

# Climate policy of the new German Government

## Do provisions meet its ambitions?

### • Introduction

Climate change mitigation was at the core of the German electoral campaign in the summer of 2021 and one of the decisive election topics for German citizens<sup>1</sup>. After the elections, Social-Democrats (SPD), the Green Party (Bündnis90/DieGrünen) and the Liberals (FDP) started negotiating a coalition to build a government. On the 24<sup>th</sup> of November, the parties presented their coalition agreement with the title “Dare More Progress”<sup>2</sup>. The so-called treaty is a declaration of intent, not a contract in the legal sense of the term<sup>3</sup>. It contains on 177 pages the program of the government for its period of four years in office.

The new government coalition took office in December 2021. Just one month later, on January 11<sup>th</sup> 2022, Robert Habeck, new German Minister of Economic Affairs and Climate Change Mitigation, presented his initial assessment of the status quo in climate change mitigation saying: “**We need to triple the yearly emission reductions**”<sup>4</sup>. He further announced a climate emergency program with legislative packages for the spring and summer of 2022 that should provide a basis to reach this tripling of climate efforts. Additionally, the new government is fully committed to support the reform of the EU legislation to meet its objective of reaching climate neutrality by 2050.

- 1 See the survey in this [article](#) or another survey after the election in this [article](#).
- 2 The title is a reference to chancellor Willy Brandt, who led the first coalition of SPD and FDP 1969-1974. He ended his first speech as a chancellor saying “Let’s dare more democracy”. The treaty can be found [here](#).
- 3 In contrast to this non-binding nature and a respectively rather low public trust in the promises of those documents, two studies ([here](#) and [here](#)) of Bertelsmann foundation found for the last two German governments that about 80 % of the proposed measures were adopted within their term.
- 4 The current climate law obliges the government to reach a 65 % reduction in greenhouse gas (GHG) emissions by 2030 compared to 1990 and climate neutrality in 2045. The EU agreed to reduce GHG emissions by 55 % by 2030 and to reach climate neutrality in 2050.

ENERGY & CLIMATE

POLICY BRIEF  
FEBRUARY 2022

#germany  
#climatechange  
#elections  
#eugreendeal

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*The authors would like to thank  
Camille Defard,  
Andreas Eisl, Sébastien  
Maillard, Eulalia Rubio,  
and Karin Thalbeg  
(IJD Paris), Sebastian  
Mack and Nils Redeker  
(JDC Berlin) for their  
valuable comments on  
this text.*

For twenty years, Germany has been implementing its “energy turnaround” (Energiewende)<sup>5</sup>. The new coalition is determined to launch what looks like a revolution of the energy system and economy in order to reach climate neutrality by 2045, five years ahead of France or the European Union. This policy brief examines **the coalition treaty and first governmental announcements for**

**each sector<sup>6</sup> (electricity, industry, mobility, buildings), and gives an overview of cross-cutting policies (innovation, governance, carbon pricing).** It concludes with concrete recommendations on how EU climate policy can reinforce the strengths and compensate for the flaws in the plans of the new German government.

**TABLE 1:** Comparison of targets from previous German governments and the new one with the current situation of German electricity generation capacities and demand

	Situation in 2020	Old targets to be reached by 2030	New targets to be reached by 2030
<b>Photovoltaic</b>	54 GW	100 GW	200 GW
<b>Wind onshore</b>	55 GW	71 GW	Indirectly defined to reach targets 91-120 GW required
<b>Wind offshore</b>	7.8 GW	20 GW	30 GW
<b>Coal/lignite</b>	37.3 GW	phase-out in 2038	phase-out ideally in 2030
<b>Nuclear</b>	8.5 GW	phase-out in 2022	phase-out in 2022
<b>Gas</b>	26.1 GW	no defined phase-out target	no defined phase-out target
<b>Gross electricity demand</b>	558 TWh in 2020	655 TWh	680-750 TWh

▲ Source: Leon Leuser, Jacques Delors Institute, based on German Environmental Agency<sup>8</sup>; Climate Change Mitigation Programme 2030<sup>9</sup>; Coalition treaty of SPD, Bündnis90/Die Grünen, FDP

## I. Overview of targets and measures by sectors

### I A REVOLUTION FOR THE ELECTRICITY SYSTEM

Germany has been at the forefront in the deployment of new renewable energy capacities since the 2000s<sup>10</sup>. After a strong slowdown in the last decade<sup>11</sup> the new government wants to speed up the transition to a

5 Delair M. & Pellerin-Carlin T. 2021. “The German Energy Transition. A Review of 20 Years of Political Decisions”, *Policy paper*, Jacques Delors Institut, September 2021.

6 Ordered by the relevance of the sectors’ emissions. Cf. Annex 1.

7 These targets are consistent with scenarios results of six overall system models and sector models, as shown by Kopernikus-Project Ariadne, 2021. *Ariadne-Report - Deutschland auf dem Weg zur Klimaneutralität 2045 - Szenarien und Pfade im Modellvergleich*. • Leading German energy scientists within the group “Scientists4 Future” demanded even a PV capacity of 350 GW in 2030 (Gerhards et al. (2021): *Diskussionsbeiträge der Scientists for Future 7*).

8 See here for [energy demand](#) and here for [installed capacities](#).

9 See [here](#).

10 Support for renewable energies in Germany dates back to the early 1990s with the energy feed-in act in December 1990. The aim of the renewable energy sources act from 2000 is to “enable the sustainable development of energy supply, reduce the economic cost of energy supply by including long-term external effects, and conserve fossil energy resources” (§1 para. 1 EEG, Erneuerbare Energien Gesetz engl. Renewable energy law). Renewable energy sources should not only reduce greenhouse gas emissions but also enable the nuclear phase-out that was decided in the same year.

