



CLIMATE ACTION PLAN 2050

(KLIMASCHUTZPLAN 2050)

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Federal Ministry for the Environment ... (BMUB)
Meeting of the "Long-term Low Carbon Vision
Committee"**

Tokyo 2 November 2016



Content

About

- 1) the approach**
- 2) the procedure including public participation**
- 3) the sectoral plans including general targets**
- 4) next steps**



Starting the Process ...

- **Coalition Agreement** among governing parties CDU/CSU and SPD in 12/2013: „A Climate Action Plan shall be drawn up containing further reduction steps up to the target of an 80 to 95 percent reduction by 2050 compared with 1990 within a broad dialogue process”.
- **G 7 June 2015 (“Elmau”)**: Decarbonisation until 2050
- **Paris Agreement** in 12/2015 (No. 36 and **Article 4, No. 19**) provides vital momentum for the process:

„All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.”



- **strategic Document** for long-term alignment instead of a long-term „Climate Protection Law“
- that means: **no regular parliamentary process**, however several informal contacts
- that means also: „**whole of government approach**“
- aims to **achieve broad consensus** among of the whole society
- follows decreasing “**global carbon budget**” (IPCC), currently reviewed for 1.5°C target.



- climate protection as a **modernization strategy** for our economy (co-benefits, “no regret”)
- **avoid false investments** (“stranded assets”) and social harmful structural breaks
- however, is aware of a wide range of **technical and economic uncertainties**
- avoid “**carbon leakages**”
- no technical specifications, no detailed master plan and no „Action Programme“ for implementing short and medium term measures such as the „Climate Action Programme 2020“
- requires innovation by increased R&D promotion.



Coherence with International and European Processes

International level:

PA, IPCC, Agenda 2030 including SDG`s, „New Urban Agenda“, ...

European level: EU climate and energy policy until 2030:

- Long-term climate target minus 80-95 % until 2050
- Reduction of greenhouse gas emissions by at least 40% (compared to 1990 levels)
- Increase the share of renewable energy sources to at least 27%
- Increased energy efficiency by at least 27%
- In particular: make the European Emission Trading scheme efficient



Coherence with running national Programmes

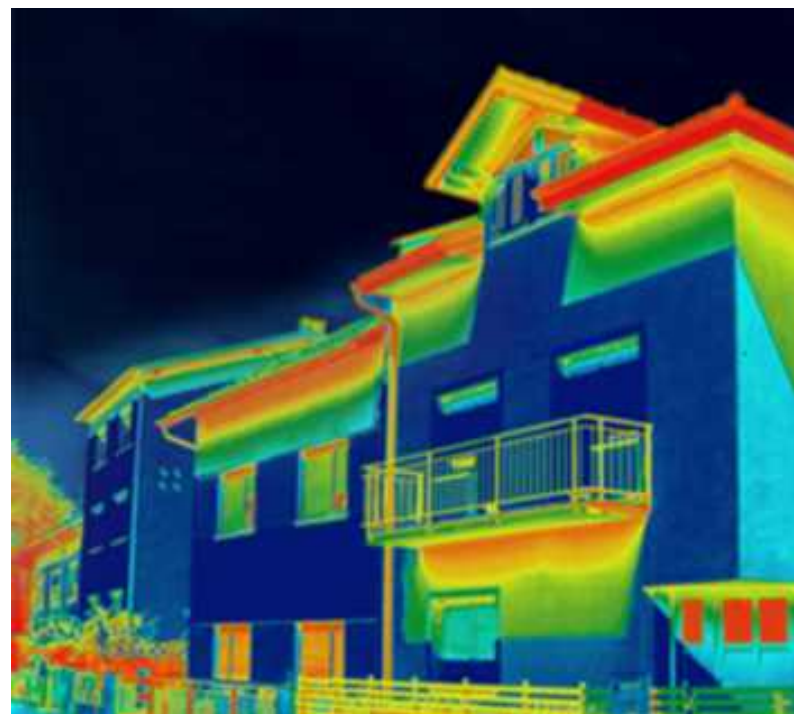
Selection:

- Sustainable Development Strategy including SDG implementation
- **RE extension targets of the RE Act 2016:** 2,9 GW Wind onshore p.a.; N.N. Wind offshore; 2,5 GW PV p.a.; 150 MW Biomasse (Paradigm change of support mechanism)
- Ressource Efficiency Strategy
- National Action Plan for Energy Efficiency
- Efficiency Strategy for Buildings
- Transport: Electromobility Concept; Promotion Plan for Bicycles
- Nitrogen Strategy
- etc.



