

EU-CHINA  
COOPERATION ON  
GREEN RECOVERY  
AND GREEN  
STIMULUS

*An Overview Of Green Recovery  
Measures In The EU &  
Their Implications For EU-China Relations*

19 OCTOBER 2020

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**ANNEX: FULL SUMMARY OF PROCEEDINGS: THE EU-CHINA SEMINAR ON GREEN RECOVERY AND GREEN STIMULUS**

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**Day 1 – Moderated by Dr. Wang Yi, Professor, Member of the 13<sup>th</sup> National People’s Congress (NPC), Vice President of the Institutes of Science and Development, Chinese Academies of Science (CASISD)**

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### INTRODUCTION

**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 2018<sup>1</sup>, 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 paper gives a short overview on how the EU has reacted thus far to stimulate European economies in the face of the COVID-19 crisis, while at the same time continuing and even strengthening climate and related green transition action.

The implications of the EGD and the EU's planned actions to rebuild its members' economies in response to the COVID-19 pandemic are then explored. The conclusions in this paper draw heavily on sessions of the **EU-China Seminar on Green Recovery and Green Stimulus**, held in Beijing, Brussels and online on **24-25 September 2020**. Summaries of the full proceedings of this seminar are included as an annex.

The objectives of the seminar were to share information and good practices in order to **learn from each other's experiences** and discuss how to **further strengthen climate action and cooperation**. Through sharing information on the EU's current and planned green recovery actions, as well as related financial instruments, **this paper takes on these same objectives**.

While every effort has been made to check facts and present latest developments as of

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[https://ec.europa.eu/clima/sites/clima/files/news/20180713\\_statement\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/news/20180713_statement_en.pdf)

## EU-CHINA COOPERATION ON GREEN RECOVERY AND GREEN STIMULUS

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](mailto:CLIMA-A02-ARES@ec.europa.eu) with subject line (in English) "EU-China Symposium 24-25 September 2020".

## 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%<sup>2</sup>, 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 2020<sup>3</sup>).

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

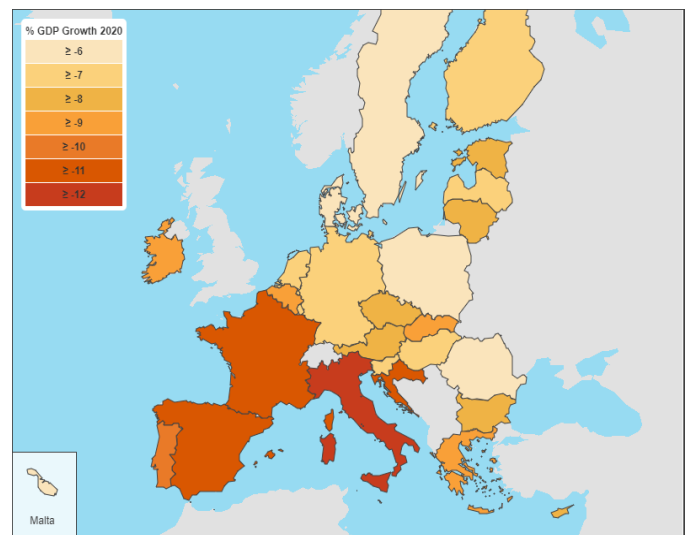


Figure 1 Not all EU economies were affected equally by COVID-19. Source: European Commission (July 2020)

<sup>2</sup>

[https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_799](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_799)

<sup>3</sup>

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

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 studies<sup>4</sup> have argued that investments in business models that heavily depend on fossil fuels

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.<sup>5</sup>



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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

bear the risk of producing stranded assets as the costs of alternative green technologies are likely to further decrease and stricter climate policies including CO<sub>2</sub> 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.

Equally important, EU businesses could benefit from first mover advantages and gain in competitiveness on global green technology markets. Already in the past

These ambitions make the EU a global frontrunner in green recovery efforts, fully subscribing to the goal of ‘building back better’ – the strategy to **address short-term recovery and long-term economic and societal transition goals simultaneously**.

### 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

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<sup>4</sup> For instance, OECD, 2017 “Investing in Climate, Investing in Growth”

<sup>5</sup>

[https://ec.europa.eu/clima/sites/clima/files/docs/pages/com\\_2018\\_733\\_analysis\\_in\\_support\\_en\\_0.pdf](https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_analysis_in_support_en_0.pdf)

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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 instrument<sup>6</sup>, linked to a

Risks in an Emergency, known as SURE), businesses (the Guarantee Fund of the European Investment Bank) and Member 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

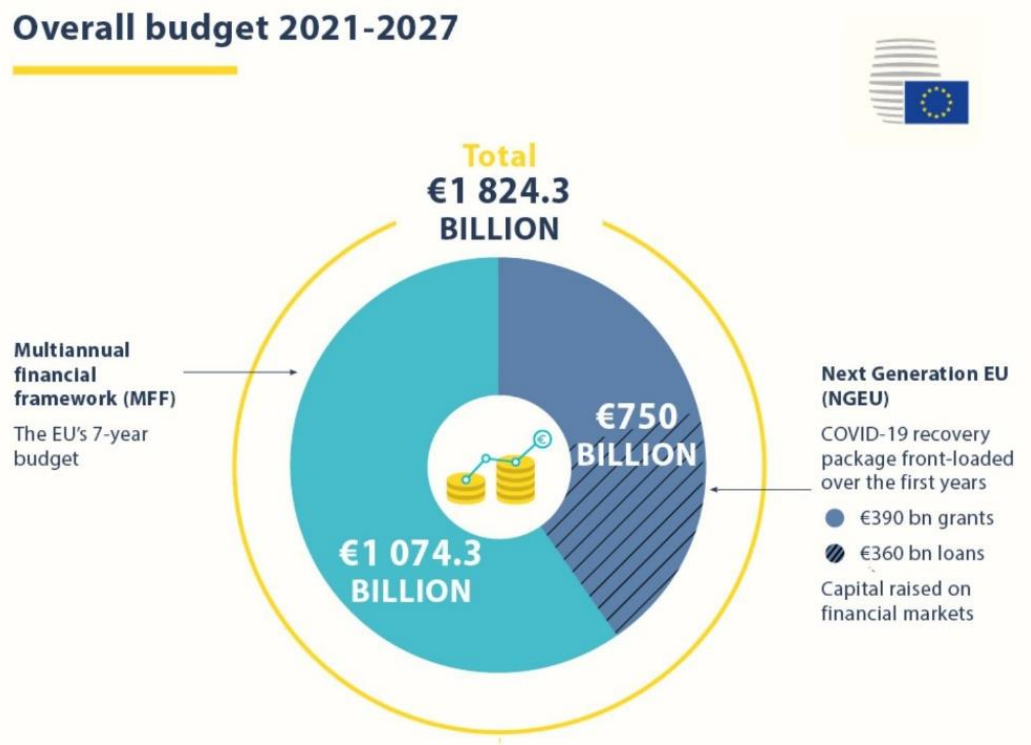


Figure 2 Overall EU budget 2021-2027. Source: EU Council, 20 July 2020.  
Source: <https://www.consilium.europa.eu/en/infographics/recovery-plan-mff-2021-2027>

EUR 1.1 trillion EU budget for the next seven years (multiannual financial framework, MFF) (see figure 2). This total budget of EUR 1.85 trillion comes in addition to the three safety nets<sup>7</sup> of EUR 540 billion for workers (Support to mitigate Unemployment

and the Just Transition Fund to further strengthen the EU's green agenda. 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

<sup>6</sup> 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>

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

between Parliament and Council will start shortly. The new EU budget and the recovery package shall enter into force on 1 January 2021.

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 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**



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**Resilience Plans**<sup>8</sup> 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.

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 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 currently assessed via a public consultation and an inception impact assessment.<sup>9</sup> 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.

