD)**, aspiring to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people’s health and quality of life, caring for nature, and leaving no one behind.

The European Green Investment Plan¹², the financial arm of the EGD, details investments needs, financing tools, regulatory framework as well as supporting

tools already available or forthcoming to unleash a green wave in Europe. The transition is regarded as an opportunity to expand sustainable and job-intensive economic activity. But, as European Commission President von der Leyen highlighted, “no one should be left behind”. The transition will either be working for all and be just, or it will not work at all”.¹³

Reaching the EU target of climate neutrality by 2050 requires action by all sectors of the economy and intense coordination to exploit the available synergies across all policy areas (see figure 3). Each policy area of the European Green Deal is accompanied by a precise and time-bound action plan. Table 1 features the EGD’s main policy areas, guiding strategies and key principles; up to date information on progress can also be found on the European Council’s website¹⁴.

Main themes of the EGD	Key principles
<p>Clean energy <i>EU Energy System Integration Strategy</i> <i>Hydrogen Strategy for a Climate Neutral Europe</i></p>	<ul style="list-style-type: none"> ○ Prioritise energy efficiency and develop a power sector based largely on renewable sources ○ Pursue a secure and affordable EU energy supply ○ Work towards a fully integrated, interconnected and digitalised EU energy market ○ Promote green hydrogen to decarbonize sectors that are difficult to electrify
<p>Sustainable industry <i>Industrial Strategy</i> <i>Circular Economy Action Plan</i></p>	<ul style="list-style-type: none"> ○ Economic processes need to be more circular, e.g. via a circular electronics initiative to promote longer product lifetime ○ New regulatory framework for battery recycling ○ Review of the directive of packing and packing waste ○ Sustainable products need to become the norm in the EU ○ EU aims to become the lead markets for climate neutral and circular products

¹¹ https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF

¹² COM (2020) 21 final

¹³ https://ec.europa.eu/commission/presscorner/detail/en/speech_19_6749

¹⁴ <https://www.consilium.europa.eu/en/policies/green-deal/timeline-european-green-deal/>

<p>Building & renovating <i>Renovation wave</i></p>	<ul style="list-style-type: none"> ○ Buildings account for 40% of energy consumed – hence present an enormous energy saving potential. ○ The EU aims to at least double the annual renovation rate of existing building stock.
<p>Eliminating pollution <i>EU Zero pollution strategy</i></p>	<ul style="list-style-type: none"> ○ The EU Zero pollution strategy should be ready in 2021. ○ The EU will monitor, report, prevent and remedy pollution from air, water, soil and consumer products. ○ The Commission will review EU measures to address pollution from large industrial installations.
<p>Biodiversity <i>EU Biodiversity Strategy for 2030</i> <i>EU forest strategy (forthcoming)</i></p>	<ul style="list-style-type: none"> ○ Establish protected areas for at least 30% of land and 30% of sea in Europe, with legally binding nature-restoration targets in 2021 providing stricter protection of EU forests ○ Restore degraded ecosystems at land and sea ○ Unlock EUR 20 billion per year for biodiversity
<p>From Farm to Fork <i>From Farm to Fork Strategy</i></p>	<ul style="list-style-type: none"> ○ Make sure Europeans have access to healthy, affordable and sustainable food, and ensure a fair economic return in the supply chain ○ Tackle climate change, protect the environment, preserve biodiversity and increase organic farming ○ Initiative on substituting single-use packaging, tableware and cutlery
<p>Sustainable mobility</p>	<ul style="list-style-type: none"> ○ Transport is the second biggest source of GHG emissions. To achieve climate neutrality, a 90% reduction in transport emissions is needed by 2050. ○ The Connecting Europe Facility, InvestEU and other funds will finance the installation of one million charging points, clean fleet renewals by cities and companies, sustainable transport infrastructure and enable the shift to clean urban mobility. ○ Investments in new technology, e.g. the EU battery alliance and the launch of the EU hydrogen alliance

With the EU’s ambition to become climate-neutral by 2050 and the frameworks to reach this goal (EGD, MFF, NGEU) laid out, the next section zooms in on Europe’s decarbonisation of the energy sector. It serves to demonstrate the vast opportunities inherent in the transformation, but also the challenges and risks that need to be addressed.

1.3. Greening Energy Supply and Demand

Decarbonising the energy system is critical to reach the climate neutrality objective and a green recovery from the COVID-19 crisis could speed and scale up this transformation. The production and use of energy across economic sectors currently account for more than 75% of the EU’s greenhouse gas emissions¹⁵. Energy

¹⁵ https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14_en

generation must be largely based on renewable sources, complemented by the rapid phasing out of coal and decarbonising

electricity generation in the first six months of 2020. This is an impressive improvement on the situation five years ago when it

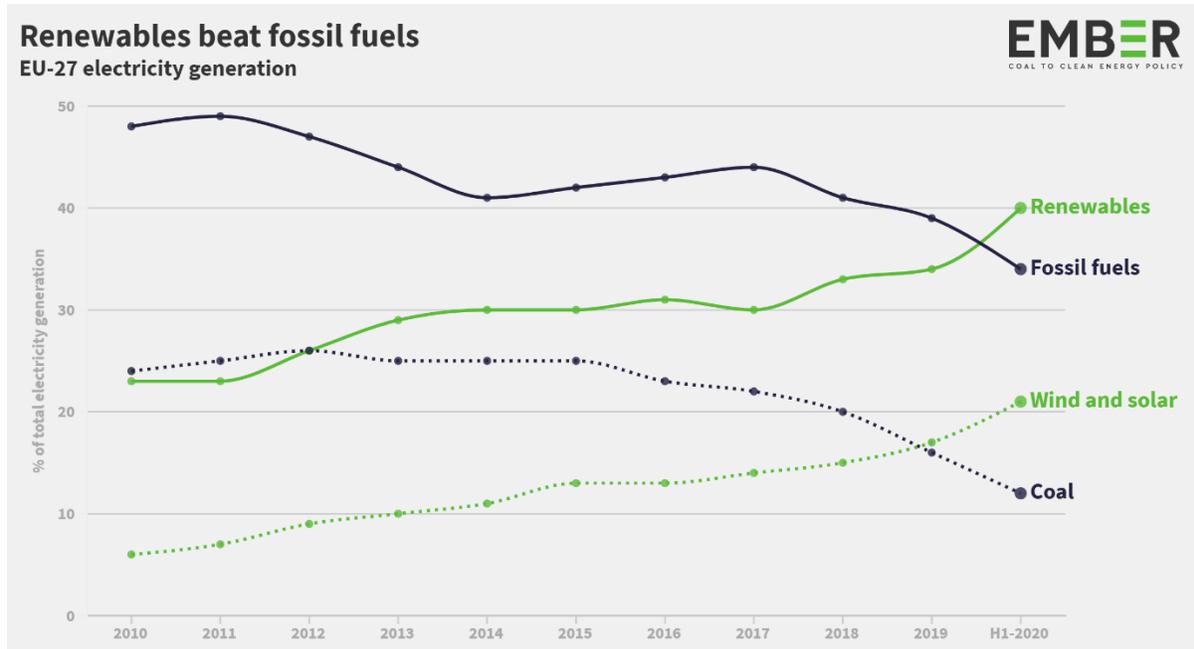


Figure 4 Renewables versus fossil fuels in EU's electricity mix

Source: <https://ember-climate.org/wp-content/uploads/2020/07/2020-Europe-Half-Year-report.pdf>

gas. At the same time, the EU's energy supply needs to be secure and affordable for consumers and businesses. For this to happen, it is essential to ensure that the European energy market is fully integrated, interconnected and digitalised.

