“An ambitious Climate Protection Act as an opportunity for innovation and planning security”

Position Paper by Foundation 2° within the framework of the “Climate Protection Act Business Initiative”
Imprint

Created by: Foundation 2° - German Businesses for Climate Protection
Director: Sabine Nallinger
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Liability: Sabine Nallinger
Coordination: Dr. Daniel Vallentin (Project head “Climate Protection Act Business Initiative” Foundation 2°)
Contact: daniel.vallentin@2grad.org
Collaboration: Martin Kaul, Tawga Kadir (both Foundation 2°)
Layout: Yvonne Mrukwa (Foundation 2°)
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Preface

by Prof. Dr. Michael Otto,
President of the Foundation 2° and Supervisory Board Director of the Otto Group

The increasing frequency of extreme weather events clearly shows that climate change is real. Its effects are already being clearly felt today and will intensify in the coming years. We are all responsible for tackling this challenge.

Climate protection is of great importance to business: it can be an important driver of innovation while creating new, global markets. However, these opportunities can only be exploited if policymakers pave the way with clear framework conditions.

Germany has lost its former international leadership role in climate protection. The climate protection target for 2020 will be missed without question. The reduction goal for the year 2030 necessitates a massive change of course in almost all sectors.

However, this requires strong political will and a clearly defined framework for action. A smart climate protection law can create such a framework, within which both the individual measures in the various sectors can be brought together to form a cross-sectoral, consistent overall strategy and regular reviews of achieved CO₂ reductions make it possible to take targeted follow-up actions. CO₂ pricing must be the guiding instrument of such a climate policy framework and ensure that climate-friendly behaviour is rewarded in a socially responsible way.

I am certain that many entrepreneurs in Germany are prepared to see an ambitious climate policy as an opportunity. The position paper presented here, which the 2° Foundation has drawn up on the basis of an intensive process of dialogue with numerous companies as part of its “Climate Protection Act Business Initiative”, shows that large parts of the private sector are prepared to play a constructive and concrete role in the climate policy debate.

I wish the 2° Foundation success in its paper being able to provide a valuable impetus for the climate policy dialogue between politics and the private sector!

Yours sincerely,

Prof. Dr. Michael Otto
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The “Climate Protection Act Business Initiative”:
A progressive voice of business for climate protection

Introduction and summary by Sabine Nallinger, Managing Director of Foundation 2°

Climate protection has probably never been as high on the political agenda as now. The German Government has declared 2019 a “climate year”. By the end of this year it intends to pass a climate protection act and a programme of measures to achieve the climate protection target of 2030 (at least -55% CO₂ equivalent, compared with 1990). Chancellor Dr. Angela Merkel has also committed herself to the goal of greenhouse gas neutrality by 2050, thus underscoring the aspirations of the Paris Climate Agreement.

Companies can make a crucial contribution to achieving climate targets through innovation and investment, and by supporting consumers in changing their behaviour. Provided, however, they have an appropriate political framework. In other words: clear overarching climate policy guard rails and steering instruments, supplemented by effective and coordinated packages of measures for the individual economic sectors.

As part of its “Climate Protection Act Business Initiative”, Foundation 2° has intensively discussed the right measures with more than 30 companies in sectoral expert groups from a business perspective in the key sectors of buildings, transport and industry as well as cross-sectorally, to achieve the 2030 climate targets. We have succeeded in bringing important companies from the automotive industry, heavy manufacturing, mechanical engineering, chemical industry and financial sector on board and engaging them in dialogue. In total, the companies involved employ almost 1 million people in Germany and provide around 2.5 million jobs worldwide. The companies involved in the dialogue process are listed at the end of this text.

Based on these discussions, we as Foundation 2° have derived a number of climate policy demands to be addressed by the Federal Government. In the present position paper, we publish them as our constructive and progressive contribution to the current climate policy debate.

Here is some of what the paper centres on:

**A cross-sectoral framework:**

- **Taking the Paris goals seriously:** A cleverly designed climate protection act must be at the core of the climate policy framework. Greenhouse gas neutrality by 2050 and related emission reductions of 95% by 2050, compared to 1990, must be what underpins German climate policy.

- **Introducing CO₂ prices in non-ETS sectors, further developing ETS:** CO₂ pricing must be leveraged as the leading climate policy instrument across the board. This requires CO₂ prices to be introduced in non-ETS sectors before this legislative period ends. With regard to the existing EU ETS, the Federal Government should regularly check whether instruments other than quantity control are necessary at European or national level – if possible in cooperation with other EU Member States – to achieve the climate targets. This could also include introducing a corridor comprising minimum and maximum CO₂ prices in the ETS. However, competitive energy and production costs for the industries concerned would have to be guaranteed.
Buildings:

- **Sparking renovation dynamics in the building stock**: The energetic refurbishment rate of existing buildings should be increased to 2-3% by 2030. However, the redevelopment costs must be distributed in a socially acceptable manner (e.g. through new concepts such as gross warm rents). The energy certificate for buildings should include a CO\(_2\) label, to make the CO\(_2\) reduction potential a central indicator – alongside efforts to reduce primary and end energy usage – when it comes to facilitating redevelopment or new construction measures.

- **The public sector as a role model**: The Federal Government and local authorities should collectively strive to boost the energetic refurbishment rate of their building stock to 3% by 2030. To this end, the Federal Government must comply with the requirements of the EU Energy Performance of Buildings Directive by March 2020 and present a concrete action plan to renovate public buildings.

- **Renewable heat supply initiative**: The Federal Government should bring forward a roadmap to expedite an end to subsidising fossil-heating technologies. In addition, an immediate programme to replace old fossil heating systems with heat technologies based on renewable energies or electricity should be established promptly.

Traffic:

- **Driving the market ramp-up of electromobility**: We need a package of measures that systematically helps spearhead market efforts to ramp up e-mobility and renders e-vehicles more appealing than combustion engines. As well as expanding existing incentive and subsidy programmes for vehicles and charging infrastructure, this also includes a stronger CO\(_2\) orientation of the fiscal framework for motor vehicles and fuels.

- **Strengthening the railways initiative**: The railway infrastructure must be massively upgraded and expanded, especially at junctions. Railway travel must become cheaper, e.g. by reducing VAT rates on passenger transport and fiscal relief for rail electricity.