11 Yearly photovoltaic installations dropped from 7.9 GW in 2011 to 3.6 GW in 2013 and 1.4 GW in 2014. Until 2020 they rebounded to 5 GW/a. Wind turbine installations dropped from 6.5 GW in 2017 to 1.6 GW in 2020.

renewable electricity system. The coalition agreement sets ambitious targets for 2030, that is in less than a decade. **Renewable sources should cover 80 % of the electricity demand** by then. Electricity demand is expected to increase by 22-35 % due to the electrification of transport and heating. Therefore, the coalition treaty aims to:

- **Quadruple photovoltaic (PV) capacity:** Among other measures, PV should become mandatory on new commercial buildings and massively deployed on private buildings.
- **Double the capacity of onshore wind:** The coalition wants to assign 2 % of land for onshore wind installations. To speed up installations the government aims to ease planning and approval processes, while **installations should be given priority over nature conservation concerns and be defined as matters of public interest and security.**
- **Almost quadruple offshore wind capacities.**
- **“Ideally”<sup>12</sup> phase-out all coal and lignite power plants by 2030 instead of 2038.**
- **Complete the final phase-out of nuclear power plants as scheduled for 2022.**

The acceptance for renewable energy installations in Germany is largely created through citizen involvement<sup>13</sup>. Citizen investments and energy cooperatives have been an inte-

gral feature of the transition for the past 20 years. In 2021, households owned 30 % and farmers 10 % of renewable energy capacities<sup>14</sup>. **The coalition aims to strengthen citizen participation.** The new government wants to financially support municipalities that install windmills or large scale PV on their territory<sup>15</sup>. Furthermore, it wants to facilitate the development of local electricity markets<sup>16</sup> to sell locally generated renewable electricity.

#### – Assessment

If fully implemented, the provisions on measures and targets **would revolutionise the electricity sector**<sup>17</sup>. The announced 2030 targets are in line with major scenarios for reaching climate neutrality in 2045. The planned measures, such as the definition of renewable installations as being of public interest, would reduce delays due to legal fights. At the same time, the revenues for municipalities may increase the acceptance and support of inhabitants for local electricity generation.

These ambitious targets and measures, however, almost entirely focus on the supply side. This is also the case for other sectors: **The coalition treaty almost completely omits<sup>18</sup> demand-side measures<sup>19</sup> to reduce energy demand.** Such measures would facilitate a decarbonisation of the economy as less generation capacities are needed.

An important **weakness and risk is the reliance on fossil gas in the electri-**

<sup>12</sup> “Ideally” is used as a term because the coalition aims to avoid another agreement with fossil-electricity companies. This was the case when the former government decided the 2038 phase-out target. An agreement like this would imply compensation payments to those companies for foregone profits. For the 2038 phase-out the government agreed to pay 4.38 billion € to two companies (RWE and LEAG).

<sup>13</sup> For a broader vision of citizens’ involvement in the energy transition, see publications and forthcoming policy recommendations from the Horizon 2020 project [EnergyPROSPECTS](#) on energy citizenship, European Commission Grant Agreement No. 101022492.

<sup>14</sup> Source: [PV-Magazin.de](#)

<sup>15</sup> While citizens do not benefit directly from renewable installations in this case, they benefit indirectly through a better fiscal situation of their municipality. This can result in better public services such as child care or renovation of public buildings such as public swimming pools.

<sup>16</sup> Local electricity markets can be at the scale of multi-apartment houses, neighbourhoods or small municipalities, with locally generated renewable electricity directly sold to local consumers.

<sup>17</sup> This is particularly important as the decarbonisation of other sectors relies on decarbonised electricity (e.g. heat pumps for buildings, electric vehicles and rail in the transport sector).

<sup>18</sup> Exceptions are renovations in the buildings sector and the nutrition sector, e.g. with new requirements for reducing meat and dairy products in public catering.

<sup>19</sup> Demand-side measures are important, as they facilitate the energy transition by lowering energy demand, reducing in turn the **overall economic costs** to meet net-zero by 1/3 (175.7 compared to 289.5 billion €), as a [study of the European Commission](#) from 2018 shows.

**city sector.** While the treaty states that fossil gas is necessary “for a transition period”, a phase-out date<sup>20</sup> like for coal is not set, while a new controversial pipeline, NordStream2, could be approved. The only provisions are a *de facto* cap at 20 % –given the 80 % renewables target, as well as the “Hydrogen-readiness”<sup>21</sup> of all newly constructed gas infrastructures and power plants<sup>22</sup>.

## I DECARBONISATION OF INDUSTRIAL PRODUCTION

According to the new head of the German government, Olaf Scholz, achieving the decarbonization of the German industry within 23 years<sup>23</sup> would be one important task of his government. The coalition wants to:

- Massively support green hydrogen<sup>24</sup> to decarbonise processes where direct electrification is not possible<sup>25</sup>: **10 GW Electrolyser capacity is planned to be installed until 2030.** It remains unclear whether the new government accepts grey, blue and turquoise hydrogen<sup>26</sup> for the medium term or not<sup>27</sup>. It also plans to import green hydrogen from neighbouring countries. To do so, it wants to develop energy partnerships, including with Ukraine and Russia.