The EU is progressing well to achieve its 2020 goal of securing at least a 20% share of renewable energy in energy consumption and at least 10% of renewables in the transport sector and is on a good trajectory to reach more long-term targets. The latest global half-year electricity analysis by climate think tank EMBER¹⁶ shows that renewables accounted for 10% of **global**

accounted for just 5%. Much of the success is due to progress of European countries. Wind and solar alone reached a record 21% of Europe's total electricity generation and reached even higher penetration in Denmark (64%), Ireland (49%) and Germany (42%). That – alongside the fall in electricity demand from COVID-19 – meant electricity generation from coal fell by 32% year-on-year, and electricity from gas decreased by 6%. Since 2015, coal's share has gone down from 24% to just 10%, while the share of wind and solar has risen from 13% to 21%.

This implies that renewable electricity generation exceeded fossil fuel generation

¹⁶ EMBER 2020b, Wind and Solar now generate one-tenth of global electricity. August 2020

for the first time. In the first half of 2020, renewables – wind, solar, hydro and bioenergy – generated 40% of the EU-27's electricity, whereas fossil fuels generated 34%¹⁷ (the remainder is nuclear power). That shows fast progress from just nine years ago when fossil fuels contributed to the European electricity supply twice as much as renewables (see figure 4).

In 2018, renewable energy accounted for 21.1 % of total energy use for **heating and cooling**¹⁸ in the EU. This is a significant increase from 11.7% in 2004. Renewable energy used in **transport** stood at 8.3% in 2018, with the most advanced nations being Sweden (29.7%), Finland (14.9%) and Austria (9.8%). But rapid take-up of renewable energy as a transport fuel is also seen in Ireland, Luxembourg, Malta and the Netherlands. The green recovery measures discussed in the next chapter that are directed to greening the transport sector may give this development an additional boost.

The direction of the transition is very notable in the case of the energy system but visible in many aspects of the economy: Some sectors are likely to grow (e.g. renewable energy, construction), while many others are likely to transform (e.g. vehicle manufacturing, energy-intensive industries, transport services, agriculture). A limited number of sectors may be in decline (e.g. coal mining and oil refining with their original equipment manufacturers and solution providers). For this latter sector, the

European Just Transition Facility shall ensure a smooth, just and coordinated transition.

2. GREEN RECOVERY EFFORTS AT EU MEMBER STATE LEVEL

While the developments at EU level are very promising and pioneering, it is essential to delve into how the Member States have reacted and incorporated green recovery measures while facing the early stages of the pandemic. EU Member States use the European Green Deal as policy guidance and compass for the development of national action.

To retrieve funding from the **Recovery and Resilience Facility**, Member States will need to submit draft National Recovery and Resilience Plans by mid-October 2020, and final plans by 30 April 2021. In addition to the funding provided by the EU, some EU Member States have begun to develop and finance national green recovery packages independently.

This chapter looks at five countries in detail and briefly summarizes efforts in all other Member States. The breadth and depth of investments differ greatly between countries; however, some similarities are observable. The leading thread is along renewable

¹⁷ EMBER 2020a. Renewables beat fossil fuels. A half-yearly analysis of Europe's electricity transition. July 2020

¹⁸ https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#Share_of_renewable_energy_almost_doubled_between_2004_and_2018

energies, e-mobility and transport, and municipal energy efficiency schemes.

Measures boosting e-mobility and clean transport include premiums for replacing a



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Source: EC - Audiovisual Service

combustion engine driven car by an electric vehicle or a vehicle powered by hydrogen, expansion of charging infrastructure for electric vehicles, increasing freight transport by rail instead of road, electrification of public transport, adjustment of rail routes, and deployment of e-bike sharing schemes. Measures focused on renewable energies include financing solar and offshore wind power (including wind power farms), investments in future technologies such as carbon capture and storage (CCS) and green hydrogen for energy-intensive sectors. Measures addressing municipal energy efficiency schemes foresee improving local mobility schemes as well as energy efficiency mainly in housing but also at the urban scale.

2.1. Germany: A Bold COVID-19 Stimulus Package

Germany approved a EUR 130 billion stimulus package to help the economic

“ *In view of the consequences of the coronavirus pandemic, a courageous response is needed. The aim is to emerge strongly and together from this extremely difficult situation* ”

ANGELA MERKEL, CHANCELLOR OF THE FEDERAL REPUBLIC OF GERMANY

recovery and to secure and promote employment by strengthening broad consumption and incentivizing investments in green and digital technologies. This recovery package is an addition to the EUR 353 billion for direct support and EUR 820 billion for guarantees already agreed upon in March 2020. The most prominent feature of the package is a significant extension of the short-time working allowance in order to prevent mass unemployment.

The stimulus package includes 57 measures designed to boost consumer spending, invest in innovation, protect and create jobs, and reduce financial strain on the general population – many of which have climate benefits and impacts. The EUR 50 billion **Future Investment Package** aims to intensify research and development in climate protection and future technologies.

With this, the government intends to give these sectors a significant boost and provide a combined economic and employment stimulus. Building back after the COVID-19 crisis shall put Germany on a trajectory towards a low-carbon and climate-friendly economy and society.

In the stimulus package, the main climate-related measures are a cap on the renewable energy surcharge, now subsidized through the federal budget, which will help keep electricity prices low in the coming years (at a cost of EUR 11 billion), as well as EUR 2.5 billion of support for public transport companies.

The program for **climate-friendly mobility** links the economic stimulus with Germany's Mobility Transformation (*Verkehrswende*). The Government (temporarily) increases financial incentives for electric car purchases, doubling the existing environmental bonus - which is paid by the federal government - from EUR 3.000 to 6.000 until the end of 2021, for new electric vehicles costing up to EUR 40.000. The government also plans to invest an additional EUR 2.5 billion in the expansion of the charging network for electric cars and to promote research and development in e-mobility and battery systems. For future investments by manufacturers and the supply industry, a bonus programme of up to EUR 2 billion will be launched in 2020 and 2021. It is worth highlighting that the package does not include a scrappage scheme for diesel and gasoline cars despite Germany's high competitiveness and world leadership in this segment.

A key pillar of the future investment package is financial support for municipalities that have badly suffered from the economic effects of the crisis. They are also responsible for making many relevant investments into climate measures at the local level, e.g. the promotion of cycling and municipal climate protection pilot projects.

In Germany, 40% of energy consumption relates to the building sector. The Government thus increased funding for a CO₂-focused building renovation programme, with an additional EUR 1 billion in 2020 and 2021, taking the annual totals to EUR 2.5 billion. For deep renovations, home owners can expect grants for up to 40% of total costs; for singular measures (like wall insulation), grants of up to 20% of the costs are offered.

Furthermore, the German government decided to provide additional funding of EUR 7 billion for investments in the field of **green hydrogen** as Germany is thriving to become a frontrunner for this green technology and CO₂-neutral hydrogen plays a core role for Germany's carbon neutrality. These resources will be used to support industrial-scale projects (including required renewable energy sources of 5GW until 2030). Until 2040, a further 5 GW from renewable energy sources shall be reached. It is envisioned that green hydrogen should mainly be deployed in energy-intensive sectors and storage facility in the industrial and heavy transport sector (including aviation and shipping) where direct energy from renewable energy cannot be used.