- **Promoting smart mobility in cities**: The financial resources and legal authority to enable municipalities to strengthen public transport must be increased significantly and permanently. The appeal of climate-friendly delivery vehicles should be enhanced by regulatory measures such as creating privileged loading zones or supporting low-noise delivery concepts.

Industry:

- **Combining stable European industrial electricity prices with commitment to 65% renewables**: Competitive energy costs are crucial to keep Germany viable in future as an industrial location. Here, a stable European industrial electricity price can underpin high energy consumption businesses. Such a reduction should be linked to energy- and climate-related compensatory measures taken by companies. This is particularly with the target of a 65% share of renewables in electricity consumption by 2030 in mind.

- **Pushing the market launch of low CO\(_2\) processes and products**: To develop so-called low carbon breakthrough technologies (LCBT) then launch them to market, reliable market launch instruments such as project-related contracts for difference are needed alongside long-term R&D programmes. The Federal Government should actively create lead markets for industrial products with low- CO\(_2\) footprints, e.g. within the context of public procurement.

I hope these “highlights” have sparked your interest in our position paper. Evidence that the German economy is prepared to commit its know-how to achieving the climate targets!

Yours,

Sabine Nallinger
The following companies, among others, were involved in the dialogue process of the “Climate Protection Act Business Initiative”:

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<td>Alba Group / Interseroh</td>
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<td>Bausparkasse Schwäbisch Hall AG</td>
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<td>DEUTSCHE ROCKWOOL GmbH &amp; Co. KG</td>
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<td>DFH Fertighaus Holding AG</td>
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<td>EnBW Energie Baden-Württemberg AG</td>
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<tr>
<td>Gegenbauer Holding SE &amp; Co.KG</td>
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<tr>
<td>Goldbeck GmbH</td>
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<td>HeidelbergCement AG</td>
<td>Industry</td>
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<td>Hermes Germany GmbH</td>
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<td>Hoffmann + Voss</td>
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<td>MV Energie AG</td>
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<td>Otto Fuchs KG</td>
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<td>Stiebel Eltron GmbH &amp; Co. KG</td>
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<td>Vonovia SE</td>
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<td>Wacker Chemie AG</td>
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The businesses involved shared their perspectives and know-how in the preceding dialogues within the “Climate Protection Act Business Initiative”. The Foundation 2° developed a set of political demands from this process and is the sole author of this position paper.
The demands of Foundation 2° to the federal government for a strong, cross-sector climate policy framework

Background

The German federal government is under great pressure to act on climate policy. The target of reducing greenhouse gas emissions by 40% by 2020 compared with 1990 levels is likely to be missed by a wide margin. In order to achieve the reduction target for 2030 of at least 55% compared to 1990, effective climate policy measures that will turn climate-friendly investments and technologies into a business model as quickly as possible are necessary.

From 2021, the EU’s Climate Action Regulation will also take effect, making climate policy objectives more binding. It distributes the EU’s reduction targets to the European Union member states within the framework of the Paris Agreement for the period 2021 to 2030 via legally-binding, annually decreasing emissions budgets. Overall, the annual budgets for Germany correspond to a greenhouse gas emissions reduction of around 53% by 2030, compared with 1990. This means that the overall reduction to be achieved is largely identical to the German climate protection target for 2030. If Germany exceeds its annual budgets, a corresponding number of emissions rights must be purchased from other member states. In view of the increasing shortage of certificates, this could lead to considerable costs. There is therefore a great need for a strong climate policy framework that avoids a further missed goal.
The demands of Foundation 2° to the federal government for a strong, cross-sector climate policy framework are:

**Ensure a climate policy framework compatible with the Paris Agreement**

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<th>Create clear climate policy guidelines and control instruments:</th>
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<td>Any Climate Protection Act must live up to the ambitions of existing climate targets and current political debates at national, European, and international levels.</td>
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In concrete terms, this means:

- **Taking the Paris goals seriously**: The objectives of the Paris Accord to limit the rise in the global average temperature to well below 2 °C compared with pre-industrial levels and to make efforts towards 1.5 °C must be the central guideline for German climate policy. The Climate Protection Act must therefore aim for greenhouse gas neutrality by 2050 and align itself with the upper edge of the climate policy target corridor, i.e. a GHG reduction of 95% by 2050, compared with 1990.

- **Every sector must live up to its climate policy responsibilities**: We fundamentally consider it necessary to initiate a paradigm shift in climate policy that will have a cross-sectoral effect and, in doing so, fully exploit the potential of sectoral coupling. On the way there, however, we recognise the policy intention of realising the climate action contributions of the individual sectors in order to increase planning and investment security. This requires a balanced mix of regulatory measures, incentives and support instruments for each sector, which takes into account the specific, often heterogeneous situation of the respective sector and, in particular, the different stages of development and availability of the necessary climate protection technologies.

- **A modest and measured sharing of burdens**: Achieving climate protection targets efficiently must be ensured. Different investment cycles, reduction costs, and timely availability of technological solutions or infrastructures for CO₂-reduction in the different sectors should be taken into account. We therefore consider it appropriate to create a system of flexibilisation which, with a view to the sectoral reduction targets by 2030, allows for a controlled burden sharing between the sectors. In this way, efficiency and a binding commitment to achieve the climate targets could be brought together.

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<th>2</th>
<th>Introduce CO₂ pricing in non-ETS sectors and develop ETS further:</th>
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<tr>
<td>A CO₂ pricing system, the steering effect of which does justice to the ambitions of the climate protection targets for 2030 and, in the future, 2050, must function in future as a leading instrument of climate policy in all sectors - i.e. both within and beyond the existing European Emissions Trading Scheme (ETS) - in order to reward CO₂-saving behaviour.</td>
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In concrete terms, this means:

- **Quickly introducing a CO₂ price in non-ETS sectors**: The German federal government should make the fundamental decision in favour of a CO₂ price within the framework of the climate protection law and roll out the relevant instruments in this legislative period.

- **Embedding CO₂ pricing in the overall concept**: CO₂ pricing should be integrated into a comprehensive overall climate policy concept that includes a climate-oriented reform of the current tax and duty system and supports the development and market introduction of the necessary innovations in the various sectors.
• **Socially sustainable and innovative:** The CO₂ price should be designed to be neutral in terms of overall economic revenues, but should have a clear steering effect in favour of climate-friendly behaviour on the part of private individuals and companies. When redistributing the additional income (e.g. by reducing the fiscal burden on electricity), social sustainability must be taken into account. Proportions of the revenues should be used to promote and launch climate-friendly technological and socially-balanced innovations as well as for climate protection investments.