Example: Energy Efficiency Strategy for Buildings “2015): leading role: Ministry for Economic Affairs and Energy

- Aim: primary energy demand for the buildings sector has to be reduced by around 80% until 2050 against the 2008 level
- Means: combine and update existing measures into a consistent strategy, e.g.
 - intensification through financial support
 - coordination through building-specific renovation roadmaps



German Climate Action Plan 2050

How to organise consensus Building?

An extended participatory process?

- Long-term policy for the transformation of the energy system and the economy is a fundamental change of widely approved pattern: needs consensus
- Traditional democratic institutions need new tools for a broader engagement of the public
- Participatory process enables opinions even of those stakeholder to be heard that usually do not play a relevant role in public discussion
- It can also help to create an appropriate implementation culture and may stimulate new cooperation schemes
- It can identify and attract partners for the implementation of climate action measures.





Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

Organizing the Process: the Contractors

On behalf of:



Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

Project team for participation process for Länder, municipalities and associations:

IFOK.

 Wuppertal
Institut



INSTITUT FÜR ENERGIE-
UND UMWELTFORSCHUNG
HEIDELBERG

Project team for public participation process:



ontopica 
e-participation

Expert assessment:

 **Öko-Institut e.V.**
Institut für angewandte Ökologie
Institute for Applied Ecology

 **Fraunhofer**
ISI

 **IREES**
Institut für Ressourceneffizienz
und Energiestrategien

German Climate Action Plan 2050: Participating Parties (“Stakeholders”)

- 16 Federal States, appropriate departments for climate protection
- 60 selected municipalities (selection criteria: population, previous commitment to climate protection, sectoral focal points, urban or rural background)
- 125 associations, trade and environmental associations, representatives of civil society (e.g. consumer protection associations, trade unions)
- 472 citizens took part in one-day workshops in Essen, Frankfurt, Hamburg, Leipzig and Nürnberg, additional participation through an online dialogue



German Climate Action Plan 2050

Results of Participation Process: „two products“

- 96 climate action measures on all GHG -related sectors
- Energy conversion
- Industry, commercial and service sectors
- Traffic
- Building
- Agriculture and land use
- Specific information for each climate action measure on an equal standard.
- Recommendation or non-recommendation of measures from the participation process as basis for the discussion between the Ministries of the German government

Maßnahmenkatalog

Ergebnis des Dialogprozesses
zum Klimaschutzplan 2050 der Bundesregierung



März 2016



Proposals from the public

- Several meetings of public delegates
- online – discussion
- public meeting with the stakeholders
- accompanying scientist consolidate and sythesize the proposals
- A specific report of the results of the public participation was published




Bürgerreport
Bürgerdialog zum
Klimaschutzplan 2050

German Climate Action Plan 2050

Lessons learned (I)

- Preconditions for a successful participatory process
- Government needs to provide a clear framework for the participatory process
- There needs to be enough time for discussions and sufficient flexibility to address specific needs of some of the stakeholders
- Scientific expertise important before, during and after the participatory process (e.g. selecting stakeholders based on a stakeholder analysis, structuring, synthesizing and wording of the wide variety of proposals)