- Facilitate investments that enable innovations for greening the industry<sup>28</sup> through a **climate and transformation fund** managed by the public investment bank KfW.
- Implement **Carbon Contracts for Difference (CCfD<sup>29</sup>)**: This tool should be used to compensate companies for the higher production costs (compared to fossil-based production) of new innovative carbon neutral industrial processes<sup>30</sup>.
- Create demand for products from carbon neutral manufacturing (i.e., Green steel and concrete) through **minimum quotas for public procurement.**
- Prevent carbon leakages<sup>31</sup> by promoting **an international climate club** to set joint minimum carbon prices and supporting an **EU carbon border adjustment mechanism<sup>32</sup>.**
- Introduce some new supporting tools, like the “alliance for transformation”, to facilitate the dialogue between trade unions, businesses & associations.

### – Assessment

The coalition aims to give the industry transformation a kick-start. The challenge,

<sup>20</sup> Some leaks suggested that the treaty would contain 2040 as a phase-out year for fossil gas.

<sup>21</sup> A certain amount of gas power plants running on hydrogen are assumed in various scenarios even after reaching climate neutrality to stabilise the grid: i.e. Ariadne project assumes about 42 TWh per year (from hydrogen and biomethane) in 2045 as a flexibility reserve.

<sup>22</sup> Prices for hydrogen are, however, still too high in the short-term. Economies of scale are needed to make it economically feasible to use green hydrogen for electricity production.

<sup>23</sup> See e.g. [Reuters article](#) quoting Scholz: “We have about 23 years ahead of us in which we must and will get out of fossil fuels which means the biggest transformation of our industry and economy in the last 100 years”.

<sup>24</sup> Green hydrogen means hydrogen that is produced from renewable electricity in electrolyzers that split water molecules (H<sub>2</sub>O) into one oxygen and two hydrogen atoms.

<sup>25</sup> This is the case, e.g. in the steel and feedstock industry or for maritime and aviation emissions.

<sup>26</sup> Hydrogen from fossil energy sources, mostly fossil gas: grey - the CO<sub>2</sub> is emitted in the atmosphere, blue - the CO<sub>2</sub> is stored underground, e.g. in old gas deposits, using carbon capture and storage (CCS), turquoise - CO<sub>2</sub> as solid carbon that can be stored.

<sup>27</sup> [Robert Habeck stated in January 2022](#) that only green hydrogen would be supported.

<sup>28</sup> On December 14th the new government announced a supplementary budget with 60 bn € for the climate and transformation fund. The coalition treaty says that the fund shall be further increased with the budget of 2022.

<sup>29</sup> See McWilliams, B. & Zachmann G. 2021. “[Commercialisation contracts: European support for low-carbon technology deployment](#)”, Policy Contribution 15/2021, Bruegel.

<sup>30</sup> CCfDs fit the new EU state aid guidelines.

<sup>31</sup> “Carbon leakage refers to the situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries with laxer emission constraints” European Commission

<sup>32</sup> Mechanism to equalise the price of carbon between EU domestic products and imports. See for example Lamy P., Pons G. & Leturcq P. 2020. “[Greening EU Trade 3. A European Border Carbon Adjustment proposal](#)”, *Policy paper*, Europe Jacques Delors, June 2020.



however, is enormous: fossil fuels represent 75 % of the energy consumed by the German industry<sup>33</sup>. **The planned emission reductions until 2030 are four times the reductions achieved in the previous 20 years**<sup>34</sup>. As the Federation of German Industry remarks<sup>35</sup>, the treaty creates a basis for emission reductions in this sector. But so far, that is all the coalition proposes: a basis to start decarbonising the industry.

**In this light, the proposed measures are first steps, but are far from sufficient for the scale of the challenge.** Particularly, the need to test, demonstrate, scale and deploy new clean technologies, the amount of required investments, the time needed for approval, planning and construction in infrastructure (e.g., hydrogen pipelines) and labour shortage<sup>36</sup> will raise difficulties. Moreover, as in the past, with consumers paying the bill for industry<sup>37</sup>, the new coalition overall seems to prefer supportive instruments to regulation.

#### I LOWER TRANSPORT EMISSIONS WITH ELECTRIC CARS AND TRAINS

The major targets in the mobility sector are: **15 million battery-electric vehicles (BEVs)**<sup>38</sup> and **a share of 25 % for freight transport on rail until 2030**<sup>39</sup>. The goal for BEVs implies an indirect phase-out of new internal combustion engine car sales in the early 2030s<sup>40</sup>, while the overall deadline at European level still needs to be agreed on under the Fitfor55 package. The required expansion of charging infrastructure should be accelerated, target-

ing 1 million public charging points in 2030. To reduce short haul flights, train connections between airports should be improved. The coalition aims at **greening air transport through synthetic fuels**, by setting quotas to create a market<sup>41</sup>.

Several plans **aim to foster multimodal mobility**. The share of infrastructure investments in rail should become larger than funding for highways. With more intercity train connections, the introduction of a nationwide regular interval timetable and potentially lower prices, the government aims for a **doubling of passenger rail transport by 2030**. It plans to increase public transport investments, to promote multimodal mobility stations and oblige mobility providers to share data and enable cross-provider booking. The current road traffic act privileges almost exclusively car traffic and inhibits for example measures to favour bicycles or pedestrians<sup>42</sup>. The coalition proposes a **reform of the road traffic act** that permits local authorities to change rules, e.g. lower the allowed speed limit, for climate change mitigation<sup>43</sup>.

#### — Assessment

The transport sector was at the centre of heated debates after the publication of the coalition treaty. One issue was the ministry being led by Liberals instead of the Greens. This was widely interpreted as the continuation of car-centred policy. The target of 15 million BEVs in 2030 is ambitious. However, studies and experts emphasise that an **“engine switch” will not suffice to reach**

<sup>33</sup> 20 % of the remaining 25 % is electricity, which is also not completely decarbonised.