Despite these massive investments, it is unlikely that nationally produced green hydrogen will be able to supply the expected demand of 90-110 TW hours and thus the country will remain an energy import country. Close cooperation with European and international partners is of high importance to Germany to build-up sustainable production capacities and supply chains – and to make green hydrogen competitive. Germany is willing to invest EUR 2 billion to strengthen international cooperation with countries where green hydrogen can be produced particularly efficiently.

City in the spotlight

The economic recovery efforts are guided by a desire to future-proof the economy. This includes the automotive sector in Germany, one of the pillars of the German economy. In this regard, the city of **Bamberg** has established a regional development company called "Regional Initiative Transformation Automobil" (RITA). This initiative is backed up by a EUR 115 million package from the Bavarian government addressing the technological transformation as well as the development of new products. Additional EUR 77.7 million will be invested into

training and capacity building for the automotive industry. Positioning the region as a mobility learning hub, Bamberg looks towards hydrogen-fuel as part of its strategy to incorporate green energy production chains into its transformation concept.

2.2. France: Accelerating the Greening of the Economy

A EUR 100 billion-worth Recovery Plan was unveiled by Prime Minister Jean Castex on 3 September 2020, as “the most massive Recovery Plan among European countries in proportion to national wealth.”¹⁹. Based on three pillars (ecological transition, business competitiveness and social cohesion), the plan aims at creating some 160,000 jobs in 2021, with the overarching goal of ‘preparing the future’.²⁰ Out of the total value of the proposed plan, and as previously announced, some EUR 30 billion shall be devoted to ecological transition. Amongst the areas supported under this pillar, the following items can be highlighted^{21,22}:

- EUR 11 billion for clean transport financing. Priority is given to revitalizing rail transport (EUR 4.7 billion, including freight, night and local trains), followed by support to mobility such as a national bicycle

¹⁹ <https://www.politico.eu/article/france-coronavirus-100-billion-stimulus-package/>

²⁰ https://www.lemonde.fr/economie/article/2020/09/03/plan-de-relance-jean-castex-fixe-l-objectif-de-160-000-emplois-crees-en-2021_6050801_3234.html

²¹ https://www.gouvernement.fr/sites/default/files/document/document/2020/09/dossier_de_presse_france_relance_-_03.09.2020.pdf

²² <https://www.ecologie.gouv.fr/france-relance-transition-ecologique>

plan and public transport, investments in infrastructure such as charging stations for electric vehicles or waterway transport, reconversion of the government car fleet towards less polluting vehicles;

- A focus on innovation and development of new technologies, including a EUR 11 billion call for projects on innovative technologies (*programme d'investissements d'avenir*), a EUR 7 billion plan devoted to green hydrogen development (including EUR 2 billion for research) and EUR 1.2 billion for ecological transition of businesses towards carbon neutrality;
- EUR 7 billion for energy-efficient refurbishment for buildings, of which EUR 4 billion for public buildings and EUR 2 billion for private dwellings; and
- Some EUR 2.5 billion for sustainable agriculture (funding for the development of agroecology) and

healthier food consumption based on local production, and EUR 300 million to support water networks.

Overall, the ecological transition pillar of the Recovery Plan has the ambition of turning France into the first major European economy to attain carbon neutrality by 2050. To achieve such an ambitious goal it shall be promoting over the 2021-2022 period sustainable and equitable growth through interventions in the areas of building renovation, aid for the decarbonisation of industry, the ecological bonus, the development of public transport, the conversion bonus for the purchase of vehicles, the transformation of the agricultural sector, or further research and innovation for the development of green technologies.²³

This recovery package is in addition to the EUR 300 million approved and adopted in March for immediate and short-term recovery measures. The short-term objective of France was to avoid as many



© European Union, 2017
Source: EC - Audiovisual Service

“ We will fund a recovery that is industrial, ecological, local, cultural and educational. I am convinced that within the next 10 years we can build a different country.”

EMMANUEL MACRON, PRESIDENT OF THE FRENCH REPUBLIC

²³ <https://lestransitions.fr/2020/09/04/plan-de-relance-priorites-transition-ecologique>

mass layoffs of employees as possible, partly by prolonging a partial unemployment scheme that since March has paid up to 8.6 million employees, for 84% of their salary. The International Labour Office estimates that the number of unemployed persons increased by 800,000 during the first semester²⁴.

The airline Air France has committed to reduce up to 50% of its CO₂ emissions from domestic flights by replacing them with high-speed train connection where possible. In addition to this initiative, France has established a fund to develop zero CO₂ emission planes.

Such climate conditions are attached to other major bail-outs. For instance, the Government unveiled a EUR 8 billion plan²⁵ to revive its motor industry that seeks commitments from car-makers in return for financial support, e.g. a focus on electric vehicles, the fair treatment of sub-contractors and a concentration of high-tech activities in France. At the time of writing, a EUR 5 billion state-guaranteed loan to Renault is under negotiation.

The plan – alongside increased subsidies for buyers of electric or hybrid cars and support for research into hydrogen power – is aimed at ensuring that the country’s automotive assemblers and suppliers survive the crisis, invest locally and emerge as key global manufacturers and exporters of clean vehicles. The intention of the plan is to

relocalise manufacturing and “to make France the leading country in Europe to produce clean vehicles”, with an output target of 1 million a year by 2025.

President Emmanuel Macron has promised an extra EUR 15 billion for climate measures²⁶ over the next two years and a referendum on whether to introduce the crime of “ecocide” for harming the environment. These commitments follow the work of the Citizens’ Convention on Climate, a committee of 150 randomly chosen French people that reported back after a nine-month deliberation in June 2020. The government pledged to implement most of the measures proposed by the Citizens’ Convention.

City in the spotlight

Paris closed one of the city’s major streets to cars to allow more space for cyclists and pedestrians during the lockdown. This move that may be made permanent. Described as under siege from smog and traffic, Paris is leading some of Europe’s most ambitious efforts to reconfigure its urban mobility scheme and tackle climate change. The city has already turned 50 km of road into bike lanes and plans to create a regional express biking network (RER Velo). The new “corona lanes” add up to a National Plan of transforming key boulevards into bikeways as an additional measure to prevent pollution.

²⁴ <https://www.lesechos.fr/economie-france/social/taux-de-chomage-le-coronavirus-affole-les-boussoles-1232200>

²⁵ https://www.lemonde.fr/economie/article/2020/05/26/primes-aides-et-relocalisations-ce-que-contient-le-plan-automobile_6040835_3234.html

²⁶ <https://www.theguardian.com/world/2020/jun/29/emmanuel-macron-pledges-15bn-to-tackle-climate-crisis>

2.3. Spain: Investing in a Sustainable Future

Spain has launched a Green Recovery Deal for “a sustainable future with people at the centre and respecting the planetary boundaries“. For this, it developed the National Energy and Climate Plan 2021-

improvement of charging infrastructure for electric vehicles, deployment of e-bike sharing schemes as well as research and development of hydrogen technology for transportation. The recovery package can be sub-divided in five broad areas of investment:



“ *The focus of this recovery is green and digital, and that fits well with the economic agenda that the government had been working on for a long time.* ”

TERESA RIBERA, DEPUTY PRIME MINISTER FOR THE ECOLOGICAL TRANSITION OF SPAIN

© European Union, 2010
Source: EC - Audiovisual Service

2030, establishing the path towards decarbonization of the next decade and identifying opportunities in terms of employment, investment and generation of economic activity linked to the Ecological Transition. Along with these measures, the country has approved its Circular Economy Strategy and is currently drafting the Law on Climate Change, as well as the National Plan for Adaptation to Climate Change.