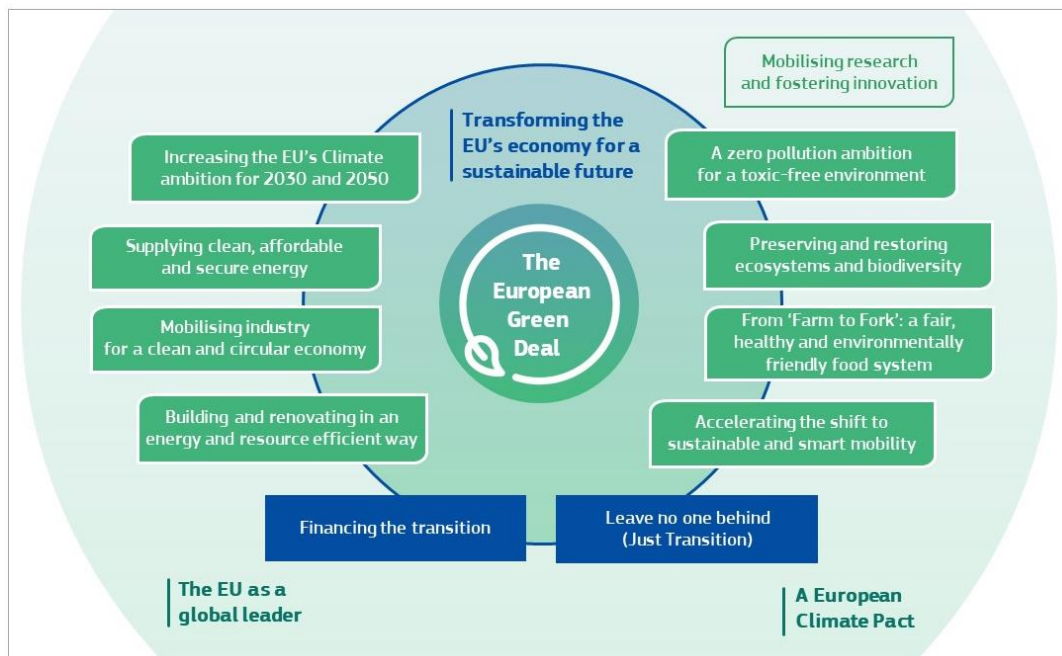


Figure 3 The main elements of the European Green Deal. Source: European Commission (<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=EN>)

<sup>8</sup> [https://ec.europa.eu/info/sites/info/files/com\\_2020\\_408\\_en\\_act\\_part1\\_v9.pdf](https://ec.europa.eu/info/sites/info/files/com_2020_408_en_act_part1_v9.pdf)

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

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 ambition<sup>10</sup> represents around EUR 285 billion (in current prices) that are available for investing in climate-related projects.

### 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 2019<sup>11</sup>, 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 Plan<sup>12</sup>, 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".<sup>13</sup>

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 website<sup>14</sup>.

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

<sup>11</sup> [https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF)

<sup>12</sup> COM (2020) 21 final

<sup>13</sup>

[https://ec.europa.eu/commission/presscorner/detail/en/speech\\_19\\_6749](https://ec.europa.eu/commission/presscorner/detail/en/speech_19_6749)

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

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Main themes of the EGD	Key principles
<p><b>Clean energy</b>  <i>EU Energy System                      Integration Strategy                      Hydrogen Strategy for a                      Climate Neutral Europe</i></p>	<ul style="list-style-type: none"> <li>○ Prioritise energy efficiency and develop a power sector based largely on renewable sources</li> <li>○ Pursue a secure and affordable EU energy supply</li> <li>○ Work towards a fully integrated, interconnected and digitalised EU energy market</li> <li>○ Promote green hydrogen to decarbonize sectors that are difficult to electrify</li> </ul>
<p><b>Sustainable industry</b>  <i>Industrial Strategy                      Circular Economy Action                      Plan</i></p>	<ul style="list-style-type: none"> <li>○ Economic processes need to be more circular, e.g. via a circular electronics initiative to promote longer product lifetime</li> <li>○ New regulatory framework for battery recycling</li> <li>○ Review of the directive of packing and packing waste</li> <li>○ Sustainable products need to become the norm in the EU</li> <li>○ EU aims to become the lead markets for climate neutral and circular products</li> </ul>
<p><b>Building &amp; renovating</b>  <i>Renovation wave</i></p>	<ul style="list-style-type: none"> <li>○ Buildings account for 40% of energy consumed – hence present an enormous energy saving potential.</li> <li>○ The EU aims to at least double the annual renovation rate of existing building stock.</li> </ul>
<p><b>Eliminating pollution</b>  <i>EU Zero pollution strategy</i></p>	<ul style="list-style-type: none"> <li>○ The EU Zero pollution strategy should be ready in 2021.</li> <li>○ The EU will monitor, report, prevent and remedy pollution from air, water, soil and consumer products.</li> <li>○ The Commission will review EU measures to address pollution from large industrial installations.</li> </ul>
<p><b>Biodiversity</b>  <i>EU Biodiversity Strategy for                      2030                      EU forest strategy                      (forthcoming)</i></p>	<ul style="list-style-type: none"> <li>○ 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</li> <li>○ Restore degraded ecosystems at land and sea</li> <li>○ Unlock EUR 20 billion per year for biodiversity</li> </ul>
<p><b>From Farm to Fork</b>  <i>From Farm to Fork Strategy</i></p>	<ul style="list-style-type: none"> <li>○ Make sure Europeans have access to healthy, affordable and sustainable food, and ensure a fair economic return in the supply chain</li> <li>○ Tackle climate change, protect the environment, preserve biodiversity and increase organic farming</li> <li>○ Initiative on substituting single-use packaging, tableware and cutlery</li> </ul>
<p><b>Sustainable mobility</b></p>	<ul style="list-style-type: none"> <li>○ Transport is the second biggest source of GHG emissions. To achieve climate neutrality, a 90% reduction in transport emissions is needed by 2050.</li> <li>○ 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.</li> <li>○ Investments in new technology, e.g. the EU battery alliance and the launch of the EU hydrogen alliance</li> </ul>

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

of energy across economic sectors currently account for more than 75% of the EU's greenhouse gas emissions<sup>15</sup>. Energy generation must be largely based on renewable sources, complemented by the rapid phasing out of coal and decarbonising 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

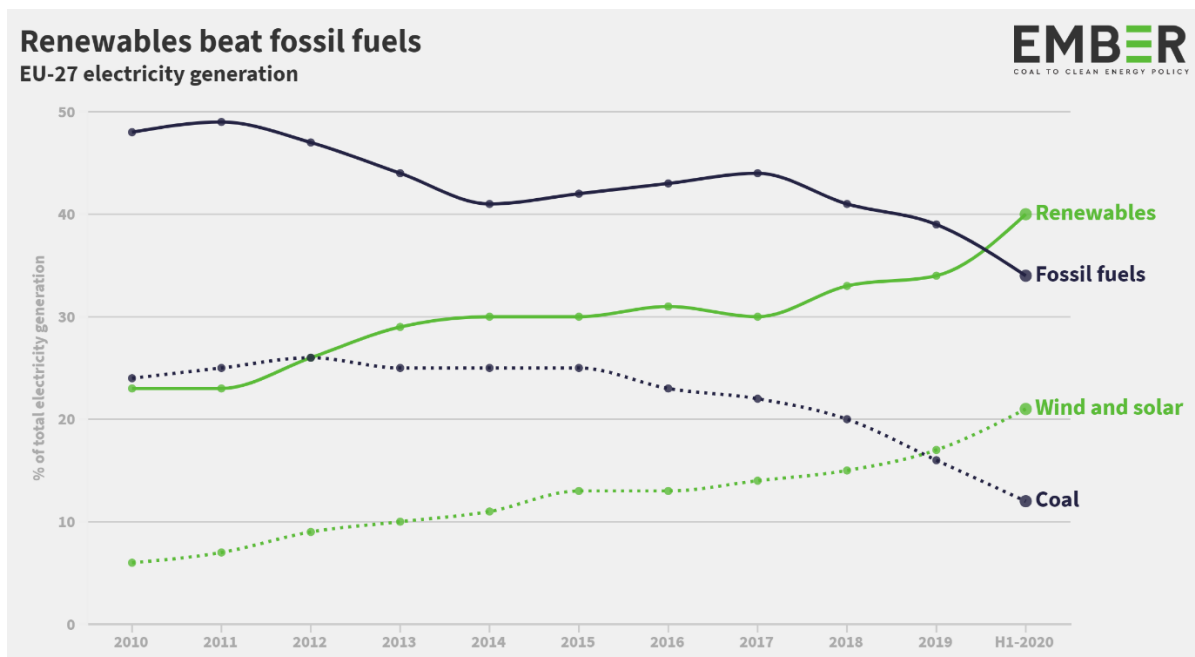


Figure 4 Renewables versus fossil fuels in EU's electricity mix

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

COVID-19 crisis could speed and scale up this transformation. The production and use

transport sector and is on a good trajectory to reach more long-term targets. The latest

<sup>15</sup> [https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14\\_en](https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14_en)

global half-year electricity analysis by climate think tank EMBER<sup>16</sup> shows that renewables accounted for 10% of **global electricity generation** in the first six months of 2020. This is an impressive improvement on the situation five years ago when it 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 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%<sup>17</sup> (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**<sup>18</sup> 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

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

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

<sup>18</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable\\_energy\\_statistics#Share\\_of\\_renewable\\_energy\\_almost\\_doubled\\_between\\_2004\\_and\\_2018](https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#Share_of_renewable_energy_almost_doubled_between_2004_and_2018)

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

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

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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.