<sup>34</sup> According to the study “Klimapfade 2.0” of the Federation of German Industry.

<sup>35</sup> See the overall positive [assessment](#).

<sup>36</sup> Due to demographic change workforce will decrease by 3.9 million in 2030 ([Federal Ministry of Economy](#)).

<sup>37</sup> Consumers have to pay an increased levy on the electricity bill for renewables (EEG levy) due to exceptions from this levy for industry.

<sup>38</sup> In October 2021 517.000 BEV were on German streets according to [statista](#). In January 2021, a total of **48.2 million cars** were registered for use in Germany.

<sup>39</sup> The share of rail freight was 19.5 % in 2017 according to [Allianz pro Schiene](#).

<sup>40</sup> A study by [Prognos](#) models sector targets and respective legislative measures for transport. It estimates 86 % of new registered vehicles are BEV, which leads to a stock of 16 mio BEV on German roads. A study of Wuppertal Institute “[Die Rolle von Elektroautos in der Mobilität von morgen](#)” leads to a 95 % share of BEV + PHEV. Also the governmental “[Plattform Future Mobility](#)” estimates that with about 14 mio BEV+PHEV in 2030 a share of more than 80 % of new registrations will be reached in 2030. This would require much stricter fleet standards at the EU level, with a reduction of 70 – 80 % compared to the currently proposed 55 %.

<sup>41</sup> Transport & Environment (2021): “[FAQ: the what and how of e-kerosene. Why the aviation sector needs e-kerosene, and how to deploy it sustainably](#)”.

<sup>42</sup> **24 mayors** of larger cities and [Agora Verkehrswende](#) demanded a reform of the act.

<sup>43</sup> The treaty says (p.52) that the act will be adapted in a way that “in addition to the fluidity and safety of traffic, the objectives of climate and environmental protection, health and urban development are taken into account in order to give states and municipalities scope for decision-making.”

the sector target of 48 % emission reduction compared to 1990<sup>44</sup>. The reason is the still existing fleet<sup>45</sup> of internal combustion engine vehicles and heavy transport. Stricter measures like an emission-dependent toll and the abolition of fossil subsidies would be required.

While the reform of the road traffic act is a step forward, other countries are leading the way, like France, where more than 200 municipalities already established a speed limit of 30 km/h<sup>46</sup>, including Paris. The provisions on public transport, active mobility and trains provide a minimum of support. They will not incite a modal shift revolution away from car-centred mobility patterns<sup>47</sup>. Furthermore, the provisions on the most emissions-intensive mode of mobility, flying, are far from being sufficient<sup>48</sup>.

## I RAMPING UP RENEWABLE HEATING

The major target in the buildings sector is to achieve 50 % of climate neutral heating by 2030<sup>49</sup>. As legislative measures, the agreement proposes stricter energy performance standards for new buildings, the promotion of renovation roadmaps free of charge and a digital buildings pass. Additionally, a nationwide municipal heat planning that identifies city areas favourable for heat networks is proposed.

The plan to split the carbon price according to the energy performance class of the building could help to overcome the landlord-tenant-dilemma. Renovations would be stimulated as the share of the carbon price for heating would be higher for landlords of houses with poor insulation. The announced 65 % renewable share for new heating systems installed in 2025 would lead to a phase-down of fossil heating systems from then on.

### – Assessment

The minimum of 65 % renewable share in new heating systems in 2025 is a good step forward, the way to reach it remains unclear<sup>50</sup>. To reach the climate targets, an almost immediate ban of new fossil heating would be needed<sup>51</sup>. Besides individual renewable heating systems, heat networks need to be expanded and decarbonized<sup>52</sup>, as well as new ones constructed<sup>53</sup>. To achieve this, the government should adopt an obligation for cities with more than 30,000 inhabitants to conduct municipal heat planning and provide the necessary financial means for those cities<sup>54</sup>.

**The building sector must halve its emissions by 2030.** To that end, decarbonizing supply needs to be combined with ambitious renovation policies to dramatically upgrade buildings' energy performance<sup>55</sup>. The rollout

<sup>44</sup> Current emissions and targets in transport sector of the [German Environmental Agency](#)

<sup>45</sup> From a global climate change mitigation perspective another problem is caused by the export of used ICEV to developing countries, where they are used for many more years (source: [UNEP](#)).

<sup>46</sup> See studies of Prognos, Wuppertal Institute, and Platform Future Mobility mentioned in footnote 39 and [interview with Christian Hochfeld](#), director at Agora Verkehrswende.

<sup>47</sup> Magdalinski E., Delair M. & Thomas Pellerin-Carlin T. 2020. "Building a clean mobility system in times of Covid-19", *Policy paper*, Jacques Delors Institute, September 2020.

<sup>48</sup> The provisions on aviation are qualitative and vague (p. 53 of the treaty). Airports should be better connected to rails, taxes and ticket prices increased if consent is found at EU level and "ambitious" quotas for synthetic kerosene should be supported at the EU-level.

<sup>49</sup> In 2019, 73.8 % of apartments were heated with fossil heating systems. Additionally 13.9 % were connected to heating networks with also more than 70 % fossil heat. BDEW (2019): [Wie heizt Deutschland](#).

<sup>50</sup> In his first [assessment](#) Minister Habeck announced a target of 4-6 million heat pumps in 2030 (page 28).

<sup>51</sup> Currently, 800 000 new heaters are installed annually, mostly based on oil and gas. Germany needs 5.8 million new heat pumps by 2030 (that can be translated in 750 000 per year starting in 2022), and 14 million by 2045 to stay on track towards climate neutrality. Agora Energiewende (2021): [Ein Sofortprogramm für klimafreundliche Häuser](#).