On 15 June 2020, the Spanish Government announced a EUR 3.75 billion recovery package for the domestic automotive industry, of which 70% will be used to bail-out companies in the automotive value chain. The remaining 30% include measures for accelerating a sustainable transport sector in Spain, including the electrification of public transport, adjustment of rail routes,

- Renovation of the public vehicle fleet, recharging infrastructure, adaptation of cities to new mobility needs, and the electrification of transport (EUR 300 million);
- Renewal of the vehicle fleet towards a more sustainable and efficient one (EUR 250 million);
- Research, development and innovation focused on digitization, connectivity and innovative solutions in sustainable mobility and its associated industry (EUR 415 million);
- Investments in the automotive industry value chain between 2020-2022 (EUR 2.7 billion); and
- Professional qualification and training (EUR 95 million).

Moreover, the package includes a buyer's premium of EUR 4,000 for replacing a combustion engine driven car by an electric vehicle or a vehicle powered by hydrogen. A buyer's premium of EUR 1,000 will be granted for replacing a polluting car with one that emits less than 120g CO₂ per kilometre (which is higher than the EU 2020 fleet average standard). Estimations indicate that every EUR 1 million invested through this buyer's premium could reduce annual carbon emissions by up to 716,000 tonnes.

Spain highlights the importance of incorporating social inclusion into its recovery through a "just transition", targeting sectors such as sustainable mobility or energy efficiency in building and construction. As the overarching scope, the Ecological Transition foresees three important segments, 1) mobility, 2) rehabilitation and building refurbishment, and 3) deployment of renewable energies (mainly photovoltaic and wind power in the short term).

Spain is moving quickly and probably fastest, towards disengaging from coal-based energy production. In June this year, Spain shut down half of its power plants that used fossil fuels. Spain has planned that by 2030, 74% of its electricity generation will be from renewable sources. This implies adding additional 60 GW as a lever for economic recovery. The country approved a new model for renewable energy auctions, considering aspects such as technology type, access and connection rules as well as the simplification of administrative procedures. Together with its national

applied research centres in renewable energies, the National Center for Renewable Energies works with the executive in six areas: wind, solar thermal and photovoltaic solar; biomass; efficiency and energy generation in buildings and urban planning; and energy grid integration. The Ministry for the Ecological Transition and the Demographic Challenge will allocate, over the next few months, EUR 316 million for the integration of renewable energies in electric or thermal power generation systems.

Region in the spotlight

Spain's region of **Asturias** has a history of coal mining, a sector which has been declining for economic reasons during the last decades. From 52.000 coal miners in the 1950's, there were 1600 coal miners employed in Asturias in 2018 (80% of the national coal mining workforce). The Spanish government introduced an ambitious 2019-2023 social transition programme for the coal regions and with particular impact on the Asturias regions. This includes early retirement and reskilling schemes for the coal mine workers, and a EUR 250 million sustainable development and EUR 158 million energy efficiency and renewable energy investment plan programme for the coal communities.

2.4. Denmark: A "Green Pioneer"

Denmark is a frontrunner in Europe and worldwide in terms of green transition, renewable energy use and production, district heating and other relevant fields.



© European Union, 2014
Source: EC - Audiovisual Service

“ *The climate crisis compels us to ramp up renewable energy production drastically and that requires new ways of thinking. The plan to establish two energy islands, signals a paradigm shift in the approach to offshore wind power.* ”

DAN JØRGENSEN, MINISTER OF CLIMATE, ENERGY AND UTILITIES OF DENMARK

Wind and solar alone reached a record of 64% of Danish total electricity generation in the first half of 2020²⁷.

In 2020, the Danish plan of a green recovery foresees CO₂ savings, reduced energy consumption and job creation in the construction sector. The government aims to meet ambitious climate targets, adopted last year, and become a green pioneer despite the coronavirus crisis. Denmark has committed to cutting its emissions by 70% from 1990 levels by 2030 and becoming an exporter of clean electricity by 2030²⁸. In May 2020, the Danish parliament endorsed this commitment with a very large majority.

The strategy has six components, including the construction of 6 GW of offshore wind power, investing in green technologies of the future, such as carbon capture and storage (CCS), and improving the energy efficiency of Danish industrial consumers, as well as in public buildings. With the construction of the wind power farms, Denmark would

effectively triple the country's power production from offshore wind parks.

Denmark decided to activate DKK 30 billion (EUR 4 billion) from the National Building Fund to renovation of social housing during 2020-2026. Approximately half the funds will be used to renovate the 72,000 social-housing in the fund's support queue. The remaining DKK 11.8 billion (EUR 1.5 billion) will among other things serve future renovations until 2026, with the focus on the green transition.

The public housing sector is a cornerstone of Danish society. According to the Danish public housing association, there are about 580,000 public housing units and almost 1 million Danes live in a public housing. The renovation of the housing stock has become a latent need in Denmark. Two thirds of the projects in the renovation project pipeline relate to climate proofing (facades, roofs and windows) and will thus reduce heat consumption and increase energy savings. This is estimated to result in a reduction of

²⁷ <https://ember-climate.org/project/renewables-beat-fossil-fuels/>

²⁸ https://ec.europa.eu/energy/sites/ener/files/documents/dk_final_necp_main_en.pdf

up to 47,000 tonnes of CO₂ and is expected to reduce energy consumption by approximately 470 GWH, which corresponds to the heat consumption of 38,000 apartments.

By 2020, the proposal is estimated to provide 2,200 full-time jobs in the construction sector and 5,900 in 2021. The renovation plan gives priority to those projects in most urgent need. In the future, urgent and green initiatives must go hand in hand and it is estimated that 85 - 90% of new projects will contain green initiatives.

City in the spotlight

Copenhagen's city council committed to turning into a "Doughnut City"²⁹, where economic activity takes place within planetary boundaries. The model will be used as an overall management tool for the municipality's economy and development of a sustainable, inclusive and circular city. The doughnut principle proposed by British economist Kate Raworth is a "compass for 21st century thriving", meeting people's needs within planetary boundaries. Raworth's team has now published a methodological guide³⁰ for downscaling the Doughnut to the city level.

2.5. Poland: Embarking on an Ambitious Transformation

Poland is the EU country with the highest energy generation by coal in its energy mix (74% of the electricity is produced by coal power plants³¹). Production of Polish coal however has been in steep decline in past decades. The COVID-19 crisis paralyzed the already-troubled coal mining industry, triggering temporary closures of many state-run mines.