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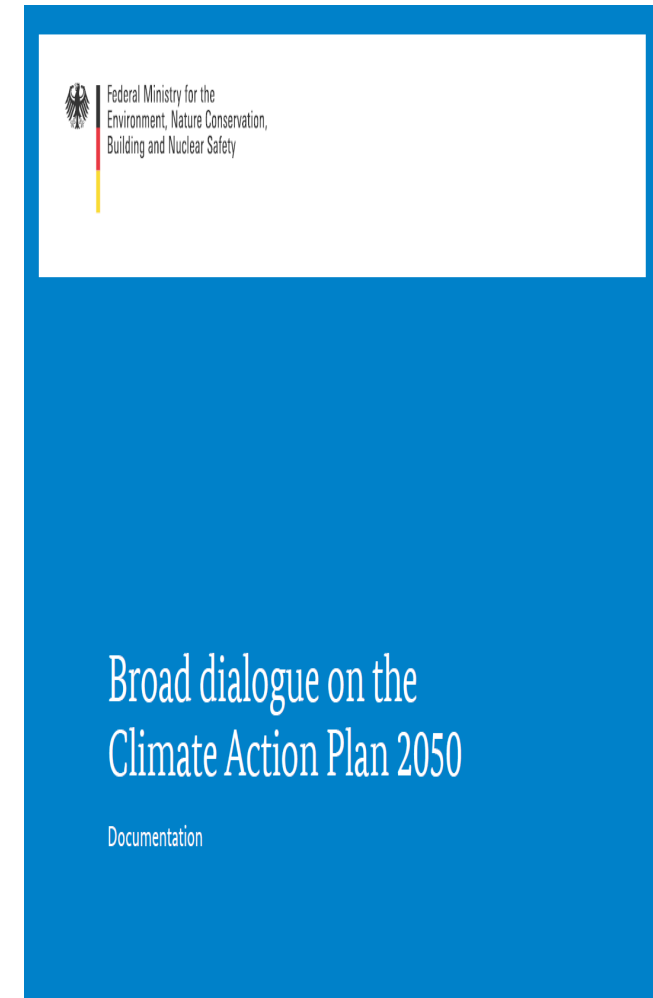
Lessons learned (II)

Positive

- Highly productive discussion culture can be achieved in the working groups
- Stakeholders gained awareness for the different perspectives
- Policymakers learn about the different positions of stakeholders
- Probably higher chances for successful implementation of mitigation measures if jointly developed with relevant stakeholders (higher acceptance)

Negative

- Process is time-consuming and requires plenty of resources and expertise
- Stakeholders generally opposed to climate protection may be uncooperative





Roadmap to Climate Action Plan 2050





Structure of BMUB Draft

Overarching Targets for all Sectors of Action:

At least - 55 % GHG-Reduction until 2030 compared to 1990

-80 bis 95 % Reduction until 2050 compared to 1990

**„Mission
Statements“
or „Vision“
(„Leitbilder“)
2050**

**Milestones
2030**

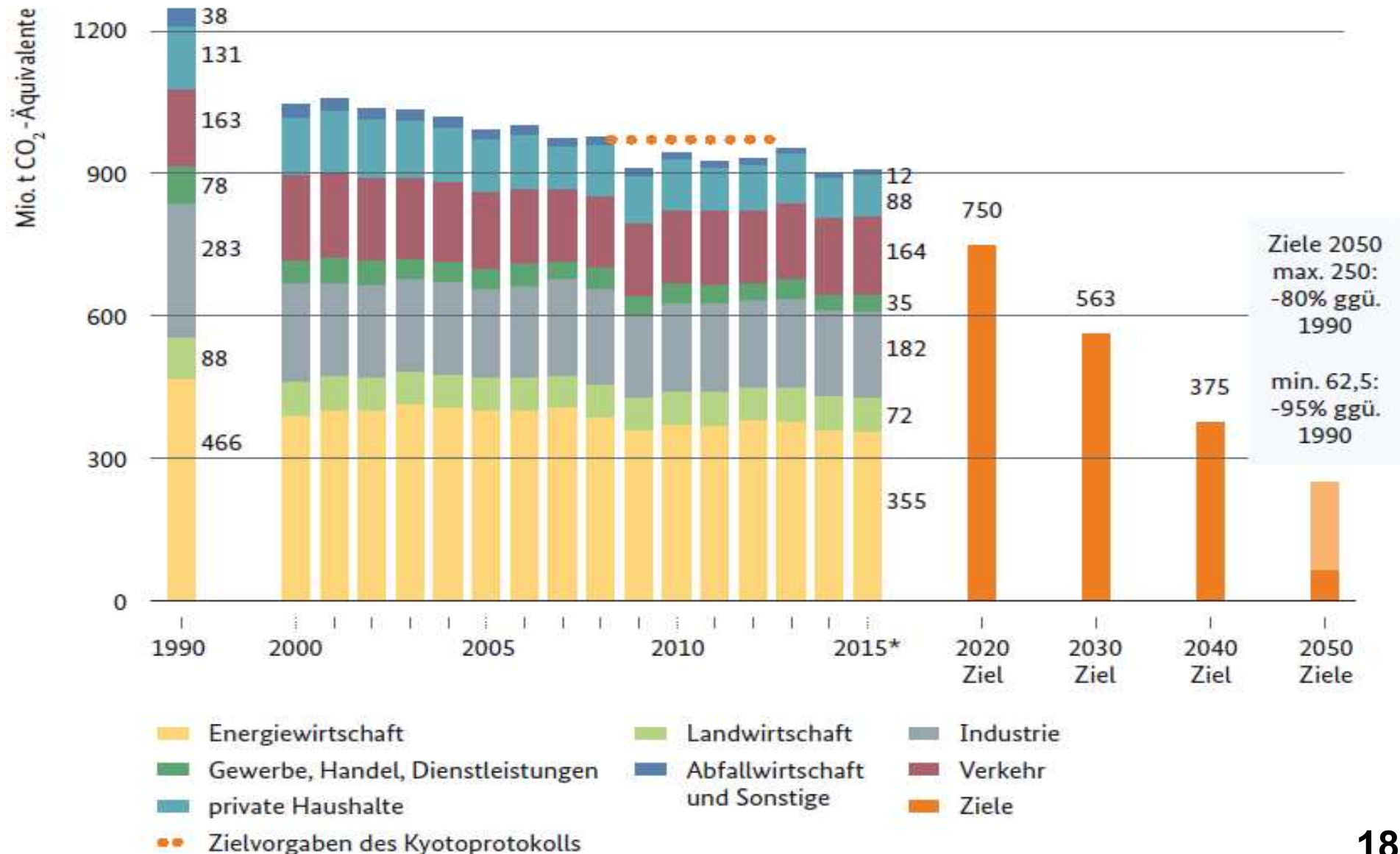
**More concrete
steps preparing
policy actions**