<sup>52</sup> Currently 70 % of the heat in networks is based on fossil fuels.

<sup>53</sup> From 11 % living space in 2018 to 16 % in 2030 and 25 % in 2050 for housing, and from 4 % to 14 % by 2030 and 33 % in 2050 for tertiary buildings. Veit Bürger, Sibylle Braungardt, Christian Maass, Matthias Sandrock, Paula Möhring, 2021 [Agenda Wärmewende 2021. Studie im Auftrag der Stiftung Klimaneutralität und Agora Energiewende](#). Öko-Institut e.V, Hamburg Institut.

<sup>54</sup> For more detail on the example of Baden-Württemberg that introduced such a legislation, see [here](#).

<sup>55</sup> Heating needs should decrease by 13 % in 2030 compared to 2018, and by 36 % in 2050. Veit Bürger, Sibylle Braungardt, Christian Maass, Matthias Sandrock, Paula Möhring, 2021 [Agenda Wärmewende 2021. Studie im Auftrag der Stiftung Klimaneutralität und Agora Energiewende](#). Öko-Institut e.V, Hamburg Institut.

of individual building renovation roadmaps is laudable. Required would be mandatory minimum performance standards with compliance dates, coupled with appropriate financing and technical assistance. Discussing potential sufficiency<sup>56</sup> measures is probably not compatible with the coalition's slogan of "dare to progress". Next to the planned yearly construction of 400,000 new apartments, **Germany needs to find ways to halt the continuous increase in individual living space.**

## II • Cross-cutting legislative measures

### I INNOVATION FOR CLIMATE CHANGE MITIGATION

Over the last years, Germany invested a growing share of its gross domestic product (GDP) in research and development, exceeding the European Union's target of 3 %. The new coalition wants to pursue the goal of the previous government of **3.5 % of GDP for R&D by 2025**<sup>57</sup>. In order to respond to the challenges of the future, the new coalition wants to create **20 new mission oriented research programs**: among these are the developing modern technologies to decarbonise the industry sector (e.g. steel industry) and sustainable mobility. The government plans to support this with the creation of a Tech Transfer Fund and a new German Agency for Transfer and Innovation (DATI).

#### – Assessment

The coalition program is an encouraging first step for clean energy innovation. R&D and scaling-up programs dedicated to solar, hydrogen, circular economy and clean mobi-

lity are key to achieving the development and deployment of clean innovations in Germany. Combined with support for specific industrial alliances they are needed to achieve climate neutrality in 2045. However, innovative climate tech start-ups in Germany still have difficulties to obtain suitable financing in the early stages and existing funding programs do not adequately cover the needs of these clean technologies<sup>58</sup>. Moreover, in Germany as in Europe, innovators lack clear demand for their clean solutions and scale-up capital<sup>59</sup>. The public sector can close this financing gap with various tools, such as matching grants, public ventures capital or public tenders. Furthermore, **Germany needs to lead by example and drive private investment towards clean energy innovation with an ambitious legislation in the key sectors.**

#### – Strengthened Climate Governance. Nationally and in the European Union

**Climate change mitigation is mainstreamed throughout the treaty text.** In many chapters, the treaty links climate change mitigation with the respective topic, from climate diplomacy up to living conditions in rural and urban areas. The strong federal climate law<sup>60</sup> is planned to be reformed and reinforced by a **climate check** for new government initiatives. This check obliges each department to assess all legislative initiatives based on their climate impacts. Synergies can be expected of the merging of energy and climate issues under the umbrella of one single ministry<sup>61</sup>. Furthermore, observers foresee a **strong strategic role of the Green party on all EU-related climate and energy issues**<sup>62</sup>. With the foreign and economic ministry, they hold two key ministries coordinating the government's position on EU policies.

<sup>56</sup> Sufficiency as a sustainability strategy aims at behavioural and lifestyle changes that lead to emission reductions. These changes need to be enabled, incentivised and enforced by political, fiscal and infrastructural measures. Jacques Delors Institute is part of a consortium of the project [FULFILL](#) that examines sufficiency potentials and measures at EU-level.

<sup>57</sup> So far, the automotive, pharmaceuticals and IT sector accounted for the lion's share of research spending.

<sup>58</sup> To learn more about financing barriers for cleantech in Germany, read [Tech For Net Zero Allianz \(2021\)](#): "Investieren in Net Zero".

<sup>59</sup> For more info, read the [Cleantech for Europe 2021 report](#).

<sup>60</sup> It obliges each department to achieve yearly emission targets and to readjust via an immediate action programme when missing a target.

<sup>61</sup> Before, the economic ministry was responsible for energy policy while the environmental ministry was responsible for climate mitigation policy.

<sup>62</sup> For fiscal policy the finance ministry, held by the FDP, will have more weight.

## – Assessment

Climate mainstreaming is an outstanding aspect of the coalition treaty. It shows that the new government **recognizes the cross-sectoral importance of climate change mitigation**. The climate check increases consciousness and stimulates climate reflections for each legislative initiative. The foreseen reform of the climate law is controversial. In its current form, the law is a strong enforcement tool but incentivises short-term programs (mostly with subsidies) when targets are not met<sup>63</sup>. A reform should keep accountability and enforcement, while giving more flexibility for reaching targets and across-sectors. The strong position of green ministers on foreign affairs could lead to a **more consistent position for an ambitious climate policy at the European level**. This could even lead the German federal government to use EU policies to offset national policy weaknesses, particularly in the buildings, industrial and transport sector.