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



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Source: EC - Audiovisual Service

“ *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

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

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 CO<sub>2</sub>-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 CO<sub>2</sub>-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."<sup>19</sup> 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

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



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the future'.<sup>20</sup> 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<sup>21,22</sup>:

- EUR 11 billion for clean transport financing. Priority is given to revitalizing rail transport (EUR 4.7 billion, including freight, night and

- 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



“ *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

© European Union, 2017  
Source: EC - Audiovisual Service

local trains), followed by support to mobility such as a national bicycle 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

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

<sup>20</sup>

[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](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)

<sup>21</sup>

<https://www.gouvernement.fr/sites/default/files/document/d>

[document/2020/09/dossier\\_de\\_presse\\_france\\_relance\\_-\\_03.09.2020.pdf](https://www.gouvernement.fr/sites/default/files/document/document/2020/09/dossier_de_presse_france_relance_-_03.09.2020.pdf)

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

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.<sup>23</sup>

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 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 semester<sup>24</sup>.

The airline Air France has committed to reduce up to 50% of its CO<sub>2</sub> 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 CO<sub>2</sub> emission planes.

Such climate conditions are attached to other major bail-outs. For instance, the Government unveiled a EUR 8 billion plan<sup>25</sup> 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 measures<sup>26</sup> 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,

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

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

<sup>25</sup>

<https://www.lemonde.fr/economie/article/2020/05/26/prime>

[s-aides-et-relocalisations-ce-que-contient-le-plan-automobile\\_6040835\\_3234.html](https://www.lemonde.fr/economie/article/2020/05/26/prime)

<sup>26</sup>

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

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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.

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, 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:

### 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 2021-2030, 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

- Renovation of the public vehicle fleet, recharging infrastructure, adaptation of cities to new mobility needs, and the electrification of transport (EUR 300 million);

that emits less than 120g CO<sub>2</sub> 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



“ *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

- 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

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

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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,

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



“ *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

© European Union, 2014  
Source: EC - Audiovisual Service

district heating and other relevant fields. Wind and solar alone reached a record of 64% of Danish total electricity generation in the first half of 2020<sup>27</sup>.

In 2020, the Danish plan of a green recovery foresees CO<sub>2</sub> 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 2030<sup>28</sup>. In May 2020, the Danish parliament endorsed this commitment with a very large majority.

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.

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

<sup>28</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/dk\\_final\\_necp\\_main\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/dk_final_necp_main_en.pdf)

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 up to 47,000 tonnes of CO<sub>2</sub> 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"<sup>29</sup>, 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 guide<sup>30</sup> 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 plants<sup>31</sup>). 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

<sup>29</sup> [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](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)

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

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

closure of mines.<sup>32</sup> 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

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 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

upgrading of buildings, development of electromobility, investments in renewable energy micro-installations or solutions related to mitigating the effects of drought.”<sup>33</sup> The green investment support plan includes 26 programmes of the National Fund for Environmental Protection and Water 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

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.<sup>34</sup> To seal that promise, on 1 July 2020 Kurtyka<sup>35</sup> 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

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

<sup>33</sup> 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/>

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

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



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 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 cars<sup>36</sup> 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 airlines<sup>37</sup> 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.

<sup>36</sup>

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

<sup>37</sup>

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

**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, electricity generation from coal decreased by 20%<sup>38</sup>: 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-19<sup>39</sup>.

**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 management<sup>40</sup>.

**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%.<sup>41</sup>

**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 budget<sup>42</sup> proposal for 2020 as part of its coronavirus recovery package, which focuses on

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

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

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

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

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

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“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 bill<sup>43</sup> to speed up the electrification of transport through several incentives. With subsidies, the final price of 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 2050<sup>44</sup>, 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 plan<sup>45</sup> for the economy. The five-point programme envisages soft loans to struggling companies and extra pensions.

**Italy:** The ‘Relaunch Decree’<sup>46</sup> 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’<sup>47</sup>, 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 announced<sup>48</sup> 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.

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

<sup>44</sup>

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

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

<sup>46</sup> [https://www.ey.com/en\\_gl/tax-alerts/italy-enacts-relaunch-decree-to-further-manage-covid-19](https://www.ey.com/en_gl/tax-alerts/italy-enacts-relaunch-decree-to-further-manage-covid-19)

<sup>47</sup> <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/>

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

**Latvia:** The country's national finance institution ALTUM takes a key role in COVID-19 financial assistance for businesses and announced a new investment facility<sup>49</sup> 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 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 economy<sup>50</sup>. 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 plan<sup>51</sup>, 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.<sup>52</sup>

**The Netherlands:** The country announced a CO<sub>2</sub> 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 bailout<sup>53</sup> 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 CO<sub>2</sub> emissions by 49% by 2030 compared to 1990.

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<sup>49</sup> <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>

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

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

<sup>52</sup>

[https://meae.gov.mt/en/public\\_consultations/msdec/documents/green%20economy/consultation%20document%20-%20green%20economy.pdf](https://meae.gov.mt/en/public_consultations/msdec/documents/green%20economy/consultation%20document%20-%20green%20economy.pdf)

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

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**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 €/MWh<sup>54</sup>.

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 2021, which is two years earlier than announced in 2019. The country is also preparing multi-billion projects<sup>55</sup> including a new hydrogen plant.

**Romania:** The country already achieved its 2020 renewable energy target three years ahead of schedule<sup>56</sup>. 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 sector<sup>57</sup>.

**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 plan<sup>58</sup>. 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.

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

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

<sup>56</sup> [https://ec.europa.eu/energy/news/focus-romania-energy-union-tour\\_en](https://ec.europa.eu/energy/news/focus-romania-energy-union-tour_en)

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

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

### 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 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.<sup>59</sup>

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 technologies<sup>60</sup>. 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

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

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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 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.<sup>61</sup>

### 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.<sup>62</sup> These measures are aimed at ensuring that all sectors of the economy can benefit from supportive financing conditions

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.<sup>63</sup> The strategy work stream on climate change presents an opportunity to assess whether the ECB 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 currently holds around 20% of the eligible green corporate bond universe.<sup>64</sup>

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.”<sup>65</sup>

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[https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1334](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1334)

<sup>62</sup> European Central Bank (2020) *Improving funding conditions for the real economy during the COVID-19 crisis: the ECB's collateral easing measures*

<sup>63</sup> European Central Bank (2020) *ECB extends review of its monetary policy strategy until mid-2021*

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

<sup>65</sup>

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



### 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

- 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.



“ 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

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:

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.<sup>66</sup>

The EIB Board of Governors is currently reviewing the capital adequacy of the EIB in

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

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 increase<sup>67</sup> of the European Investment Bank is currently being discussed and the EIB Board of 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 Package<sup>68</sup> 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"<sup>69</sup> 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,

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

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

<sup>69</sup> <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.>

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 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.<sup>70</sup> 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 agency<sup>71</sup>. 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 corporations<sup>72</sup>.

The Swedish government published its new trade and investment strategy for more jobs<sup>73</sup>. 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

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

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

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

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

to use these for the extraction of coal, oil or gas. It also includes fire protection equipment for oil drilling platforms.

## EU-CHINA COLLABORATION ON GREEN RECOVERY

### 1. ALIGNED POLICY GOALS

On 22 September 2020, Chinese President Xi Jinping made a historical announcement to the United Nations that China will reach peak carbon emissions by 2030 and achieve carbon neutrality by 2060, only ten years after the EU aims to do the same. In China, COVID recovery efforts are following a trajectory similar that of the EU, which is outlined in the previous sections.