**Action
until 2030**

**Specific measures to
be implemented by
regular legal or
governmental
procedures**

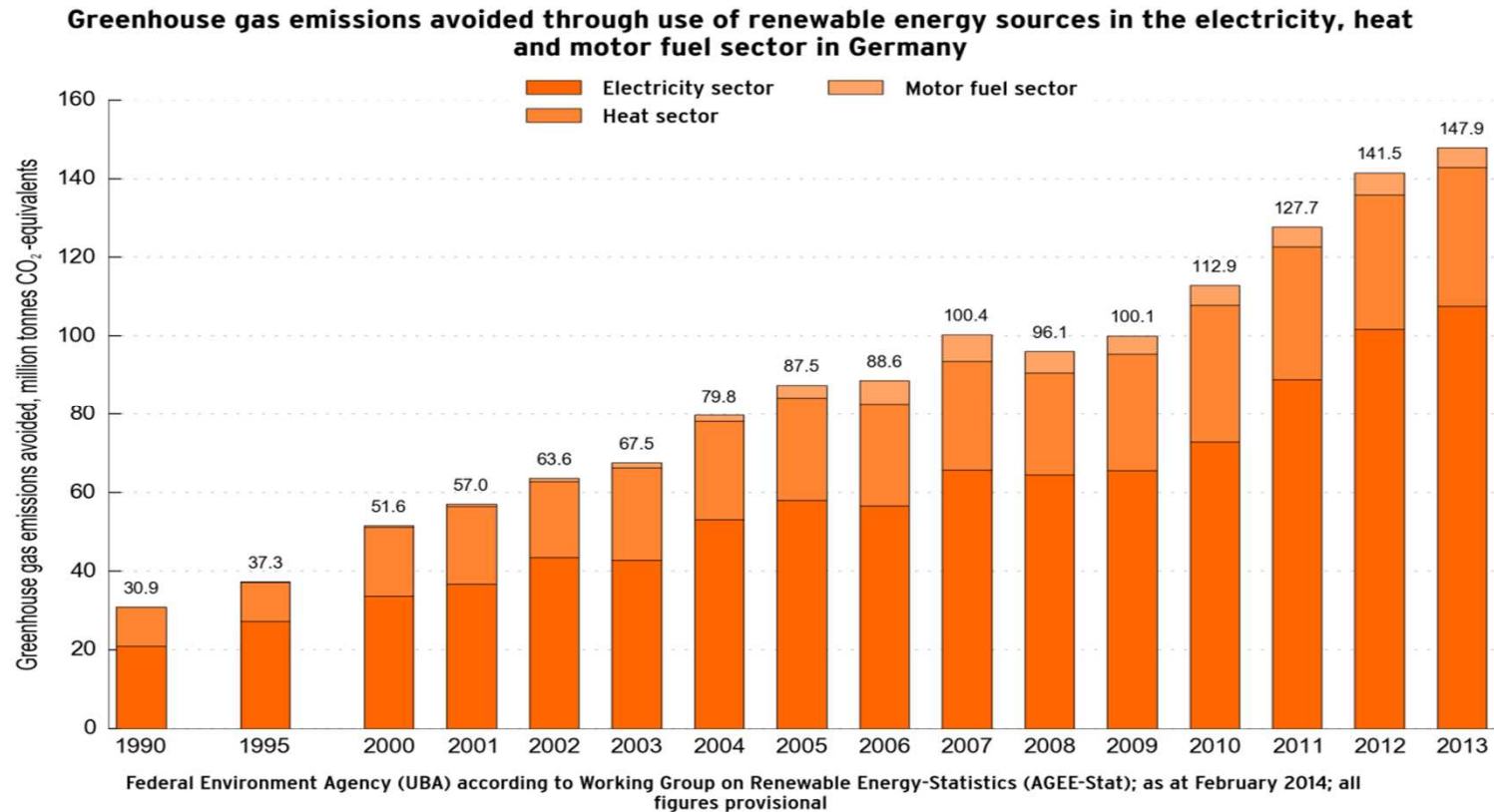


GHG Emissions in Germany: Composition, Development, Priorities





GHG emission savings through Renewable Energy



Source: AGEE-Stat (2014)

In 2013, renewables avoided 148 million tonnes of CO₂ in Germany, roughly equivalent to a 50 %-reduction in GHG emissions



Sectoral Approach: Mio t CO₂e GHG Emissions

Sector of Action	1990	2014	2020	2030: - 55%
Energy Industry	466	358	295	
Buildings	209	119	100	
Transport/Mobility	163	160	137	
Industry	283	181		
Agriculture	88	72		-
Sum	1209	890 -26%		



Energy Industry (I)



Mission statement 2050

- Electricity and heat generation is almost completely carbon neutral by 2050
- **Linking sectors means:** slightly rising electricity consumption (200 – 250 Twh above 2015 (647 Twh)) through contributions to decarbonisation in other sectors (in particular transport and buildings)
- Gas and cogeneration (CHPG) as transition technology
- Coal transfer gradually decreases to almost zero
- Renewable energies continue to grow; limitations on biomass



Energy Industry (II)



Milestones 2030

- Appropriate contribution to the overall reduction target by 4E
- Reduction of coal-based generation while avoiding structural breaks in two areas (80.000 jobs) by develop new industrial policy perspectives
- Extension of cogeneration (CHPG) from 96 (2014) to 120 TWh (electricity)
- Gross electricity consumption until the year 2030 is significantly below today's level

Measures: in particular promotion of new technbologie: power-to-gas including hydrogen, storage, fuel cells etc.



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Buildings: life duration in Germany appr. 100 years (I)



Mission statement 2050

- Living, affordable and almost climate-neutral building stock
- Programmes on investment and modernization, research and development
- 2050: Primary energy demand of residential building approx. 40 kWh / m²a; non-residential building Ø approx. 52 kWh/m²·a (significantly above 100 kWh/m²·a today)



Buildings (II)



Milestones 2030

- Efficiency Strategy on Buildings (ESG);
- Acceleration of the energetic optimization of the building stock, energy efficiency after energetic rehabilitation in 2030 max. 40 percent over the new standard;
- Further development of the new standards by 2030 based on the final energy requirement for residential buildings y below today`s low energy building $\leq 25 \text{ kWh/m}^2 \cdot \text{a}$
- Expansion of the share of renewable energies in the building area to at least 25 to 30 percent by 2030

Measures: legal requirements for new buildings; financial support for existing buildings; legal obligations for energetic modernization not possible



Mission statement 2050

- Transport system almost THG-neutral
- Energy supply largely based on electricity from EE
- significantly more foot and bicycle traffic, vision of a "City of Short Paths"
- higher shares of public transport and rail freight transport
- the potential of digitalization is used consistently
- New mobility concepts such as car sharing.