• **Rising and robust price trajectory:** An evenly rising price trajectory or price corridor with a moderate entry point should be robustly defined beyond the length of legislative periods (taking into account investment cycles). Regular and transparent reviews of the price trajectory, e.g. by an independent commission of experts, should enable a limited adjustment of the CO₂ price in both directions in the event of changed framework conditions. The pricing must be designed in such a way that the European and international competitiveness of the industries concerned is preserved.

• **Develop ETS further:** The dynamics created in the course of introducing CO₂ pricing in the non-ETS sectors should be used to further develop the existing ETS for the energy sector and parts of the industrial sector. Both pricing systems should be conceived of holistically with regard to their interactions and overlaps in order to guarantee European compatibility in the future. With a view to the ETS, the German government should examine at transparently defined intervals whether European or national, but if possible in cooperation with other EU member states, instruments other than quantity control are necessary in order to achieve the climate targets in the energy and industrial sectors. These instruments could also include a corridor consisting of a minimum CO₂ price and a maximum CO₂ price in the ETS with a clear development trajectory - whereby competitive energy and production costs for the industries concerned must be guaranteed.
The demands of Foundation 2° to the federal government for ambitious climate protection in the buildings sector

Background

With more than 21 million buildings in Germany (including residential and non-residential buildings), the building sector offers a strong climate policy lever, but also exhibits great heterogeneity. The German government’s climate protection plan for 2050 envisages a 67% reduction in greenhouse gas emissions for the building sector by 2030 compared with 1990. By 2050, the Federal Government is aiming for an almost climate-neutral building stock.

The technological strategies for achieving the climate protection targets in the building sector are largely known and usable. The challenge here is, above all, to mobilise the necessary investments for increasing energy efficiency in existing buildings in a socially sustainable manner, to substantially reduce energy requirements and to implement broad uptake of renewable energies in the energy supply of the building sector. At the same time, an ambitious climate protection strategy for the building sector offers many opportunities, such as the accelerated market introduction of innovative technologies by German companies, an increase in living comfort (e.g. through optimised management of cooling, heating, and insolation) and lower health risks.
The demands of Foundation 2° to the federal government for ambitious climate protection in the buildings sector are:

**Sparking a dynamic in energy-oriented renovations – CO₂ reductions and social sustainability in focus**

1. **Increase the rate of renovations to 2% to 3% – strengthen individual renovation planning:** The renovation rate in Germany can no longer remain stagnant at around 1%. The German federal government must spark a dynamic in renovations that ensures that the sector target for 2030 is achieved and makes the building sector a driving force of climate policy for the long-term 2050 reduction target. In this context, an effective sector-specific mix of measures is of great importance, since the costs of energy-oriented renovations of a building are strongly depend on its efficiency level and location.

   In concrete terms, this means:

   - **Achieving a climate-neutral building stock long before 2050:** In the building sector, the technologies required to achieve climate protection targets are already available and can be applied across the board. The German federal government should therefore design its climate protection strategy in the building sector and the policy framework in such a way that the goal of an almost climate-neutral building stock can be achieved well before 2050.
   
   - **Quickly implementing EU building efficiency standards in national law:** This particularly applies to the accelerated development and implementation of a long-term renovation strategy. It must contain a concrete timetable for achieving the goal of an almost climate-neutral building stock well before 2050.
   
   - **Action programme for increasing the renovation rate:** By the end of 2019, the German federal government should present an action programme for raising the renovation rate in private residential and non-residential buildings to 2-3% by 2030, backed by verifiable interim targets and a transparent monitoring process that allows the current renovation rate to be precisely determined.
   
   - **Enacting tax incentives for building renovations from 2020:** As part of the action programme, the federal government should enact the long-announced tax incentives for building refurbishment and, from 2020, allocate a sufficient amount within the federal budget. This would increase confidence in a credible and serious climate protection strategy in the building sector. The tax incentive should be combinable with KfW funding and based upon a policy oriented toward the savings potential and CO₂ emissions of the building, with a particular focus on the implementation of individual renovation roadmaps.
   
   - **Strengthening individual renovation roadmaps:** Individual renovation roadmaps should be drawn up and implemented across the board in order to achieve a climate-neutral building stock in a cost-optimised manner well before 2050. The binding anchoring of three measures is central to this: the implementation of professional energy consultations for property owners by highly-trained and certified energy efficiency consultants, the preparation of renovation roadmaps with a target standard appropriate to the savings potential of the respective building (ideally at least KfW 55), and the integration of the renovation roadmap with the energy performance certificate for buildings (see requirement 2). The sequence of measures should be flexible. The criteria of affordability and social sustainability must remain clearly in view, along with a simplified and as un-bureaucratic a design of the funding procedures as possible.
   
   - **Provide a bonus for the overall implementation of renovation roadmaps:** A bonus should be used to further promote the implementation of individual measures of the roadmap. This bonus is to be distributed when owners decide to implement the entire package of measures. The amount of support for individual renovation measures, as well as for packages of measures, should depend to a large extent on their demonstrable CO₂ reductions. The possibility should be created to pass along renovation roadmaps from the previous owner of a building to heirs or new owners. For this purpose, for example, an electronic house file could be kept containing all relevant conversions, maintenance and efficiency measures (analogous to a vehicle checkbook).
Offensive against lack of skilled workers in the crafts and trades: The shortage of qualified workers in the skilled crafts and trades is becoming an increasing obstacle to the implementation of renovation measures in existing buildings. The German federal government should therefore swiftly initiate a training and qualification offensive for the skilled crafts and trades and, within the scope of its design options, contribute to making working conditions in the relevant occupational groups more attractive.

Focus more strongly on CO₂ reductions – Expand the energy certificate to a CO₂ label for buildings:
Reducing a building’s CO₂ emissions on the basis of its life cycle should, in addition to reductions in primary and final energy consumption, become the central indicator for the promotion of renovation and new construction measures. More strongly orienting the policy towards the demonstrable CO₂ reductions of the promoted measures must not, however, under any circumstances lead to a weakening of the “Efficiency First” principle. Use of renewable energies in the building sector and increases in energy efficiency should not be played off against each other, but should reinforce each other. The renovation and modernisation of existing buildings should be clearly prioritised over the demolition of buildings.