A considerable amount of financing in China has been committed to minimizing the economic effects of the pandemic, and they, too, are tied to overall green economic development and climate goals. Indeed, China is taking proactive fiscal measures to strengthen pollution control, rural environment management, and ecological protection and restoration as part of its recovery efforts. There is consideration to issuing specific pandemic-related bonds to solidify the financing of these programs.

### 2. THE EU-CHINA SEMINAR ON GREEN RECOVERY AND GREEN STIMULUS

Given the aligned policy goals regarding carbon reduction and commitment to green recovery initiatives in the wake of the pandemic, there is a lot of room for the EU and China to cooperate and share experiences.

In broad terms, the EU is recognized as a leader and “stabilizer” in low carbon development, and China is committed to following their lead, but with their own tailor-made policies. Collaboration can accelerate their green recoveries and commitments to zero emissions. Just as important, both are well-positioned to work together to convince other countries around the world to make similar commitments, and they can provide assistance where needed to developing countries who seek to green their economies. In this way, EU and China leadership can help reform international institutions to not only steer the world towards emissions reductions but also to greening economic recovery responses.

In order to advance cooperation between the EU and China and set a foundation for collaboration on green recoveries, representatives from both have begun exchanging. Building on a bilateral workshop that took place on 29 June 2020, the Delegation of the European Union to the People’s Republic of China and the Institutes of Science and Development – Chinese Academy of Sciences came together in a seminar in Beijing and via remote video

## EU-CHINA COOPERATION ON GREEN RECOVERY AND GREEN STIMULUS

communications tools on September 24-25, 2020.

Against the backdrop of President Xi Jinping's announcement mentioned above, the participants in the seminar discussed a wide range of issues that drive efforts to combat climate change, including energy, finance, transport, biodiversity, and the movement towards building a circular economy. These discussions were closely linked to those around the global COVID-19 pandemic and the green recovery efforts that have arisen from it, which featured strongly during the seminar.

There was also a good deal of explanation about the EU's Green Deal and the formulation of China's 14<sup>th</sup> Five-Year Plan, which are both designed to provide policy frameworks for each economic bloc's commitments to achieving a carbon neutral future and meeting the promises pledged at the Paris Climate Agreement of 2015.

### 3. CONCLUSIONS AND IMPLICATIONS FOR EU-CHINA COOPERATION AND RELATIONS

During discussions at the EU-China Seminar on Green Recovery and Stimulus, multiple areas in which the EU and China should cooperate in order to reinforce their respective responses to climate change emerged.

- Increasing this collaboration and knowledge exchange going forward will have multiple possible

implications for relations between the EU and China. With the strong foundation of cooperation that is already being established, however, these can be managed and ultimately strengthen EU-China collaboration. Some possible strategic implications of collaboration, as well as suggested actions, include: **Managing the “Level Playing Field” through the recovery:** both China and the EU are investing heavily in fast growing green industrial sectors through recovery programmes. Similar investment in 2010 led to serious trade tensions e.g. on solar panels. EU and China will need to preemptively manage the conversations around subsidies, trade and IP especially in key sectors such as electric vehicles and hydrogen. **This should include discussions on carbon border adjustment mechanisms.**

- **Strengthening & Reforming Multilateral Institutions:** COVID has shown the need for strong cooperative global institutions but also raised political and financial challenges to their operations. Delivering a green, fair and resilient global recovery will require EU & China to align on major reforms in 2021 on areas like **debt restructuring/management, resilience, health/vaccine cooperation and the evolution of global climate governance.**

- **Maintaining Open Global Markets:** COVID has exposed many countries' vulnerability to external disruption of critical resource and goods supplies. Both European and Chinese governments are formulating policies to ensure critical supplies and components are available and diversified. These **strategic resilience policies may undermine maintenance of open markets unless actively managed and aligned in a cooperative way.**
- **Developing Clean Economy Standards:** scaling up the clean economy at the pace needed by the recovery will benefit from the development of aligned international standards in areas such as sustainable finance, clean technologies and data/digital technology. **Europe and China could collaborate on shaping and driving new international standards in critical areas.**
- **Relations with Third Countries:** Europe and China are both strong global exporters and investors in third countries and have active official cooperation programmes. **Europe and China could aim to maximising synergies and cooperation on investment priorities in third countries in key sectors** like energy, transportation, agriculture and forestry.

These conclusions and possible implications for EU-China relations and collaboration draw upon discussions that took place during the sessions of the EU-China Seminar on Green Recovery and Stimulus. For more information on these sessions, please see the Annex to this paper.

# ANNEX: FULL SUMMARY OF PROCEEDINGS: THE EU-CHINA SEMINAR ON GREEN RECOVERY AND GREEN STIMULUS

**Day 1 – Moderated by Dr. Wang Yi, Professor, Member of the 13<sup>th</sup> National People’s Congress (NPC), Vice President of the Institutes of Science and Development, Chinese Academies of Science (CASISD)**

## **Opening Remarks**

### **Xie Zhenhua, Special Representative on Climate Change Affairs**

Mr. Xie opened the seminar discussing the significant announcement made on September 22, 2020 by Chinese President Xi Jinping that China will aim to hit peak carbon emissions by 2030 and carbon neutrality by 2060. Mr. Xie also spoke about tackling climate change within the context of the global COVID-19 pandemic and how, through national and regional stimulus efforts, it presented opportunities for a green recovery. China’s own response to the pandemic has prioritized infrastructure development and strengthening the country’s goal of achieving a circular economy and low carbon economic development. Yet, even with China’s commitments, there is still a need for a more detailed and robust long-term plan for a green recovery and a green economy. To that end, Mr. Xie outlined nine steps he believed China should take:

1. Reform the energy sector –This should include strengthening the financial mechanisms and facilities through which the energy sector is financed and includes commitment to end all financing of coal.
2. Upgrade and optimize the industrial sector
3. Low carbon infrastructure development –As it stands now, 20 percent of all carbon emission in China come from infrastructure building a maintenance. This share can be reduced by coupling infrastructure development with PV energy generation.
4. Reform the transportation sector –Ten percent of carbon emissions in China come from public transportation. China should strive for a zero emissions public transport system nationwide.
5. Strengthen the development of the circular economy
6. Invest more in technological innovation –It would behoove China to bolster both smart grid and smart manufacturing technologies. This can be accomplished, in part, by investing more in Research & Development.

7. Expand and strengthen green finance –China has already gone to great lengths to prioritize this, including actions by the People’s Bank of China (PBOC).
8. Institute green tax and pricing-related policies –China could benefit from injecting more public finance to support new technologies to incentivize private sector investment.
9. Build a comprehensive carbon market in China.

Mr. Xie closed with remarks about EU-China cooperation. The EU is a leader and “stabilizer” in low carbon development and, with China’s fulsome cooperation, both can accelerate their green recoveries and commitments to zero emissions.

### **H.E. Nicolas Chapuis, EU Ambassador to China**

Mr. Chapuis began his remarks with the European Union’s pledge that they will reduce carbon emissions by 55 percent in 10 years and be carbon neutral by 2050. He also noted that the EU and China are more or less aligned on their climate objectives, but there is a need to do more to develop a more specific roadmap and strategy. For its part, the EU has the Green Deal to outline its GHG reduction strategy, and indeed the countries of the EU have already reduced their carbon emissions by 23 percent from 1990 levels while the bloc’s economy grew by 61 percent in the same period –proving that economic growth does not have to be slowed or sacrificed for lower carbon emissions.

Mr. Chapuis stressed the need for the EU and China to work together to convince other countries around the world to make similar commitments and provide assistance where needed to developing countries who seek to green their economies

### **Svenja Schulze, German Federal Minister for the Environment, Nature Conservation, and Nuclear Safety (BMU)**

Ms. Schulze delivered a taped video message for her opening remarks. She also discussed the potential for a green recovery to the economic downturns caused by the COVID-19 pandemic. She argued that It is of imperative importance that the global response to the pandemic not be damaging to the environment nor hinder efforts to combat climate change. There is some concern that some countries’ stimulus packages are investing in carbon-intensive infrastructure projects as a way to address the economic growth gap left in the wake of the pandemic.