Reduced access to international private finance and lower demand associated with the COVID-19 crisis is causing major financial problems to utilities, pressuring the Polish government to consider the transfer of the coal assets to a new public entity and the closure of mines.³² As part of the response to the coronavirus pandemic, approximately PLN 7.8 billion (EUR 2 billion) from the EU, Norway and national funds will be utilised "to implement projects related to energy transformation, improving air quality, thermal upgrading of buildings, development of electromobility, investments in renewable energy micro-installations or solutions related to mitigating the effects of drought."³³ The green investment support plan includes 26 programmes of the National Fund for Environmental Protection and Water

²⁹ https://www.information.dk/indland/leder/2020/06/kan-model-groen-omstilling-hele-landet-koebenhavn-vaere-doughnut-by?utm_medium=social&utm_campaign=btn&utm_source=t.co&utm_content=tp

³⁰ <https://www.kateraworth.com/doughnut/>

³¹ <https://wysokienapiecie.pl/26023-electricity-production-lowest-decade-smallest-share-coal-history/>

³² <https://www.reuters.com/article/us-poland-energy-coal/poland-plans-to-merge-utilities-carve-out-coal-minister-idUSKBN24Z0SE>

³³ Michał Kurtyka, Green investment plan will be an impulse for economic growth

<https://www.euractiv.com/section/energy/opinion/green-investment-plan-will-be-an-impulse-for-economic-growth/>



“The current pandemic has reinforced our belief that the path of transformation leading towards low and zero emissions is absolutely correct.”

MICHAŁ KURTYKA, MINISTER OF CLIMATE OF THE REPUBLIC OF POLAND

© European Union, 2014
Source: EC - Audiovisual Service

Management and regional environmental protection funds.

Poland supports the EU's ambitions regarding achieving climate neutrality by the entire Union until 2050. However, Poland's acceptance of this commitment as a national goal depends upon the availability of the funding for energy transformation, social acceptance and ensuring that the industry remains competitive. With the Next Generation EU Recovery Plan, the country can have access to the EU Just Transition Fund, which can provide financial support for social transition strategies associated with the coal phase-out in Poland. However, based on the current state of negotiation, the country would be only eligible for 50% of its allocated amount if it does not commit to net-zero by 2050.

Minister Kurtyka announced replacing old coal-fired power stations with zero-emissions power sources.³⁴ To seal that promise, on 1 July 2020 Kurtyka³⁵ and other representatives of the Polish government

together with entrepreneurs from the offshore wind energy sector signed a letter of intent on cooperation in the development of offshore wind energy in Poland. The construction of offshore wind farms could be a driving force leading the way towards a green energy sector. There are ongoing projects of building three wind farms on the Baltic Sea prepared by Polish Energy Group. The combined capacity of those farms will be 3,4 GW (7% of total energy production in Poland).

Regarding photovoltaic power, Poland has almost quadrupled its solar capacities from 203 MW connected to the grid in 2018 to 784 MW in 2019. This significant increase can be attributed to Poland's self-consumption model and government efforts. In 2020, Poland is planning to almost double its installations to 1.3 GW; Poland's expected solar energy output is expected to reach 8 GW by 2025. This would imply that by 2025, photovoltaic power in Poland will

³⁴ <https://www.euractiv.com/section/energy/opinion/green-investment-plan-will-be-an-impulse-for-economic-growth/>

³⁵ <https://www.gov.pl/web/climate/letter-of-intent-for-the-development-of-offshore-wind-energy-signed>

exceed the goal set out in the National Plan for Energy and Climate for the year 2030.

Region in the spotlight

A medium-size onshore windfarm with a total installed capacity of 94 MW will be developed along the Baltic coastline in the Bay of **Gdansk**. The EUR 60 million investment for construction and operation is supported by the European Investment Bank. The off-shore wind farm is expected to be operational in the spring of 2021 and supply around 75,000 households with clean energy.

2.6. Relevant Developments in EU Member States

Along the process of submitting and drafting their National Recovery and Resilience Plans by 15 October 2020, Member States have already signalled their aims and possible means for implementation. The following section offers an overview on the current state of discussions and highlights some aspects of the recovery and resilience plans made by the Member States. The depth and detail of these efforts varies among Member States, as in most countries the discussion on the choice and right mix of recovery measures is still work in progress. This section does not pretend to be comprehensive.

Austria: The Ministry of Climate Action is using the government's EUR 50 billion aid and stimulus programme to accelerate and expand green investment projects, including support to the purchase of electric cars³⁶ and a redesign of Austria's public transportation networks, giving residents nationwide access to buses, trains and subways at a low price. Other proposals include incentives to adopt cleaner heating and power sources. The bail-out of airlines³⁷ will be linked to climate targets, the Minister for Environment told reporters. Options reportedly include a pledge to reduce short-haul flights, increased cooperation with rail companies, higher use of "eco-friendly" fuels and larger tax contributions.

Belgium: On the federal level, a care-taker government is currently in power and negotiations to form a new government are still ongoing. The care-taker government took a number of emergency measures, but there is no public information on a potential recovery plan.

Bulgaria: Bulgaria generated 40% of its power in 2018 from a coal fleet that has the EU's highest emission intensity. The size of the fleet and the fact that Bulgaria is still in the early stages of its energy transition make it a key market to address. The country has potential for both wind and solar, and costing renewable sources versus fossil fuels provides a fruitful starting point for the discussion. In the first six months of 2020,

³⁶ <https://energy.economictimes.indiatimes.com/news/power/austria-to-support-purchase-of-electric-cars-with-5000-eur-from-july/76689528>

³⁷ <https://www.euractiv.com/section/aviation/news/austrian-airlines-bailout-to-be-linked-to-climate-targets/>

electricity generation from coal decreased by 20%³⁸: Bulgaria's coal generation was down 1.9 TWh, versus a rise in imports of 1.1 TWh.

Croatia: Croatia is working on the project '1,000 Solar Roofs – Cities and Jobs Regeneration through Community Led Solarization' that will provide solar power to households, create green jobs, lessen Croatia's environmental footprint, and help the country recover from COVID-19³⁹.

Cyprus: Digitalisation is considered the most promising reform of the Cypriot administration. In June this year, the office of the Deputy Minister for Research, Innovation and Digital Policy confirmed that a large part of recovery funds will be dedicated to e-government projects. Additional recovery measures will most probably include water and waste management⁴⁰.

Czech Republic: The country's Coal Commission is preparing a detailed plan for coal phase-out, looking at the timeline, associated regulatory steps, and transition mechanisms in mining regions. The results of this study should be ready by the end of 2020. The first semester of 2020 compared with last year saw a decline in electricity consumption from coal by 20%.⁴¹

Estonia: According to Prime Minister Jüri Ratas, wind energy has the highest potential

among renewable energy sources in Estonia, putting offshore wind farms in the Baltic as a priority in its Agenda. Such efforts aim at reducing Estonia's greenhouse gas emissions and improving its competitiveness by ensuring energy security and supply. The Estonian Ministry of Environment has as well highlighted the importance of other renewables like hydrogen as a low carbon fuel, particularly for heating. In recovering from the pandemic, Estonia is committed to climate goals as well as guiding its recovery to the principles of the circular economy.

Finland: The Finnish government has agreed on a fourth supplementary budget⁴² proposal for 2020 as part of its coronavirus recovery package, which focuses on "ensuring an economically, ecologically and socially sustainable emergence from the crisis". It states a commitment to choosing stimulus measures that also support the objective of "making Finland the world's first carbon-neutral welfare state". About a quarter of the EUR 5.5 billion that has been announced is for transport, primarily railways, public transport and infrastructure for cycling and walking.