## I CARBON PRICING - PRICE FLOOR AND SOCIAL COMPENSATION

After years of low prices for carbon certificates in the European carbon market (EU ETS1)<sup>64</sup>, the prices rose significantly in 2021 to currently about 80€/tCO<sub>2</sub><sup>65</sup>. In order to incentivize a market driven coal phase-out

in 2030, the coalition seeks to establish a price floor of at least 60€/tCO<sub>2</sub><sup>66,67</sup>.

However, due to the current energy price surge<sup>68</sup>, the coalition did not agree on a steeper price path for the national carbon pricing scheme in transport and buildings<sup>69</sup>. It supports the introduction of a Europe-wide pricing of emissions in those sectors (EU ETS2)<sup>70</sup>. To compensate citizens for the rising costs of fossil fuels, the coalition plans to reduce electricity prices via a phase-out of the EEG levy for renewables<sup>71</sup> and lower taxes. Additionally, it wants to develop a **per-capita reimbursement mechanism**. Such a mechanism would lower the burden for or even benefit low-income households. Higher-income households in turn would pay their fair share for their, on average, significantly higher contribution to climate change<sup>72</sup>.

## – Assessment

The initiative for setting a **minimum carbon price is an important signal** that will likely lead to a coal phase-out by 2030. Furthermore, this price floor increases reliability for industrial investments. Yet, the **missing agreement on a steeper price path in the transport and buildings sector** is an important shortcoming given the current lack of ambitious regulations in those sectors, and

<sup>63</sup> Another critique is that it does not incentivize emission reductions in other sectors if one sector does not meet its targets. This [report](#) shows that even with an enormous roll out in BEVs and charging stations, 2030 targets in the transport sector will be missed due to the existing ICEV fleet. In contrast, the electricity sector could reduce emissions significantly more than defined by the climate law.

<sup>64</sup> Lehne J., Moro E., Nguyen P.-V. & Pellerin-Carlin T. 2021. [The EU ETS: from cornerstone to catalyst - the role of carbon pricing in driving innovation](#), Policy paper, E3G & Jacques Delors Institute, April 2021.

<sup>65</sup> See daily prices [here](#).

<sup>66</sup> The coalition aims to establish this minimum price in the EU ETS. If not possible at the EU-level the treaty says the minimum price will be established nationally.

<sup>67</sup> Several studies show that FitFor55 climate targets will lead to carbon prices that result in a Europe-wide coal phase-out in 2030. An overview is provided by Schrems. 2021. ["Neue Klimaziele. Deshalb kommt der Kohleausstieg früher"](#). • Friedrich-Ebert-Foundation and Pietzcker *et al.* 2021. ["Tightening EU ETS targets in line with the European Green Deal: Impacts on the decarbonization of the EU power sector"](#), Applied Energy.

<sup>68</sup> Nguyen P.-V. & Pellerin-Carlin T. 2021. ["The European energy price spike. Overcoming the fossil fuel crisis"](#), Policy brief, Jacques Delors Institute, October 2021.

<sup>69</sup> The former coalition agreed in 2019 to introduce a national carbon price for the transport and buildings sector. The price was introduced in 2021 with 25 €/tCO<sub>2</sub> and will increase to 55 €/tCO<sub>2</sub> in 2025. After 2025 the system is expected to be merged with an EU ETS2. "Emission Trading System 2" (ETS2) proposed by the Commission in July as part of the new climate package Fit for 55. ETS2 should start operating from 2026 onwards and the national system is expected to be transformed into the EU-ETS 2.

<sup>70</sup> Defard C. 2021. ["Putting the cart before the horse. Perspectives on a potential ETS on residential buildings"](#), Policy paper, Jacques Delors Institute, July 2021.

<sup>71</sup> The EEG (Erneuerbare Energien Gesetz, renewable energy law) levy was introduced to fund the feed-in tariffs for renewable electricity generation.

<sup>72</sup> The richest 10 % in Europe emit annually on average more than 20 tCO<sub>2</sub> per capita, while the bottom 50 % emit less than 5 tCO<sub>2</sub> per capita. [Oxfam \(2020\): Confronting Carbon Inequality in the European Union](#).



the currently low national carbon price, (30€/tCO<sub>2</sub> in Germany in 2022<sup>73</sup>, compared to 45 €/tCO<sub>2</sub> in France). This could lead to enormous jumps after 2025, when the scheme is estimated to be transformed into a national or European ETS without set prices<sup>74</sup>.

**On the per-capita reimbursement mechanism the coalition treaty remains weak.** It only mentions a further examination, not the introduction. Most studies as well as the French yellow vest movement show that such a mechanism has to become an integral part of carbon pricing legislation<sup>75</sup>. The coalition should have also agreed on the implementation of this mechanism after its development, in order to show that it actually considers this fact in times of rising inequality<sup>76</sup>.

### III • Conclusion and European Recommendations

Overall, if implemented as announced, the plan is probably the most ambitious on climate change mitigation ever put forward by a sizable industrial economy worldwide. It shows the magnitude of the challenge that all countries worldwide face: **despite its relative ambition, the plan remains insufficient for meeting a fair share of a 1.5-degree-carbon budget<sup>77</sup>. A lot will depend on the implementation in the next 3 years and seven months Germany has ahead of its next federal elections.** Particularly, vague formulations and 2030 targets render the

ambitious goals susceptible to being crushed in potential struggles between the coalition parties. This is particularly the case if **funding becomes a political issue<sup>78</sup>**. A first test to watch out for will be the two climate emergency packages<sup>79</sup> announced for Easter and summer 2022<sup>80</sup>.