In concrete terms, this means:

- **Introducing a CO₂ label for buildings, observing the complete CO₂ life cycle:** In order to establish CO₂ emissions as a central evaluation criterion for buildings, the energy certificate should be extended to include a CO₂ label and its steering effect should be strengthened. The CO₂ label should consider the complete CO₂ life cycle of a building - i.e. all life phases from the extraction of raw materials, through construction, use and maintenance or modernisation, to the demolition or dismantling of the building. The energy certificate plus CO₂ label should be linked with the individual renovation roadmap and serve as a baseline for the CO₂-oriented evaluation of buildings. This would create a yardstick that would form the basis for the decision on the extent of renovations needed.

- **Accompany energy certificate and CO₂ label with a mix of incentives and control instruments:** The central accompanying measure should be the introduction of a minimum efficiency standard for all buildings in line with the sectoral targets for 2030 and the achievement of a climate-neutral building stock well before 2050. The achievement of the minimum standard should be supported by an expansion of existing promotional instruments (interest rebates, repayment subsidies, depreciation write-offs). We consider the creation of a bonus system to be sensible for achieving ambitious standards. If possible, the funding instruments should be extended to include a CO₂ component.

- **Use the CO₂-Label as a contribution to the EU sustainable finance taxonomy:** The German federal government should use increased consideration of CO₂ as an indicator for promoting renovation measures in the building sector as a contribution to the taxonomy for sustainable investments presented by the EU Commission. On the basis of the taxonomy, investments will in future receive advantages if they make a special contribution to climate protection and sustainability.
In concrete terms, this means:

- **Presenting concrete strategies and measures**: By March 2020, to comply with the existing deadline, the German federal government must meet the requirement of the EU Energy Performance of Buildings Directive to submit strategies and measures for the renovation of all public buildings. The goal of the public sector being a role model should be anchored in the Building Energy Act (GEG).

- **Make renovation roadmaps for public buildings binding**: The development and implementation of renovation roadmaps for public buildings should be made compulsory. The renovation of public buildings should be supported on a long-term basis and at a high level by federal funding programmes, so that local authorities, in particular, have sufficient planning security. It is necessary to link appropriate funding programmes directly to the implementation of measures in renovation roadmaps for public buildings and to create concrete progress indicators for this purpose.

- **Support financially and structurally weak municipalities**: Dedicated funding support should be created for the renovation of buildings in such municipalities. This could, for example, offer municipalities project-related personnel reinforcement for the planning and implementation of projects for the renovation of municipal buildings in order to reduce personnel bottlenecks (e.g. within the framework of tenders of the National Climate Protection Initiative).

- **Revise the economic efficiency rule**: When assessing the economic viability of renovation measures for public buildings, the federal government should orient itself towards the justified demands of the Federal Audit Office and take appropriate account of the achievable emissions reductions and other effects of environmental protection. It can be assumed that this will improve the economic efficiency of energy efficiency measures and the use of renewable energies.

- **Renovation incentives via a redistribution of ancillary costs**: On the basis of an exchange of experience with other EU member states, the German federal government should create the conditions under tenancy law to create a strong incentive for landlords to carry out energy-efficiency renovations by redistributing ancillary costs. One possibility is the payment of “gross warm rents” that already include the costs of heating and electricity. Here, the landlord directly benefits from the monetary advantages of cost reductions from decreasing energy consumption.

- **Roll out models for renovations that do not affect the cost of rent and utilities**: Energy-efficiency renovations should take place with as little an impact on rents and utility costs as possible. Model projects for such renovations, such as a successive renovation of buildings following the Dutch “Energiesprong” project, should receive increased support and be rolled out to guarantee high quality renovations and to lower costs.
Offensive for a renewable heating supply

5 Expand decentralised renewable heating:
The expansion of decentralised renewable heating in the building sector must be resolutely promoted and supported by a mix of regulatory requirements and funding instruments. The high heterogeneity and location dependency of the heating sector (e.g. different conditions in urban and rural regions) must be taken into account.

In concrete terms, this means:

- **Creating an emergency programme for the replacement of fossil-fuel heating systems**: The emergency programme should support the accelerated replacement of old fossil-fuel heating systems with heating technologies based on renewable energy sources or renewable electricity with a low CO₂ footprint throughout the entire lifecycle.

- **Directing funding towards renewable heating technologies**: The German federal government should rapidly define a political roadmap for a phasing out of fossil-fuel heating technologies that is in line with climate protection objectives and aims at an early end to the funding period. The attractiveness of heating technologies based on renewable energy sources or renewable electricity should be increased by readjusting support programmes in order to reduce their investment and operating costs compared with those of fossil-fuel heating technologies.

6 Strengthen CO₂-free district heating:
District heating systems are, along with decentralised heating, an important complementing pillar of the German heating market. The federal government must push for a CO₂-free design and systematic optimisation of district heating systems in urban areas in addition to carbon neutral electricity generation. A central prerequisite for that is that the CO₂-free design and systematic optimisation of district heating systems serve as a complement to increasing the energy efficiency of buildings, and not as a replacement or compensation for efficiency measures.

In concrete terms, this means:

- **Implementing a sound decarbonisation pathway for district heating**: The German federal government should introduce effective incentives for the CO₂-free generation of district heating. Such incentives should be accompanied by binding quotas for the feed-in of renewable/green heat into district heating networks that take into account the different local and regional potentials of renewable energies while outlining a sound decarbonisation path for district heating.