Even so, there is cause for optimism. With China’s recent pledge to be carbon neutral by 2060 and the EU’s Green Deal, China and the European Union are well-positioned to lead the way in terms of the pandemic recovery being green.



### Session 1: EU Recovery Plan – Status and Vision

#### Key Takeaways:

- This session was a deep-dive into the EU's Green Recovery and Green Deal –a complementary and concurrent effort to address the economic issues that have surfaced due to the COVID-19 pandemic and the commitments to combat global climate change.
- The EU is committed to a further greening of Member States' economies in part through the various stimulus measures EU Members are taking.
- The key is to integrate short-term recovery programs with long-term climate action.

#### **Yvon Slingenberg, Director for International and Mainstreaming and Policy Coordination, Directorate General for Climate Action of the European Commission**

Ms. Slingenberg's presentation was centered around the EU's Green Deal and how it could serve as a "compass towards green recovery" from the economic effects of the COVID-19 pandemic. She went through a rather detailed evolution of the Green Deal, which has only substantively emerged since December 2019, and how it aggressively improves upon previous EU emissions reduction targets. For example, initially the EU agreed to a 40 percent emissions reduction target by 2030 and, with the advent of the Green Deal, has now embraced a 55 percent reduction.

This ambitious plan is holistic in scope and provides considerable financing (EUR 500 billion) to support the transition but is also significant in its policy to "leave no one behind" and commit to a "just transition." In this way, the EU is very much taking the lead on combatting climate change among developed countries, but it also stresses the need and plan to share its experiences and methods with the rest of the world. Furthermore, after China's announcement to commit to carbon neutrality by 2060, the EU and China are on the same page conceptually. Therefore, now is the time to shore up relationships and increase dialogue to more specifically flesh out international cooperation and leverage each other's strengths.

#### **Géraldine Mahieu, Acting Director for Investment, Growth and Structural Reforms, Directorate General for Economic and Financial Affairs of the European Commission**

Ms. Mahieu's presentation also focused on the EU's recovery efforts but more specifically from the financial side. The economic impact of the pandemic is still not fully known and will differ across EU Member States, regions, and sectors. Some of the newer EU Member States have less capacity to recover than other Members and are more vulnerable to external shocks. There is concern that this crisis could have long-lasting impacts on the single market in terms of a "less level playing field."

As such, there is great need for EU financing instruments to be well-targeted and complement various national and private funding and recovery efforts. Ms. Mahieu estimated that a minimum of EUR 1.5 trillion in public and private financing would be needed to close the gap caused by the economic fallout from the pandemic. The EU has prepared a rescue package of EUR 750 billion (roughly half in grants and half in loans) to strengthen other recovery efforts. With this emergency funding, GDP growth of the EU area should reach 2.4 percent by 2024 and create an additional 2 million jobs. The debt loads –in terms of debt to GDP ratio –will decrease among the EU states that have a below average GDP and only marginally rise among the wealthier members, making the rescue package a worthy investment.

The funding needs to be targeted and dispersed through a Recovery and Resilience Facility which would “provide large scale financial support to both public investments and reforms to accelerate the recovery and to make Member States’ economies more resilient and better prepared for the future.” In other words, it is designed to coordinate funding that is consistent with the needs of each country with a commitment to better absorbing future economic shocks.

### **Session 2: China’s Recovery and Stimulus Plan – Status and Vision**

#### **Key Takeaways:**

- Like the EU, China is seeking to bring the pandemic recovery process in line with long-term climate commitments.
- Robust fiscal policies are needed to stimulate and incentivize green recovery and long-term green economic growth.
- The EU and China stand to benefit immensely from cooperative activities such as technology-sharing, capacity building, and information exchanges/

#### **Wang Xiaoyang, Director General, Department of Energy Conservation and Utilization Ministry of Industry and Information Technology of PRC (MIIT)**

The first session of the seminar addressed the EU’s recovery efforts to the pandemic and how to best ensure such actions were in line with the EU countries’ goals of addressing climate changes. So it was with the second session of the first day, but instead centered around what China is doing and plans to do in this context. Yet, Wang Xiaoyang focused more on areas of cooperation between the EU and China, primarily in three key areas:

1. Research & Development –Now that the EU and China are more closely aligned than ever on issues surrounding addressing climate change, it would behoove both entities to

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enter in a more intensive R&D cooperative structure that could create a virtuous circle facilitating both group's efforts in climate action

2. Supply chain and value chains –Greening supply and value chains will be essential to tackling climate change; both the EU and China could greatly benefit from each other's experiences in this space and could help avoid any missteps and redundancies.
3. Capacity building –Sharing experiences and applying lessons learned, while still taking into account the uniqueness of all countries' situations will strengthen the efficacy of climate action not just in the EU and China but around the world.

### **FU Zhihua, Vice President, China Fiscal Research Institute, Ministry of Finance of PRC (MoF)**

Mr. Fu's presentation addressed China's fiscal and tax policies with regard to a green recovery. In recent years, green development expenditures have been drastically increasing, both directly and indirectly, in the areas of pollution control, rural environment management, and ecological protection and restoration. With the advent of the pandemic, China is taking more proactive fiscal measures to shore up these areas, which could include the issuance of pandemic-related bonds, or "special bonds."

Ultimately the immediate fiscal policies to deal with the pandemic need to be married to the long-term ones designed to confront climate change. This will require a comprehensive integration of short-term emergency fiscal policies with the more forward-looking economic planning process China is engaged in.

### **Session 3: Exchange of Practical Experience**

#### **Key Takeaways:**

- Local challenges, responses, and initiatives are essential to understanding effective climate action
- Although one size does not fit all, and space must be made for uniquely tailored climate responses, it is imperative to learn from the experiences of others not only for the purposes of replicating successful policies and initiatives but also to avoid repeating missteps of the past.

### **H.E. Tomas Anker CHRISTENSEN, Climate Ambassador of Denmark**

The 1973 oil crisis affected Denmark more than most developed countries, and the Kingdom has been exploring way to wean itself off petroleum ever since, making it a "first mover" and world leader in green energy, particularly in the field of offshore wind energy generation and

utilization. As a result, in the first half of 2020, a full 64 percent of electricity production in Denmark came from wind and solar energy sources. The country has managed to achieve this and still keep utility bills lower than the EU average. Moreover, Denmark has not only been a world leader in renewable energy use, it has also been a major renewable energy technology exporter, making up 12.5 percent of all exports.

Denmark plans to reduce GHG emissions by 70 percent by 2030 and achieve carbon neutrality by 2050, in line with overall EU goals. As of 2018, Denmark had reduced its emissions by 29 percent from 1990 levels. Like other countries who have embraced green growth, Denmark's driving economic principle is to decouple GHG emissions from economic growth.

### **Dr Karsten Sach, Director General, German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU)**

Germany's response to the pandemic has put a premium on ensuring it is climate-friendly. The country's stimulus programs focus on initiatives that are consistent with the global climate change mitigation agenda. For example, the government has carved out assistance to Germany's automotive industry, an essential component to the country's economy, but has ruled out any support for conventional internal combustion engine cars that are powered by fossil fuels. Furthermore, Germany has also committed to decarbonize its building sector, and all stimulus funding in this sector will contribute to this end. Essentially, the German government is incorporating the "do no harm" principle when it comes to the pandemic recovery. That is to say no stimulus funds will go toward regressive initiatives that could potentially damage the country's overall commitment to a carbon-free future.

Germany also is enthusiastic to cooperate with other countries such as China to facilitate the "build back better" ethos that is driving its recovery and pandemic response. With the recent announcement by Chinese President Xi that China will be carbon neutral by 2060, Germany sees potential for the two countries, along with other EU Member States, to lead the world in the fight against climate change.

### **Wen Rujun, Deputy Director General, Ecology and Environment Bureau of Chongqing**

Mr. Wen spoke specifically to the issues that affect Chongqing, a centrally located metropolitan area with a population of 30 million people. This massive urban area, traditionally a heavy manufacturing center, is making strides toward greening its industry sector by piloting green industry parks –including setting up "green factories" for 22 different manufacturing companies. Additionally, Chongqing is piloting green neighborhoods and eco-parks, as well as testing emissions trading schemes with the aim of drastically reducing the region's carbon intensity.

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Mr. Wen expressed a desire to work with EU municipalities for information exchanges and capacity building exercise, particularly with the hope of constructing, through shared experiences, ETS regimes.