Greece: The Greek government has put forward a new bill⁴³ to speed up the electrification of transport through several incentives. With subsidies, the final price of

³⁸ <https://ember-climate.org/project/renewables-beat-fossil-fuels/>

³⁹ <https://www.greenmatters.com/p/croatia-solar-roof-project-coronavirus>

⁴⁰ <https://cyprus-mail.com/2020/07/24/how-cyprus-use-european-recovery-funds/>

⁴¹ <https://ember-climate.org/project/renewables-beat-fossil-fuels/>

⁴² <https://www.helsinkitimes.fi/finland/finland-news/domestic/17733-finnish-government-unveils-5-5bn-recovery-package-to-borrow-18-8bn-in-2020.html>

⁴³ <https://www.euractiv.com/section/politics/news/greek-law-gives-strong-push-for-electromobility/>

an electric car is expected to be reduced by an average of 25%. Even higher subsidies will be offered for motorcycles, scooters and bicycles.

Hungary: Hungary has set a climate neutrality goal for 2050⁴⁴, in a law passed by parliament in June 2020, signalling support for the EU net zero emissions strategy. It followed a day after the government issued a EUR 1.5 billion green bond, with the bulk of funds earmarked to run, maintain and upgrade the railway system. Already in April, the Government presented a recovery plan⁴⁵ for the economy. The five-point programme envisages soft loans to struggling companies and extra pensions.

Italy: The ‘Relaunch Decree’⁴⁶ pledges EUR 55 billion in stimulus measures to help “relaunch” the Italian economy, which is the largest budget ever presented in the history of the Italian Republic and corresponding to approximately double the amount of an ordinary Italian budget law. The package includes tax credits for building renovation, which allow individuals to offset 110% of qualified building renovation and energy efficiency costs incurred between 1 July 2020 and 31 December 2021.

Ireland: The Irish Government announced the ‘July Jobs Stimulus’⁴⁷, a EUR 7.4 billion package of measures designed to stimulate a jobs-led, sustainable recovery from COVID-19. A substantial part of the budget is earmarked to investment in training, skills development, work placement schemes (especially for young people), as well as in schools, walking, cycling, public transport, home retrofitting, and town and village renewal. In addition, the country announced⁴⁸ repurposing funds from the National Oil Reserves Agency levy to establish a EUR 500 million Climate Action Fund to support projects that aim to reduce greenhouse gas emissions, develop renewable energy, improve energy efficiency and support a just transition.

Latvia: The country’s national finance institution ALTUM takes a key role in COVID-19 financial assistance for businesses and announced a new investment facility⁴⁹ for large Latvian companies experiencing impact of crisis. A special focus was given to the ALTUM green loans programme and to a recently approved electric car financing project, both of which will help reduce emissions from Latvia’s transport sector. The government underlined that “stable, strategically-placed and precisely targeted financial support for sustainable businesses

⁴⁴ <https://www.climatechangenews.com/2020/06/04/hungary-sets-2050-climate-neutrality-goal-law-issues-green-bond/>

⁴⁵ <https://www.themayor.eu/en/hungarian-government-lays-out-recovery-plan-for-the-economy>

⁴⁶ https://www.ey.com/en_gl/tax-alerts/italy-enacts-relaunch-decree-to-further-manage-covid-19

⁴⁷ <https://www.gov.ie/en/press-release/07aef-government-launches-74-billion-jobs-stimulus-to-help-businesses-re-open-get-people-back-to-work-and-promote-confidence/>

⁴⁸ <https://www.siliconrepublic.com/machines/climate-action-fund-ireland-legislation>

⁴⁹ <https://www.president.lv/en/news/news/president-of-latvia-strategic-financial-backing-is-crucial-for-economic-recovery-and-implementation-of-green-deal-in-latvia-26318#gsc.tab=0>

is crucial for economic recovery and implementation of a Green Deal in Latvia”.

Lithuania: The Cabinet of Ministers has approved its economic stimulus package ‘Future Economy DNA’ with energy and climate highlighted as one of five pillars of the country’s future economy⁵⁰. EUR 475 million are allocated to energy efficiency, renewable energy (including small-scale systems and grid connection), energy storage, and sustainable mobility.

Luxembourg: The government has announced green stimulus measures within its recovery plan⁵¹, focussed on accelerating insulation of homes, boosting the energy efficiency of housing and increasing renewable energy. State subsidies will cover 50% of the green home renovation, expenses up to EUR 30,000. Subsidies for sustainable heating have been increased by 25%. The state will cover 81% of the costs for replacing a heat pump.

Malta: Already before the pandemic, Malta presented its commitment to green growth, “Greening Our Economy - Achieving a Sustainable Future” – a short- to medium-term strategy and action plan.⁵²

The Netherlands: The country announced a CO₂ tax for its manufacturing industry, setting a gradual increase between 2021 and 2030. The tax will work as a floor price for the ETS carbon pricing scheme and its revenues will be used to support the development and implementation of new sustainable industrial processes. A EUR 3.4 billion bailout⁵³ for the country’s flag-carrying airline KLM will require cuts to dividends and jobs, a one-fifth reduction in evening flights, as well as a requirement to reduce emissions per passenger by half by 2030.

A formal recovery plan – in addition to emergency measures – may be presented as part of the nation’s budget for 2021 in late September. Before the COVID-19 crisis, the Dutch government already announced an ambitious climate plan that aimed at reducing CO₂ emissions by 49% by 2030 compared to 1990.

Portugal: In August 2020, the Government auctioned 700 MW of solar energy capacity, mostly with battery storage integrated to it. The auction resulted in a new world minimum for solar energy generation of 11.14 €/MWh⁵⁴.

It was also the first-time solar projects combined with battery storage installations were auctioned without any public subsidy. Additionally, Portugal will phase-out coal in

⁵⁰ <https://www.rivieramm.com/news-content-hub/lithuanian-stimulus-package-commits-funds-for-renewables-including-offshore-grid-connection-59806>

⁵¹ <https://today.rtl.lu/news/luxembourg/a/1526282.html>

⁵² https://meae.gov.mt/en/public_consultations/msdec/documents/green%20economy/consultation%20document%20-%20green%20economy.pdf

⁵³ <https://fortune.com/2020/06/26/airline-bailouts-climate-conditions-coronavirus/>

⁵⁴ <https://aleasoft.com/results-second-portugal-auction-price-photovoltaic-not-11-14-euros-mwh-either/>

2021, which is two years earlier than announced in 2019. The country is also preparing multi-billion projects⁵⁵ including a new hydrogen plant.

Romania: The country already achieved its 2020 renewable energy target three years ahead of schedule⁵⁶. In comparison to the average energy mix in the EU, Romania's energy mix has a higher share of renewable energy and natural gas and a lower share of nuclear energy and oil. In 2020, Romania continued this downward trend: Electricity generation from coal fell by 40% or 2.8 TWh from the first semester of 2019 to the first semester of 2020.

Slovakia: As soon as the appointment of Slovakia's new government took place in March 2020, the Ministry of Environment took a step supporting the role of the European Green Deal in post-COVID-19 recovery. However, concrete measures are still missing. Measures to support public building renovation and energy efficiency are being considered. Other trends include modernizing energy networks and distribution systems including smart and sustainable urban transportation, as well as a circular economy focus in the construction sector⁵⁷.

Slovenia: The Minister of the Environment and Spatial Planning, Andrej Vizjak, emphasised that building a resilient Europe is not possible without including

environmental and climate considerations in all relevant sectors, while ensuring sustainable investments that will contribute to the climate neutrality of the EU. He also reiterated the importance of the Circular Economy Action Plan and stressed that the development and use of digital technologies can play an important role in the sustainable transition of the EU.