- **Expanding support for heating networks 4.0**: The systemic conversion of the heating network to lower temperature levels from renewable sources of heat is a central prerequisite for the CO₂-free design of the district heating market. The federal government must therefore considerably expand the promotion of 4th generation heating networks (heating networks 4.0), which are characterised by a high proportion of low-temperature heat from renewable energies. This measure should be accompanied by a support programme that subsidises the adaptation of heat supply systems in buildings (e.g. heat exchangers, heating surfaces) to new temperature levels.
The demands of Foundation 2° on to the federal government for ambitious climate protection in the transport sector

Background

The transport sector has a crucial role to play in achieving climate change objectives in conjunction with the other sectors. The transformation of the transport sector is undoubtedly challenging for politics, business, and the population. Mobility is the backbone of our social and economic development. The transition in transport policy - i.e. the avoidance, improvement and shifting of traffic flows in the direction of environmental connectivity as well as the use of vehicles and modes of transport with CO₂-free propulsion systems and fuels in passenger and freight transport - also brings great opportunities: it offers the opportunity to bring German companies into a leading position on the mobility and technology markets of the future. It stimulates enormous investments in vehicles and infrastructure. It makes cities a better place to live by reducing noise and air pollution and freeing up valuable space. It improves transport links to rural areas and thus creates social balance.
The demands of Foundation 2° to the federal government for ambitious climate protection in the transport sector are:

Press ahead with an accelerated market launch of electric vehicles in road transport

1. Combine the targeted market breakthrough of alternative propulsion systems with technology-open measures:

   Effective incentives and regulatory instruments for the market penetration of alternative propulsion systems should be at the heart of an ambitious climate protection strategy for the transport sector. They should be accompanied by technology-open R&D activities, but not slowed down under any circumstances.

   In concrete terms, this means:

   - **Developing a package of measures for the market launch of electric mobility**: Due to the current market situation and the state of technological development, electric mobility is a key technology for the rapid transformation of the transport sector. In order to achieve the market share for new vehicle registrations required to meet climate protection targets, we see it as the task of the federal government to develop an ambitious package of measures for the market ramp-up of electric mobility. The package of measures should be underpinned by concrete objectives and review mechanisms.

   - **Complementary technology-open R&D programmes**: Technology-open R&D programmes to expand the solutions portfolio (especially for long-distance road transport and air/water transport) and the promotion of efficiency measures are necessary to complement technology-specific market launch instruments.

2. Create attractive purchase and usage incentives for electric vehicles:

   The costs of purchasing and using (e.g. energy costs), and thus the attractiveness of electric vehicles relative to internal combustion engines, should be markedly improved via concrete measures.

   In concrete terms, this means:

   - **Expanding existing incentives and funding programmes for electric vehicles**: The purchase premium for electric vehicles should be maintained to further boost demand and create planning security for potential buyers beyond 2020, and then diminish thereafter. The "Clean Air" action programme should also be extended beyond 2020 and should focus more strongly on linking the reduction of air pollutants and CO₂.

   - **Orienting fiscal frameworks towards CO₂**: Following on from the current debate on a bonus/malus system, we consider it necessary that the political framework for a broad market introduction of electric mobility should go beyond sales incentives, and that greater use should be made of climate policy steering options in the tax system. In addition to the introduction of CO₂ pricing (see Chapter A, Demand 2), this includes a stronger orientation of the fiscal framework for fuels towards CO₂ content and for vehicles towards CO₂ emissions (at purchase and use).

   - **Using the conversion of company fleets as a springboard for electric mobility**: The full tax bonus for company cars should only apply to fully electric company cars and plug-in hybrid vehicles with an electric range suitable for everyday use. Taxation of company cars should also be linked more closely to the CO₂ emissions of the vehicle in question. New innovative offers such as the provision of so-called mobility budgets by employers to their employees should be supported by tax concessions.
**3. Make the expansion and operation of charging points into a business model:**
Incentives to buy and use electric vehicles are not enough on their own. The charging infrastructure for e-mobility must become a business model. This requires an attractive and consistent legal framework and a “2.0 subsidy” that supports and accelerates the further development of charging stations in public, semi-public and private spaces (at the employer or at home).

In concrete terms, this means:

- **Pushing the expansion of public charging stations for the early market ramp-up:** The fastest possible expansion of the public charging infrastructure is particularly important in the early phase of the market ramp-up in order to build necessary user confidence in e-mobility. This requires a clear assignment, positioning, coordination, and assumption of costs with a view to the federal states and municipalities. This task should be steered by the federal government and (co)-financed in partnership with the private sector.

- **Expanding support to private/semi-public charging stations:** Existing support programmes for the expansion of charging infrastructure must be quickly extended to private and semi-public charging points. Regulatory framework conditions must be adapted accordingly in order to accelerate the continuous expansion of private charging infrastructure. The existing absolute cap on support per company should be transformed into a more dynamic instrument that promotes the expansion activities of companies in line with their expansion potential, enabling the realisation of large charging locations (e.g. up to 30 charging points with a capacity of >100 kW each) at transport hubs and motorways. Obstacles to and restrictions on the expansion of renewable energies should be removed and fiscal mistakes in the management of renewable electricity for charging points (above all within the framework of the EEG levy) should be eliminated.

- **Avoiding fragmented regulatory structures for charging stations:** It is an urgent task of the federal government to implement the requirements of the EU Energy Performance of Buildings Directive on pre-cabling and the construction of charging points in car parks for new or fundamentally renovated residential and commercial buildings throughout Germany as quickly and uniformly as possible and to exceed them as a leading market. Differing regulations at state level must be avoided. Existing legal hurdles in the construction of charging points in the parking areas of multi-family houses (tenant/property ownership law) should be removed.

**4. Build sustainable industrial structures for electric vehicles:**
The market ramp-up of electric mobility and climate-friendly vehicle infrastructures must be conceptualised and made use of via industrial policy.

In concrete terms, this means:

- **Driving the building of industrial structures:** The calls for tenders issued by the Federal Ministry for Economic Affairs and Energy for the development of a battery cell production unit cannot remain a one-off initiative. Further flagship projects to build up industrial production capacities in
the field of e-mobility are necessary. Moreover, it is necessary to create the economic framework conditions needed for the development of battery cell production units, in particular by securing internationally competitive energy prices.

• **Making the procurement and recirculation of raw materials a condition of funding:** The establishment of industrial structures for the recycling of vehicle components and the procurement and recycling of raw materials from electric vehicles must be a condition for the funding of industrial production capacities. At the same time, the German government should promote the certification of ecological and social standards at EU level for the production of raw materials for batteries (including cobalt) and expand R&D activities into alternative resources and materials for battery technologies.

• **Offensive for electrification of road freight transport:** In the light commercial vehicle and truck segment, there is currently a lack of a demand-oriented range of vehicles. The German federal government should launch a development offensive for fully electric light commercial vehicles and trucks for the distribution of goods to the end-point. For long-haul road freight transport, the federal government should initiate a European partnership project between several member states in order to identify and test climate-friendly and efficient cross-border solutions. The aim here is to increasingly integrate rail transport, which is already electrically powered, into the transport chain and thus utilise the strengths of rail transport for an interaction of the various modes of transport optimised by climate policy.