**What can the European Union do to reinforce strengths and compensate for weaknesses of the coalition treaty?**

The new German government announced that it is fully committed to support the reform of the EU legislation to meet its new objective of reaching climate neutrality by 2050 –the so-called ‘Fit for 55’ package<sup>81</sup>. **With a ministry now combining economic affairs and climate policy, EU institutions can expect the current German government to defend more ambitious and consistent positions on climate legislation, as well as fewer abstentions<sup>82</sup>.** The European Commission and the European Parliament should exploit this opportunity to propose ambitious legislation.

The first three proposals developed here below help to reinforce strengths of the coalition treaty. By adopting those at the European level, the EU would support developments towards climate neutrality in Germany and throughout the Union. The latter two proposals are thought to foster more ambitious progress through EU legislation, where the coalition partners could

<sup>73</sup> The price will increase to 55€/tCO<sub>2</sub> in 2025

<sup>74</sup> For example, [the Ariadne project](#) estimates that prices could jump after 2025 from 55 €/tCO<sub>2</sub> set by the government to more than 100 €/tCO<sub>2</sub> and could reach up to 275 €/tCO<sub>2</sub> in 2030.

<sup>75</sup> Defard C. 2021. “A social climate fund for a fair energy transition”, *Policy brief*, Jacques Delors Institute, October 2021.

<sup>76</sup> See the government’s latest “[Poverty and Wealth Report 2021](#)” (for an English Article see [here](#))

<sup>77</sup> A fair share might be for example to split up the remaining global carbon budget by person. Scientists calculate the cumulative emissions that might result from governments plans and compare those to the fair share. It might still be possible for Germany to contribute its fair share to staying below 2 degrees of heating and thereby comply with the Paris Agreement. Study of Volker Quaschnig (HTW Berlin) “[PV installation for climate protection](#)” and study of German Institute for Economic Research “[A coalition treaty for a climate neutral Germany?](#)”

<sup>78</sup> The fiscal room for manoeuvre is the contested issue between the coalition parties, with the liberals insisting on the debt brake. [The Handelsblatt](#) reports that the announced debt increase in 2022 might be unconstitutional. The conservative party announced a complaint at the constitutional court on December 14th, after the government coalition adopted the proposal of a supplementary budget of 60 bn € for the transformation fund.

<sup>79</sup> Potential measures of the emergency program can be found in the [proposal](#) of the green party and the [proposals of Agora Energiewende](#), as former Agora Director Patrick Graichen became state secretary in the climate ministry.

<sup>80</sup> Announced in a press conference of Minister Robert Habeck January 11th 2022. Clean Energy Wire summarises the [major undertakings](#) to watch out for in 2022.

<sup>81</sup> Fit for 55 is the EU’s plan to reduce GHG emissions by 55 % by 2030. The package was proposed in July 2021 by the EC and contains a broad range of measures under an accelerated legislative process.

<sup>82</sup> Additionally a foreign ministry with climate diplomacy as a major task.

not agree on the necessary scale of climate change mitigation measures.

- Current EU ETS carbon prices of more than 80 €/tCO<sub>2</sub> finally reached a point that triggers investments in clean energy and industrial processes. **The European Parliament and Council should seize this opportunity and include a price floor<sup>83</sup> of at least 30€/tCO<sub>2</sub> in 2022, 70€/tCO<sub>2</sub> in 2025 and 120€/tCO<sub>2</sub> in 2030 for the ETS** in the ongoing revision of the EU ETS<sup>84</sup>. This would send out a strong signal and provide all EU companies a higher degree of certainty for their internal planning and strategy. This would very probably entail a phase-out of coal power plants until 2030.
- **Fleet standards for cars and light utility vehicles need to reach at least a reduction of emissions of 75 % in 2030** compared with 2021<sup>85</sup>. Germany, and the Council and Parliament, should propose this ambitious objective in the current revision of the CO<sub>2</sub> standards for cars EU regulation. Germany will not be able to reach 15 million BEV by 2030 in isolation. It needs a European-wide massive rollout of BEVs and electric charging infrastructure<sup>86</sup>. In line with such an increase in ambition the CO<sub>2</sub> limit for 2025, with the addition of a binding interim target in 2027, needs to be adapted to create a realistic path in the next few years.
- The investment needs for reaching the 2030 targets and climate neutrality are enormous<sup>87</sup>. The EC should elaborate a **proposal for a common European infrastructure fund<sup>88</sup>** based on the model of “Next Generation EU”<sup>89</sup>. Such a fund would **facilitate investments in pan-European infrastructure to speed up the climate transition and strengthen European sovereignty**. Such investments would include, e.g. interconnectors for the electricity grid, the expansion and interconnection of the European rail network, the construction of hydrogen pipelines as well as digital infrastructure<sup>90</sup>. Furthermore, the EC should propose a **reform of the fiscal rules in the Stability and Growth Pact (SGP)<sup>91</sup>**, excluding investments in renewables and infrastructures for the transition (e.g. rails) from the calculation of national public deficits. This would **allow for necessary investments by Member States for the transformation towards climate neutrality<sup>92</sup>**.
- Triggering the Renovation Wave across Europe and in Germany with a **strong EPBD revision including ambitious and climate-aligned Minimum Energy Performance Standards (MEPS) is essential<sup>93</sup>**. This means aligning residential MEPS with the objective of decreasing EU buildings’ emissions by 60 % in 2030 and reaching full decarbonisation in 2050. First compliance dates for MEPS should be set

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<sup>83</sup> The price floor could regularly increase until 2030. Another option to introduce a price floor would be within the ETD as pointed out by [Bruegel](#).