**Liu Shijin, Vice Chairman of Economic Committee of China People's Political Consultation Conference, Vice President of China Development Research Foundation and Chief Chinese Advisor of China Council for International Cooperation on Environment and Development (CCICED)**

Dr. Liu, an economist by training, emphasized in no uncertain terms that addressing environmental and pollution concerns in China no longer involves "negating economic growth." Technological innovation and advances in what may be termed as green growth means that traditional economic growth models and assumptions are outdated. Even so, despite China's impressive move towards addressing climate change in recent years, so-called "bad projects" continue to get approved in the economic planning process. China must address quickly phase out these legacy projects that are not environmentally friendly.

Still, progress is being made. And there are opportunities for China and the EU to complement each other. While it must be acknowledged that the economic zones that comprise China and the European Union face very different challenges, it is also important to identify commonalities and areas in which they can learn from each other's experiences.

### **Session 4: Academics View on the Potential Benefit of Recovery Plans**

#### **Key Takeaways:**

- Both the EU and China face unique challenges in the wake of the COVID-19 pandemic but both are positioned, through close cooperation, to reshape the global recovery process as a green one that is consistent with both economic areas' overall climate goals
- International institutions can be reformed through EU and Chinese leadership to steer future responses to economic events towards green recovery and planning
- High-level cooperation and commitment will be required

**Dr. Wang Yi, Professor, Member of the 13<sup>th</sup> National People's Congress (NPC), Vice President of the Institutes of Science and Development, Chinese Academies of Science (CASISD)**

Dr. Wang, who moderated the other sessions, began his discussion with the multiple challenges China faces in addition to the pandemic, including natural disasters, increasingly intense trade disputes with the United States, the fallout from the United Kingdom leaving the EU, China's

healthcare system in transition, and tax policy, among other things. These issues will no doubt help inform the formulation of China's 14<sup>th</sup> Five-Year Plan.

In this context comes the green recovery China is facing in the wake of COVID. This might be less of a challenge than it initially seems, not least because China has been prioritizing green economic growth since at least 2013 and the recovery, if done right, can be a continuation of policies already in place, so long as the coal element is properly addressed.

To specifically address the pandemic and stimulate the economy, China is injecting over RMB 5 trillion into the economy through special bonds and monetary policy adjustments. This includes spending on local government initiatives and attempts to address fiscal regional imbalances.

In terms of China-EU cooperation, Dr. Wang presented a number of recommendations:

- Incorporate green recovery initiatives into overall economic recovery plans
- For China specifically the country needs to combine short, medium, and long-term priorities into the 14<sup>th</sup> Five-Year plan
- Realistic yet ambitious targets should be set in the planning process, including a carbon cap and more ambitious Nationally Determined Contributions (NDCs) to the Paris Climate Agreement
- High-level dialogue between the EU and China on climate should be strengthened immediately
- More investment in technological innovation to reduce long-term costs
- Third party markets, specifically in Africa and Southeast Asia, should be targeted to usher along other developing countries in the climate change framework

### **Nick Mabey, Chief Executive, E3G**

Mr. Mabey noted that the EU and Chinese stimulus plans are roughly the same amount financially when it is all done and said and such financing is adequate but needs to be more smartly targeted to green economic projects. For the EU in particular more governance is needed to ensure the funds are spent wisely. In this sense, there are tools that can be used, such as the European Investment Bank repositioning itself as a Climate Banks.

For the prospect of EU-China climate cooperation, there are 5 strategic implications:

1. Managing a level playing field through the recovery –During the 2010 financial crisis, recovery efforts led to unnecessary trade tensions. This time it is essential that

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international cooperation fill a void that ensures stimulative measures do not impede climate action.

2. Strengthening and reforming multilateral institutions –The pandemic has exposed flaws in global institutions but also highlighted the need for reform and rethinking how they work.
3. Maintaining open global markets –The pandemic has also shown the importance of securing supply chains. It is important that protecting national supply chains does not lead to protective measures that could undermine the cooperative efforts in combating climate change.
4. Developing clean economy standards –An opportunity has presented itself for the EU and China to cooperate and collaborate on developing new international standards in the green economy space.
5. Relations with other countries –The EU and China, being leaders in climate action, could fund synergies and cooperation on investment priorities in third countries in key sectors like energy, transportation, agriculture and forestry.

**Day 2 – Online moderation by Norbert Gorissen, Deputy Director General, German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU)**

**Onsite Facilitation by: Sebastien Paquot, Counsellor for Climate Action and Environment, EU Delegation to China**

### **Opening Remarks**

**LI Gao, Director General, Department of Climate Change of Ministry of Ecology and Environment (MEE)**

Mr. Li took the opportunity to speak about China's upcoming 14<sup>th</sup> Five -Year economic plan and how to integrate it into the country's overall response to climate change, including its commitments to the Paris Climate Agreement and the recent announcement by President Xi to achieve carbon neutrality by 2060. The Plan should include specific, binding carbon emission targets over the five-year period in line with China's NDCs and ensure "implementation comes with strong measures to establish an effective surveillance and assessment mechanism."

The Plan should be holistic in nature (i.e. cover all sectors) and integrate the components that promote economic and social development with climate change efforts and ideally achieve "policy synergy in industry, energy, finance, investment, pricing, and technology," as well as mobilize citizens and consumers to change their behavior and embrace a green lifestyle. Part and parcel to the formulation of the plan should be the construction of a national carbon emissions trading system, which should include online trading infrastructure within the power generation industry.

Mr. Li also noted that China should and will continue to carry out in-depth international cooperation to address climate change, including a commitment to multilateralism, adherence to the principles of common but differentiated global responsibilities, and "continue to contribute Chinese wisdom to Chinese solutions" within the international climate governance system. Within this structure, China should strengthen South-South cooperation in the climate change arena.

**Artur Runge-Metzger, Director for Climate Strategy, Governance and Emissions from non-trading sectors, Directorate General for Climate Action of the European Commission**

Mr. Runge-Metzger's presentation in many ways mirrored Mr. Li's in that he stressed how Europe's Green Deal is holistic in nature and involves all sectors of the economy and society. Europe is ahead of the curve in terms of its previous emissions reductions commitments and has indeed increased reduction commitments to a decrease of 55 percent in emissions from 1990 levels by 2030 instead of an initial commitment to reducing emissions by 40 percent. This will still require concerted effort. As of 2020, Europe has cut emissions by a bit over 20 percent



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from 1990 levels, meaning in the next ten years emissions reductions will have to double from where they are today.

As has been discussed by many of the seminar's participants, the overall goal is to achieve net zero emissions by 2050. The reason a holistic approach is so essential is because some sectors will still be producing carbon emissions in 2050 and therefore other sectors will have to balance that by removing emissions. This means the forestry sector will be more important than ever in the coming years.

As Europe moves towards achieving the ambitious net zero goal, there must be a premium placed on a "just transition." Europe is not a monolith. Different regions face different challenges, so in areas that are heavily reliant on fossil fuel production today will need to be transitioned with education, training, and other efforts to ameliorate any impacts. Still, even in the time that Europe has been seriously tackling carbon emissions, its GDP has grown by 60 percent while emissions have plummeted. Mr. Runge-Metzger stated that Europe has "successfully decoupled economic growth from emissions."

Mr. Runge-Metzger ended with the important note that Europe only makes up 8 percent of total global carbon emissions, so its remarkable progress and goals will not be enough to bring the world in line with the commitments set out in the Paris Climate Agreement. However, Europe's role, as he sees it, is to show the rest of the world that drastic carbon reductions can be made without sacrificing economic growth. Therefore, more than ever, it is important for Europe to double-down on international cooperation and multilateralism.

### **Session 1: Accelerating the Transition Towards Clean Mobility**

#### **Key Takeaways:**

- Transportation is one of the most carbon emissions-intensive in the world, and even with strong commitments to reforming the sector it will likely be a net positive contributor to emissions for the foreseeable future.
- In order to offset the emission from the transportation sector or economic sectors will have to pick up the slack and negate emissions from transport.
- Both Europe and China are investing heavily in reforming their transport sectors and are investing in R&D to develop and implement new technologies such as hydrogen to green transportation systems

### **Artur Runge-Metzger, Director for Climate Strategy, Governance and Emissions from non-trading sectors, Directorate General for Climate Action of the European Commission**

Mr. Runge-Metzger opened Session I on the heels of his opening remarks and discussed the importance of the transport sector in Europe, in no small part due to it is one of the sectors that has not seen a decline in emissions and is still heavily reliant on fossil fuels. Indeed, petroleum products will continue to make up the lion's share of the energy mix in the European transport sector until at least 2030. To address this, the EU is currently developing a Sustainable and Smart Mobility Strategy to eventually reduce emissions in the sector by 90 percent before 2050.