Sweden: To mitigate the economic effects of the COVID-19 outbreak on society, Sweden provided financial security and transition opportunities for those who become unemployed. Sweden also intends to invest up to 5 billion Swedish kronor (EUR 0.5 billion) into the Scandinavian airline SAS as part of a drastic recapitalization plan⁵⁸. SAS will be required to meet "clear and quantifiable criteria" on lower emissions and needs to better align itself with the 1.5-degree target of the Paris Agreement on climate change.

3. EU FINANCIAL INSTRUMENTS

The transition to a green economy will require a significant shift of investments towards a more sustainable path. With the green recovery package, the EU is set to provide public resources at an unprecedented level. Nevertheless, the bulk of the investment needs of approximately

⁵⁵ <https://www.reuters.com/article/us-health-coronavirus-portugal-energy-idUSKBN22C1T2>

⁵⁶ https://ec.europa.eu/energy/news/focus-romania-energy-union-tour_en

⁵⁷ <https://www.globsec.org/events/slovakia-post-covid19-recovery-how-to-deliver-a-green-boost-to-the-economy/>

⁵⁸ <https://www.forbes.com/sites/davidnikel/2020/06/16/sweden-to-invest-in-airline-sas-with-green-strings-attached/#266cbbc666e3>

EUR 340 billion per year will have to be provided by private investors. This amount includes EUR 240 billion to meet the EU's current 2030 climate and energy targets and EUR 100 billion for transport infrastructure. Meeting the EU's other policy goals will require a further EUR 447 billion, including EUR 130 billion to deliver on environmental goals, EUR 125 billion for the digital transformation, and EUR 192 billion for social goals including housing, health and long-term care, education and life-long training.⁵⁹

This section examines the EU financial framework that guides public and private investments and the role of EU financial institutions in leading the economic recovery and implementing the ambitious EGD.

3.1. EU Financial Policy Framework

At policy level, the European Green Deal provides the overall direction of the economic transformation on which the Next Generation EU builds upon. The same logic prevails regarding the funding of this strategic plan: The Sustainable Europe Investment Plan, the investment pillar of the EGD, is strengthened by the EU response to the COVID-19 crisis, highlighting once more the top priority of the new European Commission, namely achieving the green and digital transformation of the European economy.

The **InvestEU programme** will aim at mobilising public and private investment in areas aligned with the EU's medium and long-term priorities. In its original proposal of 2018, the Commission proposed to manage and implement investments in four categories: sustainable infrastructure; research, innovation and digitisation; SME promotion and social investment and skills. As part of the recovery package and given the valuable key feature of the InvestEU programme in time of economic crisis, the Commission proposed to boost the initial budget for the existing four areas and to create a fifth window, a 'Strategic Investment Facility'. It aims to leverage investments in "key value chains crucial for Europe's future resilience and strategic autonomy" in line with the EU's Industrial Strategy such as healthcare, green and digital technologies⁶⁰. The financial envelope for the sustainable infrastructure window is doubled. However, the European Council conclusions as published on 21 July reduced considerably the size of the budget allocated to the InvestEU programme and do not mention the Strategic Investment Facility. The Commission is currently reflecting on the EUCO conclusions' implications on its revamped InvestEU proposal of May 2020.

Co-legislators expressed their support to building on the partial agreement reached in 2019 that includes some novelties such as the openness of the EU guarantee and enhanced governance. The Commission proposed that an investment committee

⁵⁹ European Commission (2020) [Commission Staff Working Document: Identifying Europe's recovery needs](#)

composed of independent experts will approve financing decisions, and 75% of the InvestEU Fund will be implemented through the European Investment Bank and be subject to the Bank's lending policy. In addition, projects above a certain size will be subject to sustainability proofing under the InvestEU programme. This will be crucial for the streamlining of the 'do no significant harm' principle for both private and public financing.

The Commission is developing guidance documents in close cooperation with the future InvestEU implementing partners to develop the methodologies for sustainability tracking. The work builds on best practices, explores how they can be shared among the different actors and adapted to consider and promote the developments related to the EU sustainable finance taxonomy. Through targeted technical assistance and advisory support, the Commission will also support public and private project promoters and financial institutions in their capacity to apply the sustainability proofing, climate and environmental tracking requirements as well as to develop projects with green features.

A second major shift to the original investment strategy concerns the **Just Transition Fund** (JTF) that aims to help regions most affected by the transition to climate neutrality, for instance by supporting the re-skilling of workers, the creation of new economic opportunities, etc. In reaction to the coronavirus crisis, the Commission proposes to boost the fund in order to strengthen support to the most vulnerable regions while supporting a green recovery.

The actual endowment of the JTF is still under discussion however.

Commission-approved territorial just transition plans will serve as the basis for granting funds and can become useful instruments to guide recovery funding and rebuild more resilient regional economies and societies. Such plans will need to be consistent with National Energy and Climate Plans.

All investments, regardless of which facility or whether public or private, shall be guided by the **EU's Sustainable Finance Action Plan**. Its centre piece is the taxonomy, a science-based tool for defining sustainable economic activities and reorienting investment towards a sustainable economy. The Taxonomy Regulation was adopted by the Council and the European Parliament in June 2020. It will define which activities are classified as 'sustainable' in environmental terms, including climate change, mitigation and adaptation. The taxonomy will gradually be embedded into law and will be regularly updated and reviewed. It will also underpin classification systems for other areas such as standards, the ecolabel and sustainability benchmarks.

Apart from capital injection, other legal, regulatory and policy frameworks to promote the green recovery in Europe are important. One example would be tax systems that support the green transition. Environmental taxes help to provide the right price signals and right incentives to producers, users and consumers to encourage less polluting consumption and contribute to sustainable growth. They may also offer opportunities to

reduce taxes in other areas, for example on labour, and thus can be a win-win option to address both environmental and employment issues. In mid-July, the Commission suggested a new package of measures on Fair and Simple Taxation.⁶¹

that enable them to absorb the COVID-19 shock.

The European Central Bank is in the process of reviewing its monetary policy strategy, which has been extended from the end of 2020 to mid-2021.⁶³ The strategy work stream on climate change presents an opportunity to assess whether the ECB



“ We need greener changes to all of the central bank’s operations. I want to explore every avenue available in order to combat climate change.”

CHRISTINE LAGARDE, PRESIDENT OF THE EUROPEAN CENTRAL BANK

© European Union, 2011
Source: EC - Audiovisual Service

3.2. European Central Bank

The European Central Bank (ECB) is the central bank of the 19 European Union countries which have adopted the euro. Its main task is to maintain price stability in the euro area and preserve the purchasing power of the single currency. In reaction to the COVID-19 pandemic, the ECB unveiled packages of in total EUR 1.1 trillion of quantitative easing to stimulate the eurozone economy.⁶² These measures are aimed at ensuring that all sectors of the economy can benefit from supportive financing conditions

should be more proactive in greening its asset purchases, or in adjusting the conditions of its refinancing operations, including the collateral framework, to take risks related to climate change into consideration. While actual concrete policies are still under development, the fact that the ECB is strongly signalling its intention to play a role in the transition to a low-carbon economy is impactful in itself. The ECB

⁶¹ https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1334

⁶² European Central Bank (2020) [Improving funding conditions for the real economy during the COVID-19 crisis: the ECB’s collateral easing measures](#)

⁶³ European Central Bank (2020) [ECB extends review of its monetary policy strategy until mid-2021](#)

currently holds around 20% of the eligible green corporate bond universe.⁶⁴

At a virtual roundtable on Sustainable Crisis Responses in Europe on 17 July 2020, Isabel Schnabel, Member of the Executive Board of the ECB, highlighted that COVID-19 provides a chance (...) to build a deeper and greener financial market that reduces the costs of transitioning towards a low-carbon economy.”⁶⁵

3.3. European Investment Bank

The European Investment Bank (EIB) is the lending arm of the European Union. It is the biggest multilateral financial institution in the world and one of the largest providers of climate finance. In 2019, the EIB adopted a new energy lending policy, which will phase out EIB support to energy projects reliant on unabated fossil fuel by the end of 2021. The EIB Board also approved a new level of ambition for the EIB towards climate action and environmental sustainability. Currently, the Bank is developing its Climate Bank Roadmap 2021-2025 that will guide this transition.