**Develop alternative fuels for special markets and build international alliances**

**Design the expansion of alternative fuels systematically and sustainably:** Shipping and aviation as well as heavy goods traffic and passenger vehicles with long-distance usage profiles are significant emitters of CO₂ with special challenges that complement electric mobility. For these markets, alternative fuels are important technological options for reducing CO₂ emissions capable of contributing to solutions, especially in the period after 2030. The German federal government should draw up a step-by-step plan for the development and scaling of alternative fuels for these special markets.

This should consist of the following elements:

• **Identifying best solutions, developing sustainability criteria:** The best technological options (e.g. e-fuels, synthetic fuels, and 2nd generation biofuels) should be identified and stringent sustainability criteria for their use and application defined within the framework of technology-open R&D activities.

• **Set the course for the expansion:** The next step is to develop realistic expansion targets for the identified options and to create initial lead markets, for example through a blending quota for alternative fuels in domestic air traffic. Competition for use between sectors and unsustainable developments in the production and use of alternative fuels must be avoided.

• **Utilise export opportunities and build international alliances:** The German federal government should specifically promote the industrial policy potential of alternative fuel routes (e.g. positioning Germany as a technology leader in the field of electrolysis for electricity-based fuels) and initiate international technology partnerships with other countries (e.g. PTX alliances between several EU member states and with strategically relevant partner countries at international level) in order to develop the necessary infrastructures and production capacities.
Expand, modernise, and strengthen rail transport

Making rail transport fit to meet future demands:
Strengthening rail transport is a central strategy for reducing CO₂ emissions in the transport sector. The German federal government must therefore dedicate itself to the necessary expansion of the needed infrastructure and to shifting transport streams to the rails.

In concrete terms, this means:

- **Expanding and modernising rail infrastructure**: To strengthen rail transport, it is necessary to massively upgrade and expand the rail infrastructure. Rail bottlenecks must be eliminated. The infrastructure measures defined as necessary in the Federal Transport Infrastructure Plan must be implemented consistently and quickly. In this context, the expansion of the rail transport nodes is of particular importance.

- **Expansion of the network for longer trains**: The German federal government should create the conditions for an expansion of the so-called 740 metre network in the German core network and on the international trans-European corridors. In addition, additional selected main corridors should be upgraded for even longer train lengths (supplemented by the necessary vehicle technology) in the future in order to drastically increase the performance and competitiveness of rail freight transport.

- **Directing infrastructure development in line with the “Deutschland-Takt”**: Infrastructure planning based on the rail schedule will in the long term lead to considerably more and more attractive rail offers. To this end, additional capacity must be created, particularly around heavily utilised corridors and large hubs. The small, medium, and large-scale measures necessary to achieve this, in addition to the demand-based planning measures, should be resolutely pursued.

- **Digitalising the rails**: The modernisation and digitalisation of the rail system significantly increases the competitiveness of rail transport. Important building blocks for doing so include equipping the network and the vehicles with modern control and safety technology and digital signal boxes. This would also create the basis for further digitalisation of rail operations. The federal government should actively support the market readiness of the relevant technologies, promote approval and market penetration, and create the framework conditions necessary for deployment.

- **Driving forward electrification and applying alternative propulsion systems**: Further electrification of the rail network must be driven forward in order to further strengthen the climate friendliness of rail transport. Dual mode (diesel and electric) or alternative drive technologies are required for traffic on non-electrified or partially-electrified lines. There are various technological options for retrofitting existing vehicles. These are associated with further R&D needs and substantial additional investment, which should be supported by suitable technology-open funding programmes.

Create incentives to strengthen rail transport:
In addition to upgrading and expanding rail infrastructure, a package of measures to strengthen rail as a central climate protection strategy in transport should include incentives that increase the attractiveness and competitiveness of rail transport.

In concrete terms, this means:

- **Making use of the potential of freight rail transport**: The aim is to harness the benefits of climate-friendly rail transport for the entire transport system.

The master plan for rail freight transport must be implemented swiftly for this purpose. The expansion of combined transport, distribution centres and single wagonload transport are also key...
measures to strengthen the railways and form an important building block for climate-friendly freight transport on the whole.

- **Continuing funding for freight rail route prices**: Federal funding for route prices since 2018 has strengthened investability and thus freight rail transport. This funding support should be continued indefinitely. The desired impact should be increased further by expanding the current support to material plant investment prices, particularly strengthening geographic coverage.

- **VAT reductions for passenger rail transport**: With a VAT rate of 19% on passenger rail transport tickets, Germany occupies a top spot in the EU. Cross-border rail transport is not, unlike air traffic, exempt from VAT. The German federal government should therefore lower VAT rates for rail passenger transport and exempt cross-border rail transport from VAT to dismantle existing competitive distortions that work to the disadvantage of rail transport.

- **Relief for rail transport**: The strengthening of rail transport as an energy-efficient but also energy-intensive form of transport is currently made more difficult by high financial burdens (including EEG levy, power tax, complete fee-based purchase of CO₂ certificates). In order to realise the strengthening of rail transport sketched out in the Action Programme Climate Protection for the achievement of climate protection goals in the transport sector, the German federal government should provide quick and effective fiscal relief to the rail transport sector.

### Start an offensive for climate-friendly and intelligent mobility in cities

**An attractiveness and capacity offensive for rail, bus, bike, and pedestrian traffic in cities:** Climate-friendly and efficient mobility makes our cities better places to live. The German federal government must therefore develop and realise as quickly as possible an action programme for the attractiveness and capacity offensive for rail, bus, bike, and pedestrian traffic demanded by the “Nationale Plattform Zukunft der Mobilität” (National Platform on the Future of Mobility). The programme should provide municipalities and, especially, cities with the tools they need to implement the transport transition.

In concrete terms, this means:

- **Increasing financing to municipalities for the transport transition**: The action programme should provide for a permanent increase in the funds of the Municipal Transport Financing Act to EUR 1 billion per year (from 2021), well above the increase announced by the federal government, in order to promote the urgently needed expansion of public transport. It should expand the possibilities for municipalities to redirect traffic flows and the use of traffic areas for climate-friendly and intelligent urban mobility in the direction of the environmental network, e.g. by privileging climate-friendly means of transport in road traffic regulations and in the use of parking areas.