Road transport is of particular importance, because individual car use continues to grow and a large share of shipping is still done through trucks. The plan is for this next decade to be of crucial importance because the EU will aim to reduce emissions from road transport by 50 percent beginning now to 2030. To achieve this, major road infrastructure overhauls will have to be implemented to encourage and accommodate zero emission cars, trucks, and buses.

All of this will require heavy investment in green technology, and the EU has high hopes for hydrogen, particularly in aviation and maritime shipping. In order to accelerate the development and widespread use of green technologies, the finance sector will need to be mobilized to support the transport sector.

As part of the recovery response to the global pandemic, Europe has prioritized 7 "lighthouse projects," 3 of which are transport-related. They are:

1. Power up – frontload future-proof clean technologies and accelerate developing and using renewables.
2. Recharge and Refuel – accelerate using sustainable, accessible and smart transport, charging and refueling stations and expand public transport.
3. Connect – rolling out rapid broadband services to all regions and households, including fiber and 5G networks.

### **François Lemal, Deputy Counsellor for Sustainable Development, Energy and Transport at Embassy of France**

Mr. Lemal spoke about France's transport sector. COVID-19 has had a particularly adverse affect on the aviation and airline industry ---around the world --but especially in France. Both Air France and Airbus have required government assistance to weather the pandemic as passenger loads have dramatically reduced as have aircraft orders from airlines across the globe, and since Airbus is a particularly large provider of aircraft, the company has been hit hard. The assistance to the aviation sector has come with stipulations that the industry take larger steps in greening

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air travel. This has meant, among other things, that research on hydrogen-powered air travel has been shored up.

France has also taken measures to expand the railway network to makeup for the shortfall in air travel. This has a knock-on effect of affecting the aviation industry but also produces less in carbon emissions.

### **Su Jie, Deputy Director General, Department of Comprehensive Planning, Ministry of Transport (MOT)**

Su Jie addressed the transport situation in China and its recent evolution to not only becoming among the top performers in the world in terms of its scale, but also the tough measure it has taken towards greening the sector. Over the last couple decades, the investment in Chinese transportation has been staggering with respect to the construction of new rail lines, high ways, inland waterways, airports, and urban transit networks. China is now in the process of prioritizing green transport and has done so or is planning to do so in the following four areas:

1. Structural changes to accommodate and encourage clean energy –A series of 3-year action plans have been designed to transfer transport from the road to rail and waterway, and existing road transport is being greened (e.g. in 2019 59 percent of all public buses were electric).
2. Pollution control –China is committed to eliminating diesel-powered trucks and establishing “vessel and port pollution control areas.
3. Building green transport infrastructure –China acknowledges that new road and other transportation-related infrastructure construction cannot compromise the country’s commitment to reducing carbon emissions.
4. Tighter fuel regulations

## **Session 2: Transition Towards Renewable Energy and Increased Energy Efficiency**

### **Key Takeaways:**

- Both China and Europe are designing and implementing comprehensive and workable renewable energy strategies consistent with achieving carbon neutrality by mid-century
- Given the diversity of geography both between and within the EU and China, country, region, and local strategies are inevitably going to differ to a great extent and are going to be tailor-made to fit what is best in each area. However, there is a lot of space for cooperation and knowledge-sharing regarding how to optimize energy mixes.

- Europe and China should closely cooperate in the field of R&D and technological innovation.

### **Tudor Constantinescu, Principal Advisor, Directorate General for Energy of the European Commission**

The COVID-19 pandemic has caused a decline in global energy investments –17 percent in Europe –especially in private sector investment. Yet now is the time to move faster in renewable energy investment, in part because the more capital investments that occur now will mean less expenditure in the sector later. In that sense, the pandemic presents an opportunity to bend this energy investment curve given the large government stimulus packages allocated to fight the pandemic. Just as urgent is to force further integration of the energy sector into climate strategies. As of now, the sector is very much linear in nature and wasteful flows of energy move in one direction only. It will be key to reform this model and change it to being circular, where energy flows between users and producers, reducing wasted resources and money.

To realize these broad-based reforms in the energy sector, a comprehensive hydrogen strategy is needed and is indeed currently being constructed. This will be implemented in three stages that eventually –from 2030 –results in renewable hydrogen energy being deployed on a large scale across all sectors. Of course, hydrogen is not a panacea. Other renewables will continue to play essential roles in the energy mix, and other initiatives, which are already well underway, will increase the energy efficiency of various sectors, but especially the building sector.

The EU and China are global leaders in the clean energy transition and thus further cooperation and knowledge transfer is essential. Specific areas to work together with jointly are: sustainable finance promotion; transparent, rules-based public tenders and reciprocal market access; and multilateral cooperation promotion.

### **Razvan Nicolesu, Energy expert, former Minister of Energy of Romania and Chairman of the Board of the European Agency for the Cooperation of Energy Regulators**

Mr. Nicolesu provided a unique point of view in the seminar being an energy expert in a relatively new EU Member State. Romania was the first country in the world with an oil industry and as such as long historical ties to petroleum and gas. Even so, the country has already increased the share of renewable energy to 24 percent of its energy mix and will reach 30 percent by 2025.

China's large economy has an impact on the daily lives of EU residents, therefore strengthening cooperation on renewable energy is not only essential but also inevitable, especially for Eastern European states. EU-China cooperation is already underway, but one area they could place more effort in is bringing developing countries onboard with knowledge-sharing, capacity building, and financial assistance.

### **Lorena Prado, Technical Adviser to Spanish Office of Climate Change**

Ms. Prado discussed the Spanish energy experience in the context of climate change. Spain's energy mix includes 37.5 percent of renewables and coal, fuel and gas only make up 4.9 percent. Spain's energy policy is in line with the rest of the EU and will achieve carbon neutrality by 2050. At the moment they have three essential key policy tools to help achieve this.

1. A long term decarbonization strategy –This is the overarching main strategy that will get Spain to net zero emissions by 2050
2. Climate Change and Energy Transition bills –This is legislation guides Spain's specific targets regarding its energy mix for both 2030 and 2050 (For example, by 2030 Spain will have 70 percent of electricity consumption come from renewables).
3. National Energy and Climate plan –This strategy outlines more specifics on how to get to 100 percent renewable energy use by midcentury and what percentage of energy use will come from which source (For example by 2050, 50 percent will come from wind, 40 percent from PV, 17 percent from hydropower).

### **Ren Yuzhi – Department for New Energy and Renewable Energy, National Energy Administration (NEA)**

Ren Yuzhi of the National Energy Administration spoke to China's energy situation and prospects, specifically in the context of the upcoming 14<sup>th</sup> Five-Year Plan. In order to fully integrate renewable energy into China's energy mix and hit its ambitious carbon reduction targets, there are five key elements that must be addressed:

1. Further implement and develop hydro-power, a strong energy source given China's geography.
2. Integrate and leverage hydro, solar, wind (both on and off shore) among regions, as some areas of China are more suited to different types of renewables.
3. Diversify solar energy, given its potential more effort needs to be put into ensure there is a healthy mix between both land and roof-based PVs.
4. Further develop bioenergy, particularly in central China where biomass can play a bigger role.
5. Also further develop geothermal energy where appropriate and feasible

Now that China has reached a consensus with the EU about renewable energy, it is of paramount importance that both entities integrate and complement energy strategies, not only to hit carbon reduction targets but also to set an example and forge a pathway forward for the rest of the world.

### Session 3: COP 15 and Biodiversity Conservation

#### Key Takeaways:

- Sometimes in the broader discussions around climate and emissions reductions, biodiversity is not given the importance it deserves, however with the Biological Diversity COP 15 in 2021, held in China, there is singular opportunity to further integrate biodiversity and nature-based solutions into the overall framework to combat climate change and indeed place it at the forefront of those efforts.
- Both the EU and China are developing and implementing strategies along these lines and stand to learn from each other's experiences.