<sup>84</sup> Lehne J., Moro E., Nguyen P.-V. & Pellerin-Carlin T. 2021. “[The EU ETS: from cornerstone to catalyst - the role of carbon pricing in driving innovation](#)”, *Policy paper*, E3G & Jacques Delors Institute, April 2021.

<sup>85</sup> Yoann Gimbert “Electric car boom at risk: Why the current EU car CO<sub>2</sub> rules will do little to accelerate the switch to zero-emissions mobility” *Transport & Environment*, November 2021. The paper demands even an 80 % reduction for 2030 and 30 % for 2025 (compared to current legislation with 35 % in 2030 and 15 % in 2025).

<sup>86</sup> Also highlighted by “[Platform Future Mobility](#)”.

<sup>87</sup> 360 billion € annually in the EU between 2020 and 2030 according to Lenaerts K., Tagliapietra S. & Wolff G.B. 2021. “How much investment do we need to reach net zero?”, *Bruegel Blog*, 25 August.

<sup>88</sup> Such a fund was for example proposed by [Creel et al. 2020](#). “How to Spend it: A Proposal for a European Covid-19 Recovery Programme” The Vienna Institute for International Economic Studies.

<sup>89</sup> The coalition treaty clearly excludes the option to make the current NGEU permanent, as for example proposed by [ZOE Institute](#).

<sup>90</sup> The coalition treaty states on page 134 “To this end, we will take the initiative and, together with our European partners, launch an investment offensive that focuses on transnational projects with added value for the EU as a whole and attaches particular importance to the closing of gaps in networks.”

<sup>91</sup> This would not change the conditions for Germany, where a debt break was amended in the constitution. It can just be reformed or abolished by a 2/3 majority. The current coalition has just 56.5 % of seats in the Bundestag.

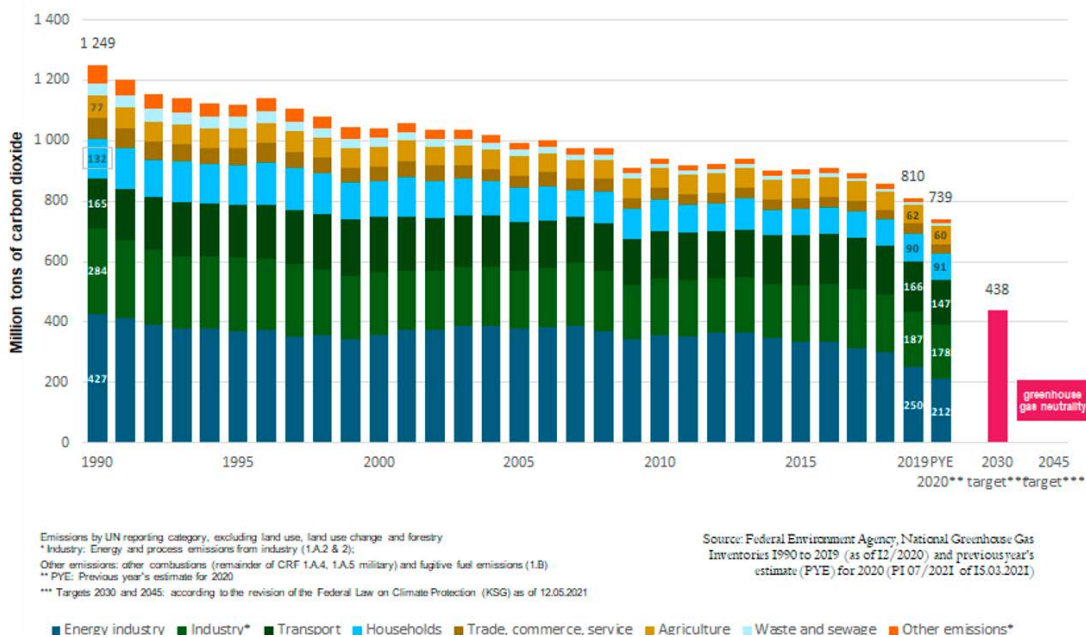
<sup>92</sup> A “further development” of the SGP is mentioned in the coalition treaty. This change to the pact “should allow maintaining debt sustainability and support sustainable and climate friendly investments”, p.133.

<sup>93</sup> Defard C. 2021. “[Addressing the social and environmental emergencies with Minimum Energy Performance Standards](#)”, *Policy Brief*, Jacques Delors Institute.

before 2030, in addition to trigger points such as sale and change of tenancy. The priority target should be to increase the renovation rate of worst performing buildings. Renovation should be part of a more holistic transformation of our daily lives, as expressed by the European Commission with the new EU Bauhaus initiative<sup>94</sup>.

- To foster the green transformation of the industry in the EU and Germany, the EU should **stop muting the EU ETS carbon price by providing free allowances** to the EU –and thus German– industry. The money generated by a progressive phase-out of those free allowances by 2030 should be channelled to the EU ETS Innovation Fund, which can properly fund innovative clean industrial projects<sup>95</sup>.

### ANNEX 1: German greenhouse gas emissions covered by United Nations Framework



▲ German Greenhouse Gas emissions by sector between 1990 and 2020 (Source: German Environment Agency, National Greenhouse Gas Inventories 1090 to 2019)

<sup>94</sup> New European Bauhaus Initiative of the EU.

<sup>95</sup> Pellerin-Carlin T., Vangenechten D., Lamy P. & Pons G. 2022. “No more free lunch. Ending free allowances in the EU ETS to the benefit of innovation”, *Policy brief*, Jacques Delors Institute, E3G & Europe Jacques Delors, February 2022.

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