- **Accelerating the maintenance and expansion of infrastructure**: Approval procedures for the development of climate-friendly transport infrastructure must be accelerated and simplified. Infrastructure maintenance must be actively supported. As part of the action programme, an offer should be made to municipalities to provide them with project-related personnel for the planning and implementation of such infrastructure projects in order to reduce staff shortages (e.g. within the framework of calls for tenders of the National Climate Initiative).

- **Integrating settlement structures and transport infrastructure**: District-based approaches to the demonstration of holistic, climate-friendly mobility concepts should be implemented in close cooperation between the federal government, local authorities and businesses. The strengthening of “transit-oriented development” that links settlement structures with transport infrastructure, in particular public transport and cycling, should be a central element here.

- **Analysing and openly discussing impacts and conflicts of objectives in the action programme**: The measures of the action programme should be analysed as part of an impact assessment and
prioritised according to their climate impacts and positive or negative side effects (e.g. reductions in noise or air pollution). Resistance to and concerns about infrastructure projects should be openly addressed in a societal dialogue for climate-friendly mobility. A change in mobility behaviour, e.g. a stronger combination of modes of transport or avoidance of journeys by increasing “home office” days, should be supported by public campaigns.

### Roll out climate-friendly delivery concepts in cities:

The climate-friendly design of delivery and freight transport is an important element of climate-friendly mobility in cities and should be actively supported.

In concrete terms, this means:

- **Setting up dedicated (un)loading zones**: The federal government and municipalities should promote the creation of dedicated loading and unloading zones for climate-friendly delivery vehicles.

- **Creating incentives for the use of climate-friendly delivery vehicles**: The attractiveness of climate-friendly vehicles in urban delivery traffic (all-electric delivery vans, small electric vehicles, cargo bikes) should be increased via innovative regulations (e.g. longer delivery time options if electric vehicles are integrated into low-noise delivery concepts). The establishment of micro-depots in the building stock should be made possible by creating reliable framework conditions.

### Make use of the opportunities offered by digitalisation for climate-friendly mobility in all forms of transport:

Digitalisation can become a catalyst for the transport transition with a view to reducing, shifting, and improving traffic streams. To do so, the federal government must push the expansion of networked intelligence in transport infrastructure (e.g. signal lights, building sites) and vehicles (e.g. cars, buses, rail, trucks) in a targeted way.

In concrete terms, this means:

- **Shifting and optimising traffic flows**: The possibilities of digitalisation should be used to accelerate a shift of traffic flows towards the environmental network, to develop efficiency reserves in transport, and to spread intelligent mobility and working models (e.g. sharing services, home office). With the help of digitalisation, road users should be informed about the capacities and options of all modes of transport, so that users can make intelligent decisions to reduce bottlenecks, make better use of reserve capacities, and choose the most suitable mode of transport.

- **Urgently pushing infrastructure expansion**: An essential prerequisite for exploiting the opportunities offered by digitalisation for climate-friendly mobility is an accelerated, high-quality, and nationwide expansion of the necessary infrastructure (broadband and networks).

- **Simplifying data exchange**: Data exchange between mobility service providers and municipalities, and the nation-wide standardisation of mobility data should be pushed further. Further support should be given to mobility platforms currently emerging from partnerships between different mobility providers and municipalities seeking to offer forms of shared mobility for customer-friendly, more sustainable, and more efficient mobility from a single source.
The demands of Foundation 2° to the federal government for ambitious climate protection in the industrial sector

Background

The industrial sector has already achieved significant GHG reductions. Between 1990 and 2018, GHG emissions fell by around 31%. In addition, the German government’s climate protection plan for 2050 provides for a reduction in greenhouse gas emissions for the industrial sector of up to 51% compared with 1990. By 2050, the industrial sector, like the economy as a whole, must be largely climate-neutral.

According to various studies, the industry sector will have to almost completely abandon coal and massively reduce process emissions if it is to achieve its long-term climate protection targets by 2050. The processes required for this (so-called low carbon breakthrough technologies/LCBT) are still largely under development and are associated with high costs. One of the central requirements of any climate policy package for the industrial sector is therefore to push ahead with the testing and market introduction of LCBT, while at the same time maintaining Germany as an industrial economy and making it fit for the future.
The demands of Foundation 2° to the federal government for ambitious climate protection in the industrial sector are:

Create regulatory requirements for a competitive and renewable energy supply

1 Ensure competitive energy costs for industry – Enable industrial engagement for the expansion of renewable energy

Ensuring competitive energy costs is of central importance to the future viability of Germany as an industrial economy. The German federal government should therefore further limit the taxable share of energy costs and create new policy instruments.

In concrete terms, this means:

- **Securing stable European industrial energy prices**: A European race to the bottom for cheap energy costs among industrial enterprises at the expense of climate protection must be avoided. The federal government should consider the introduction of a system of stable and uniform industrial energy prices in Europe that are staggered according to the energy intensity of enterprises and determine the feasibility of implementing this across Europe.

- **Industrial engagement for the 65% goal**: Guaranteeing stable industrial electricity prices must be linked to energy and climate-protection-relevant compensatory measures by the respective companies. This applies, in particular, with a view to increasing industrial involvement in the development and financing of renewable electricity generation capacities in order to achieve the target of a 65% share of renewable electricity relative to electricity demand by 2030. To this end, the conditions should be created for a cost-efficient expansion of renewable energies, such as the availability of sufficient land in Germany (the coal regions are particularly important here) and attractive framework conditions for industrial green power procurement or renewable self-generation.

- **Creating attractive conditions for process optimisation**: Industry’s potential to develop additional sources of income through optimised burden management or the extraction of waste heat in order to cushion energy costs should be fully supported by favourable regulatory frameworks and compensation in the form of fully commensurate CO₂ certificates.

2 Create the conditions necessary for achieving the 65% goal for renewable energy production:

The substitution of fossil energy sources with a reliable supply of renewable energy is a key strategy for reducing CO₂ emissions in energy-intensive industries. Policies must therefore be used to create the conditions necessary for achieving the goal of covering 65% of electricity usage with renewable energy sources by 2030.