#### **Humberto Delgado Rosa, Director for Natural Capital, Directorate General for Environment of the European Commission**

Throughout history natural capital has been the bedrock of economies and societies and thus nature loss damages health and well-being. Thankfully the EU Green Deal comprehensively addresses biodiversity and there is a separate EU Biodiversity Strategy 2030 underway with a guiding principle that investing in nature is investing in jobs.

Delgado Rosa also argued that more needs to be done in countries' pandemic recovery plans to address biodiversity issues and to increase the effectiveness of financing in landscapes to maximize synergies between climate and biodiversity financing.

With the Convention on Biological Diversity COP 15 looming on the horizon, and to be held in Kunming, China, Mr. Delgado Rosa argued that the Conference presents an opportunity to "bring nature back from the brink" of devastating loss. At the UN in October of 2020, a summit will be held to help build momentum for aggressive actions to be agreed to at COP 15. To that end, 2050 biodiversity goals need to take into account strong monitoring, transparency, and need to be as specific as possible with clearly defined milestones.

#### **LIU Ning, Deputy Director General for Biological Conservation Department, Ministry of Ecology and Environment**

China has a long history of biological conservation and has in recent years set up what they have deemed as the "ecological society," a framework committed to more investment in conservation and more cooperation globally to preserve nature.

As China will be hosting the Convention on Biological Diversity COP 15, this is a chance for the country to take the lead in biodiversity and could do so by increasing commitments to reversing natural landscape loss, improving land-use, and investing more in ways to further align humans and nature.

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China specifically needs more policy improvements and support for biodiversity, ensure stricter economic development that preserves more natural landscapes, increases the amount of protected areas, and restores key waterways (e.g. the Yangtze River system).

China stands to benefit significantly with more cooperation with the Europe, particularly from the EU's 2030 biodiversity strategy and its farm-to-table initiatives. Additionally, countries need to do more to incorporate biodiversity into their COVID-19 recovery plans, especially in terms of supporting nature-based solutions.

### **Session 4: Transition Toward Clean Industry and Circular Economy**

#### **Key Takeaways:**

- Europe and China are global leaders in building circular economies. Each group are forging their own paths in these endeavors but have arrived at similar strategies and goals and would benefit from more formal exchanges, particularly in technology and policies.
- Plastics remain a big challenge for both the EU and China and more concrete action needs to be taken by everyone to address this very significant sticking point.

#### **Astrid Schomaker, Director for Global Sustainable Development, Directorate General for Environment of the European Commission**

Ms. Schomaker opened the session on circular economy by discussing some of the obstacles or “bottlenecks” that are currently hindering the realization of a truly circular economy, primary among them are mindsets and money. In terms of mindsets, it has long been a challenge to motivate citizens to fully embrace the elements required to build a circular economy, however the pandemic has proven that minds and, perhaps more importantly, habits can be changed. People made enormous lifestyle changes in the face of COVID-19. It is not unreasonable to believe they could make less severe lifestyle changes in the face of climate change, which is ultimately a much more dire threat. With regard to money, there is ample capital to fund the transition to a circular economy. It just needs to be steered wisely and prudently. If we as a society are going to borrow money from future generations, we need to ensure that we are not doing so at the cost of their natural environment.

Ms. Schomaker also discussed at some length the EU Circular Economy Action Plan. Among its many priorities, some of the key elements are mainstreaming sustainable products and restricting single-use ones, ban unsold durable goods, and instituting universal green procurement.

The EU can work with China to set up a global agreement on plastics and sign a formal Memorandum of Understanding that prioritizes circular economy.

### **Nannan Lundin, Counsellor Science & Innovation and Head of Section at Embassy of Sweden**

Ms. Lundin spoke more specifically to the situation in Sweden regarding the building of a circular economy. The country's vision is to build "a society where resources are used efficiently in non-toxic and circular material flows and replace virgin materials" and the goals are to catalyze "a transformation towards a circular economy will contribute to achieving Sweden's environmental and climate policy objectives as well as the SDGs of the Agenda 2030." They are doing this through four primary focus areas:

1. Sustainable production and product design –This requires the prioritization and development of more resource- and energy-efficient production processes.
2. Sustainable consumption and utilization of material, products, and services –Among other things this necessitates the creation of conditions for a greater supply and demand for reuse, repair and sharing services.
3. Non-toxic and circular material cycles –A premium shall be put on product reuse rather than material recycling and other waste management.
4. Circular economy as a driving force for promoting innovation and circular business models –In this policy space it is essential to design policy instruments that contribute to profitable circular business models and policies that contribute to increased supply and demand for circular products, services, recycling and recycled materials.

In this way it is very much in line with the overall EU strategy for a circular economy. In the context of Sweden, however, there is a particular focus on the chemical and waste sectors.

Wen Hua, Deputy Director General, Department of Environment Protection and Resources Conservation, National Development and Reform Commission

China has been striving toward building a circular economy for two decades. In order for China to fully realize this vision, the country has:

- Built a comprehensive legal system for the circular economy on both the national and local levels –China was one of the first countries in the world to do this.
- Implemented a series of action plans, beginning in 2005, with specific targets, tasks, and policies.
- Set up pilot projects that have been expanded in scale and scope –particularly industrial parks and waste management projects



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- Developed tax policies and pricing mechanisms to promote the circular economy – including tiered water and power pricing to incentivize conservation

The results have been positive, especially in the fields of recycling and carbon emissions reduction (1 billion tonnes). One challenge is that China needs to do more to address plastics.

China and the EU stand to learn much from cooperation on the concept of the circular economy. In this way, the two entities should: 1) pursue further policy dialogue; 2) cultivate more green economy policy exchange (with the aim to eventually get more countries involved; and 3) increase technological cooperation and expert exchanges.

### **Session 4: Transition Toward a More Sustainable Financial System: Green Finance and Taxonomies**

**Marcel Haag, Director for Horizontal policies, Directorate-General for Financial Stability, Directorate General for Financial Services and Capital Markets Union of the European Commission**

The EU recently unveiled its comprehensive landmark Green Taxonomy, which serves as the centerpiece of the EU's framework for sustainable finance. It clearly delineates the criteria of what people have to meet to do business in the European Union. As of now it is still a set of guidelines, meaning it is not yet mandatory. But the underlying principle is that businesses and investors must contribute to at least one key area of climate change mitigation without doing any harm to the other areas.

The taxonomy is what may be termed as a living document, meaning it is evolving and will continue to incorporate further criteria. For example, in the near future there will be guidelines on green mortgages.

China and the EU make up 50 percent of global GDP. Through strong partnerships and sharing best practices. But green finance will be the glue to this partnership and the future of the world.

### Conclusion

**Dr WANG Yi, Professor, Member of the 13th National People's Congress (NPC), Vice President of the Institutes of Science and Development, Chinese Academy of Sciences (CASISD)**

Dr. Wang shared some thoughts on the seminar's two days of exchanges, emphasizing that the event went beyond his expectations. Now that President Xi Jinping has committed China to carbon neutrality by 2060, the path forward for EU-China cooperation presents many opportunities and will be essential for combating global climate change.

Nevertheless, there is still somewhat of a dearth of formal cooperative areas between the two entities, given the scope and scale of the challenges, so now is the moment to set some of these things in concrete. At a minimum, there must be a mechanism in which best practices across all the elements of climate change responses discussed in the seminar can be constantly shared. This must be formally categorized and defined. Together, the EU and China can not only set an example for the rest of the world but also help bring other countries into the fold. At some point, it will be necessary to bring the United States, given the size of its economy and its carbon emissions, into a collaborative framework. For now, there are so many areas that are ripe for cooperation that seminars like this serve as important catalysts for solidifying exchange and integration between the EU and China.

**Norbert GORISSEN, Deputy Director General, German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU)**

Through the EU Green Deal and China's recent commitment to hit carbon neutrality by 2060, it is clear that they are among the most committed, if not *the* most committed, two economic blocs in the world when it comes to tackling climate change. There is a litany of areas in which cooperation can be more formally fleshed out, particularly in the fields of green technology and policy exchange. Ultimately, it will be of paramount importance to mobilize citizens in this cooperation to bring about behavioral changes to shift the paradigm towards a carbon-free green new world.