Transport / Mobility (II)

Milestones 2030

- Significant reduction of direct GHG emissions for in passenger cars and truck traffic through efficiency increase and use of GHG-neutral energy
- Improved CO2 limits for new car fleet under the EU regulation (draft expected in early 2017).
- Significant contribution and specific objectives to the electrification of the new car fleet in passenger cars; increased use also in light commercial vehicles and heavy vehicles.
- Rail transport (persons and goods): vehicles, infrastructure, digitalization.
- Infrastructure for bicycles (including pedestrians and bicycles), networking with public transport
- Aviation and maritime transport: alternative drives, of EE-based fuels

Measures



Industry (I)



Mission statement 2050

- High efficiency strategy to reduce resource and energy needs in production along the value chain
- Substitution of fossil fuels
- Substitution of primary raw materials by secondary raw materials (20% of industrial reduction reached by waste management measures)
- CCU/CCS technologies for industrial basic material production such as steel and cement.



Industry (II)



Milestones 2030

- Efficiency increases: material and energy efficiency, in particular avoidance and use of waste heat
- Business cycles (3 R`s), as far as possible including waste-to-heat technologies
- Longer durability of plants
- “Best available technologies” (BAT) with retrofit and new plants (*first 10 % as front runner*)
- Raw material productivity up to 2030: update trend 2000-2010
- Emissions Trading: price signals set the appropriate incentives
- appropriate regulations to avoid "carbon leakage“
- Promotion programmes for SME
- Climate reporting duties.



Agriculture



Mission statement 2050

- Halving the emissions of today (to about 35 Mio. T CO₂e)
- Important path: degradation of nitrogen surpluses requires a national N-strategy
- No expansion of the cultivation area of renewable raw materials, instead use of bioenergy from residues and waste

Milestones 2030

- Reduction of nitrogen surges to 80 kg N per hectare (today 98 kg N); up to the year xxx further significant reduction;
- Farming on 20% of agricultural land
- Information campaigns.



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Land Use, Land Use Change and Forestry (LULUCF)



Mission statement 2050

- Protection of forestry as well as organic soils to increase carbon sink (2015 58 Mio t CO₂e captured, 38 Mio t CO₂e emitted)
- Priority cascade use; Energy use of wood to be limited;
- Conversion of arable and grassland areas to wetlands,
- Until the year 2050 transition to the area-cycle economy

Milestones 2030

- sustainability criteria for timber imports
- Increase the share of areas with natural forest development
- Limitation of increase of area for settlement and traffic to 20 ha / day (2015 65 ha/ day, 2000: 129 ha/day)



Overarching Measures



- Concept for further development for the ecological tax reform from 1999
- Environmental harmful subsidies: Reduction and redistribution of subsidies (FEA estimates 52 Bio. € 2014)
- Discussion on ecological “fair prices”
- Climate-friendly investment: criteria for the investment of public funds
- Pioneer role of the Federal Government: e.g. Greenhouse gas neutral administration until 2030
- Cooperation in climate protection: education, information.



Implementation and Review

- At least every five years review and updating
- Regular “**Programmes of Actions**” (Climate Action Programme 2020 is running): Next Climate Action Programme in 2018 (to 2030)
- Annual monitoring and evaluating “Climate Protection Reports”
- Independent Scientific Commission to be established
- Broad participation in the continuation of the 2050 Plan
- Continuation of Climate Protection Alliance (“Klimabündnis”)



Timetable from today

When	What
09/2016	Talks with German States
09/2016	Official Hearing of Associations
09/10 / 2016	Comments of other Ministries
09 / 2016	Comments from the German States and Associations
10 / 2016	Consolidated Version
10 / 2016	Governmental Negotiations
11 / 2016 (expected)	Governmental Decision



Arigato
and
Thank you very much for your
Attention

<http://www.bmub.bund.de>