In concrete terms, this means:

- **Implementing the phase-out of coal, avoiding price reductions in the ETS**: The “Growth, Employment and Structural Change” commission’s key recommendations on phasing out coal-fired power generation by 2038 at the latest must be implemented without delay as a comprehensive package within the framework of a coal phase-out law and in negotiations with power plant operators. The federal government must avoid a price-dampening effect of phasing out coal-fired power generation on CO₂ certificates in the ETS by revoking CO₂ certificates to the same extent as CO₂ emissions are avoided by phasing out coal.
• **Translating the 65% goal into an expansion pathway and overall strategy:** The expansion targets for the capacities of various renewable energy sources (in particular, onshore/offshore wind and PV) must be translated into an expansion pathway or expansion corridors that reliably achieve the 65% goal. The expansion pathway must be accompanied by intermediate targets and milestones. It should be integrated into an overall strategy that coordinates the expansion of renewable energy with electrification strategies in various sectors (including transport and industry).

• **Incentives and support for municipalities:** Acceptance problems at regional and municipal level are currently a central obstacle to the expansion of renewable energies, especially onshore wind power. Therefore, the creation of incentives for federal states and municipalities to designate areas for renewable generation plants must be pursued with high priority. For example, by introducing a nationwide uniform municipal contribution from wind turbine operators based on the electricity yield of the respective plant that flows directly to the respective municipality. In addition, the Federal Government should promote regional dialogue processes that specifically address the perceived risks of wind energy expansion on the ground, supply expert knowledge, and offer mediation in the event of conflicts.

### Accelerate research and market introduction of low carbon breakthrough technologies (LCBT)

In concrete terms, this means:

• **Accounting for the special challenges of LCBT:** Scaling LCBT by 2030 to meet sectoral targets is extremely ambitious or even unlikely in many industrial sectors due to the early stage of technological development and long-term investment cycles. Therefore, the possibilities of burden sharing between the sectors mentioned in Chapter A, Demand 1 are particularly important for industry in achieving its climate policy goals. At the same time, policymakers must ensure that they support the investments needed to reduce process emissions and create markets for new low-CO₂ products.

• **Creating long-term and differentiated funding frameworks:** A funding framework for the development and testing of LCBT must cover the different stages of development from research, piloting to demonstration. The “Decarbonisation in the industrial sector” funding programme by the Federal Environment Ministry is an important step in this direction. It should be significantly increased in funding terms and invest in a long-term and technology-open way in order to cover all central LCBTs in the industrial sector.

• **Demonstration as a priority:** The realisation of demonstration projects is very cost-intensive and therefore particularly challenging. It requires broad, cross-sectoral consortia and should be an important element of the funding framework. The funding framework should include offers of
support to cushion increased capital and operating costs of LCBT demonstration plants. Strategies to make industrial processes more flexible and systemic solutions that transcend industry boundaries and that close material/product cycles in the sense of a circular economy should play an important role in the funding framework.

- **Supporting start-ups**: Innovative ideas are needed to meet the climate protection goals of the industrial sector. The mobilisation and provision of venture capital for industrial start-ups should thus be increased considerably. This should include tax benefits for research and development as well as for research and materials cost-intensive company start-ups.

4. **Introduce a CO₂ price guarantee for LCBT projects**: Due to the high cost intensity of LCBT, reliable market launch instruments are needed to scale them. These must primarily serve the purpose of reducing risks due to long pay-back periods and economic uncertainties during the initial operation of LCBT on an industrial scale.

In concrete terms, this means:

- **Contracts for difference as a central instrument**: Contracts for Difference (CfD) should form the core of a mix of measures to create planning and investment security for LCBT investments. They should guarantee investors a fixed certificate price for the CO₂ reductions achieved for at least 20 years. If the market price is lower than the fixed price, the difference is compensated by the state. If the market price exceeds the agreed fixed price, the company pays the difference back to the state. The German government should make the fundamental decision to introduce CfDs for LCBTs as part of the 2030 programme of measures and present a corresponding draft law in 2020.

- **Developing an overall strategy for LCBT**: The CfDs must be accompanied by an overall strategy for a low-carbon transformation and the creation of a circular economy for industry. As a core component, the strategy must include technological development objectives for testing and launching LCBT that act as a compass for tendering and concluding CfDs in the various industrial sectors. Long-term expansion and volume targets for capacities and products should be set, especially regarding the expansion of Power-to-X (PTX), green hydrogen (H₂) and a CCU-based CO₂ cycle economy. In doing so, the German government should also take into account the promotion of the necessary infrastructures.

5. **Create lead markets for low-CO₂ industrial products**: The German federal government should create lead markets with a secure demand for industrial products with a low CO₂ footprint via regulatory measures and incentives and thus flank the instrument of Contracts for Difference for LCBT on the demand side. Particular emphasis should be placed on increasing the recyclability of products and input materials. The international competitiveness of German companies must be safeguarded.

In concrete terms, this means:

- **Avoiding carbon leakage**: At European and international level, the German government should advocate the formation of pioneering coalitions on climate policy which, with the help of concrete measures (e.g. the integration of climate protection requirements into standards for technologies and products), create a level playing field for climate-friendly technologies, products, and the climate-friendly design of the necessary raw materials industries. The latter are in international competition and cannot pass on additional costs. In addition, bilateral trade agreements with key states should be used to jointly agree on high climate protection standards and to prevent carbon leakage.

- **Using public procurement as a lever**: European and German public procurement law already includes possibilities for taking environmental criteria into account in the public procurement of products and materials from industrial processes. On this basis, compliance with climate
protection criteria in public procurement should be made mandatory and accompanied by detailed criteria for assessing the climate and environmental sustainability of materials and products. The criteria should take into account all stages of a product’s life cycle and, in particular, emissions reductions in the usage phase. The aspects of resource and material efficiency and the expansion of circular economy structures should play an important role in the assessment of climate and environmental sustainability.

- **Drawing up a roadmap for the market introduction of low-CO₂ industrial products:** The German federal government should draw up a roadmap for the targeted market launch of low-CO₂ products (e.g. low-CO₂ steel, cement or solar modules) for key sectors, such as the construction industry, to reduce use of energy-intensive products. Among other things, the roadmap should provide for the bringing together of key players along the value chains within pilot projects, the creation of niche markets, and support for the broad market introduction of such products. Here, too, an important criterion for appropriate support of industrial products should be their climate impact over their entire life cycle.

- **Developing export markets:** The development of lead markets for climate-friendly industrial products should also be explicitly used to facilitate the strategic development of export markets. The German federal government should therefore underpin the lead market approach with an export strategy that identifies potential target markets for key products and develops strategies for market entry within them.