The EIB announced that it will mobilise up to EUR 28 billion in financing to fight the COVID-19 crisis. This funding is backed up by guarantees from the European Investment Bank Group and the European

Union budget. The financing package includes:

- Dedicated guarantee schemes to banks based on existing programmes for immediate deployment, mobilising up to EUR 8 billion of financing;
- Dedicated liquidity lines to banks to ensure additional working capital support for SMEs and mid-caps of EUR 10 billion; and
- Dedicated asset-backed securities purchasing programmes to allow banks to transfer risk on portfolios of SME loans, mobilising another EUR 10 billion of support.

In addition to that support, the EIB group created a Pan-European Guarantee fund in response to COVID-19 of EUR 25 billion, which could mobilise up to EUR 200 billion. This guarantee fund enables the EIB Group – in partnership with local lenders and national promotional institutions – to scale up its support to small and medium-sized companies and others in the real economy.⁶⁶

The EIB Board of Governors is currently reviewing the capital adequacy of the EIB in view of the instruments included in the MFF and NGEU as well as the Bank’s contribution to the Union’s ambitions in fighting climate change and digitalising Europe’s economy. A decision on capital increase⁶⁷ of the European Investment Bank is currently being discussed and the EIB Board of

⁶⁴ European Central Bank (2020) *Never waste a crisis: COVID-19, climate change and monetary policy*

⁶⁵ <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200717~1556b0f988.en.html>

⁶⁶ <https://www.eib.org/en/about/initiatives/covid-19-response/index.htm>

⁶⁷ <https://data.consilium.europa.eu/doc/document/ST-10-2020-INIT/en/pdf>. See I.4

Governors, acting unanimously, shall decide on the size and modalities of any capital increase by the end of 2020.

EIB also supports green recovery measures globally

On 5 August 2020, the European Investment Bank (EIB) announced it was directing EUR 300 million toward the COVID-19 response and recovery in African nations. The funding is part of the EIB Team Europe Initiative, designed to help the most vulnerable and exposed countries respond to the immediate health crisis, mitigate social and economic impacts, and build resilience for the future. It will be delivered together with the African Export-Import Bank (Afreximbank). EUR 200 million of support is being diverted from funds previously allocated to trade-related investments, directing them to sectors hardest hit by the pandemic. An additional EUR 100 million of the funding is newly provided by EIB and Afreximbank.

3.4. European Bank for Reconstruction and Development (EBRD)

The European Bank for Reconstruction and Development (EBRD) is an international financial institution founded in 1991. As a multilateral developmental investment bank, the EBRD uses investment as a tool to build market economies. Initially focused on Eastern European transition countries, it

expanded to support development in more than 30 countries from Central Europe to Central Asia.

The EBRD's coronavirus Solidarity Package⁶⁸ provides finance emergency liquidity and working capital to existing clients. The bank committed all activity in 2020-21, worth EUR 21 billion, to help European regions counter the economic impact of the coronavirus pandemic. Economists from the EBRD said efforts to counteract the COVID-19 pandemic create an opportunity to "tilt to green"⁶⁹ the large-scale recovery spending being pledged, making it a key accelerator towards a low-carbon economy.

A central pillar of the Solidarity Package is a Resilience Framework providing finance to meet the short-term liquidity and working capital needs. Another element in the Solidarity Package is a new Vital Infrastructure Support Programme to meet essential infrastructure requirements, including financing for working capital, stabilisation and essential public investment.

The emergency channels will target all sectors of the economy, but especially those badly affected by the crisis, including financial institutions, SMEs and corporate sectors such as tourism and hospitality, automotive and transport providers, agribusiness, and medical supplies. Regardless of the swiftness of action at the moment, the Bank pledged to uphold its

⁶⁸ <https://www.ebrd.com/what-we-do/coronavirus-solidarity>

⁶⁹ <https://www.ebrd.com/news/2020/spending-to-counteract-coronavirus-creates-chance-to-tilt-to-green-.html#:~:text=The%20coronavirus%20crisis%20has%20diverted,towards%20a%20low%2Dcarbon%20economy.>

guiding key priorities, including the transition to the green economy, promoting equality of opportunity, accelerating the digital economy and strengthening good governance.

3.5. Export Credit Agencies

Public support for trade and investment needs to be consistently aligned with the Paris Agreement. Many EU Export Credit Agencies (ECAs) have taken steps to ban export credit support for coal, however the majority of EU export financing for energy overseas still supports oil and gas.⁷⁰ An EU proposal to widen the scope of OECD coal finance standards that might be proposed in October is under preparation. As private financial institutions slowly shift away from supporting fossil fuels, there is a risk that ECAs will fill that credit void and pick up those transactions. Greater EU restrictions and governance on this issue is therefore vital.

ECAs have a significant role to play in stabilising the economy during the COVID-19 recovery. As banking and insurance markets collapse and retract, ECAs are filling the void and are supporting companies outside of traditional boundaries. The scope of their portfolios and geographies are changing. Some ECAs have been mandated to support domestic markets. This is the

case with the Dutch export credit agency⁷¹. Due to the wider circumstances of the COVID-19 crisis, changes to ECA mandates, remits and scope are taking place with limited or no parliamentary scrutiny, raising the chances of high carbon transactions. As ECAs move into medium-term transactions in recovery, there is also significant risk for fossil fuel support. The temporary framework for state aid to support the economy includes short-term export credit insurance, meaning that there is potential for tension between the European Green Deal and promotion and protection of European corporations⁷².

The Swedish government published its new trade and investment strategy for more jobs⁷³. The strategy bans export credits to fossil fuel exploration and extraction by 2022 (at the latest). This includes, for example, mining and construction machinery, trucks, dump trucks and wheel loaders, drilling equipment, excavators where the purpose is to use these for the extraction of coal, oil or gas. It also includes fire protection equipment for oil drilling platforms.

⁷⁰ Bankwatch Network (2017) [ECAs go to market: A critical review of transparency and sustainability at seven export credit agencies in Central and Eastern Europe](#)

⁷¹ [ECAs, COVID and Climate: Recommendations to Ensure that Economic Support Protects People and the Planet](#)

⁷² European Commission (2020) [State aid: Commission adopts Temporary Framework to enable Member States to further support the economy in the COVID-19 outbreak](#)

⁷³ <https://www.government.se/press-releases/2019/12/presentation-of-the-new-updated-trade-and-investment-strategy-for-more-jobs-throughout-the-country/>