



Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety

# **Key Elements of an Integrated Energy and Climate Programme**

**Decision of German Cabinet on August 23rd/24th 2007 at Meseberg**

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## 0 Introduction

1. In the spring of this year, meeting under the German presidency, the European Council of heads of state and government set the parameters for an integrated European climate and energy policy. This will include ambitious climate protection targets, as well as targets for the expansion of renewable energies and increases in energy efficiency. With the key elements of an integrated energy and climate programme set out in this document, the German Government is implementing these fundamental European policy decisions at national level by means of a concrete programme of measures. The guiding principles remain the three objectives of security of supply, economic efficiency and environmental protection. The integrated energy and climate programme draws on the comments made in the government policy statement of 26 April 2007 and the results of the energy summit held on 3 July 2007.

2. The approach taken to the implementation of the energy and climate programme will ensure that Germany's climate targets are achieved in a continuous process by 2020 and the requisite measures organised cost-effectively. These aims will be reviewed by monitoring carried out every two years. The German Government will also conduct an impact assessment, which will apply the criteria of economic efficiency and the effectiveness of the planned measures, as well as involving the business community, consumers and academic experts.

3. In implementing this energy and climate programme, the German Government can build on the results achieved by emissions trading. 58 % of CO<sub>2</sub> emissions are attributable to the sectors subject to emissions trading. The Allocation Act 2012, which has already been adopted and entered into force, will reduce the CO<sub>2</sub> emissions from installations by 57 million tonnes during the second trading period from 2008 to 2012 compared to the first trading period from 2005 to 2007.

4. Climate protection is a task for the whole of society that cannot be mastered by the German Government alone. Rather, for their part, the business community, the *Länder* (Germany's constituent states) and local authorities are called upon to make the necessary contributions to climate protection.

5. The challenges of global climate change are linked extremely closely with the question of how future security of supply can be ensured at economic prices at a time when there is rising demand for energy worldwide and, in this way, sustainable supplies of energy

generally guaranteed. An ambitious strategy to increase energy efficiency and the further expansion of renewable energies are the right responses if we are to reduce emissions of greenhouse gases.

6. The measures necessary from the point of view of climate policy can and must be undertaken in such a way that they also make sense from the point of view of energy policy and take account of growth and employment. This includes the energy sector and industry having a reliable, competitive regulatory environment in which to make their investments. At the same time, consumers need cost-effective solutions and a transparent framework for their decisions about consumption and investments.

7. The choice between various climate-friendly technologies should be restricted as little as possible as a result of requirements imposed by the state. This package of measures is intended to stimulate innovation. The German Government is therefore supporting research and development in the field of energy technologies and climate protection with additional funds, which have been allocated as part of its High-Tech Strategy.

8. A total sum of 2.6 billion euro is available for climate policy under the federal budget for the 2008 financial year (including up to 400 million euro from the sale of emissions certificates). This is 1.8 billion euro more than in the 2005 federal budget and represents an increase of about 200 %.

In the subsequent financial years, from 2009 onward, the action taken to build up an efficient energy and climate policy will have to be harmonised with the budget consolidation targets set by the German Government, the financial plan it has adopted for the period to 2011 and the further reductions that need to be made in the Federation's new borrowing requirements.

Additional expenditure on climate protection can therefore be financed out of potential supplementary revenues from the auctioning of emissions certificates, shares of possible additional tax revenues that still remain to be negotiated or reallocations of resources within the federal budget. The Federal Cabinet will take these decisions in the course of its future deliberations on budgetary matters.

9. With our national climate protection policy, we are facing up to our responsibilities and setting an example for others. However, if we are to be capable of effectively limiting global climate change, joint action at the international level will be a decisive prerequisite. We made a good deal of progress in this respect at the G8 summit in Heiligendamm. For the period

after the expiry of the Kyoto Protocol in 2012, we need a comprehensive international agreement in which all the industrialised countries commit themselves to comparable reductions in emissions and the major newly industrialising countries commit themselves to make appropriate contributions to climate protection.

10. With the key elements of an integrated energy and climate programme presented in this document, the German Government is implementing fundamental European policy decisions at national level by means of a concrete programme of legislation and measures. Energy and climate policy is only credible to the extent that its ambitious targets are actually achieved by means of concrete measures. The programme also incorporates the results of the national energy summit and the reports from the summit working groups. As was agreed unanimously at the summit by those who attended it, the three objectives of security of supply, economic efficiency and environmental protection remain the guiding principles of energy policy for the German Government.

11. In essence, this programme of legislation and measures is a matter of optimising what is already being done. For example, how can the generation of power from renewable energies best be integrated into future power supply systems? Which approach makes economic sense if we are to drive ahead what has until now been the sluggish expansion of highly efficient combined heat-and-power generation? How can the market penetration of energy-efficient products be increased by means of improved labelling or further-developed guidelines for the award of public contracts? How will it be possible for the enormous potential for improvements in energy efficiency that can be exploited comparatively cost-effectively, in particular in Germany's building stock, to be mobilised through a combination of binding energy efficiency standards for buildings, state funding and information for consumers and owners, which would also include examples of best practice? How can integrated approaches to the solution of these problems be found for individual buildings, urban districts and whole towns or cities?

12. The targets set in this programme of measures will be flanked by an approach to foreign energy policy that will help in its own way to secure the supply of fossil fuels and, at the same time, ensure progress is made with respect to the expansion of sustainable energy structures in all the world's countries. This requires a dialogue with long-term perspectives, in particular between the industrialised and newly industrialising countries, as well as cooperation on the modernisation of power stations, the expansion of renewable energies, increasing energy efficiency and, consequently, the reduction of greenhouse gas emissions.

13. The national mix of energy sources used will not be determined by the German Government but will result from the decisions taken by the actors responsible on the basis of the frameworks put in place at the national and European levels. The German Government is of the opinion that the replacement of inefficient coal and lignite-burning power stations with highly efficient new power stations will make an important contribution to climate protection and the modernisation of power supplies. The upper limits for emissions of carbon dioxide, which have been clearly reduced in the Allocation Act, will ensure that Germany's national climate protection targets are met. These upper limits will be reduced further in the third European trading period that will begin in 2013. To make sure they do not exceed their upper limits, power-station operators can buy additional emissions-trading allowances, convert emission credits from climate protection projects abroad (CDM/JI) into allowances or – over the longer term – capture and store carbon dioxide (CCS technologies). As provided for in the programme, it is necessary to create the requisite legal framework for CCS.

14. There are differing opinions in society and within the German Government about the future significance of nuclear energy. However, this is not preventing the German Government from tackling the issues that have to be dealt with from the point of view of climate protection and energy policy. As shown by the decisions Europe has taken, an ambitious energy efficiency strategy and the expansion of renewable energies make sense regardless of the approach taken to this issue.

15. It is important for our economy that manufacturers and energy-intensive industries also continue to be internationally competitive in a transformed regulatory environment. There was unanimity among the participants at the energy summit that increases in energy efficiency, in particular on the demand side, in Germany's building stock, the transport sector, product design and among small and medium-sized businesses, hold out great economic potential. By contrast, manufacturing companies, especially energy-intensive businesses for which the use of energy represents a major cost factor, already have incentives to exploit the scope they enjoy to enhance energy efficiency. Those incentives will be strengthened even further by emissions trading.

16. With its efficiency strategy, the German Government is giving essential stimuli to modernisation. Anyone who produces energy-saving machines and pumps or manufactures vehicles with low fuel consumption will have competitive advantages when energy prices are rising both on the domestic market and on export markets. If we can markedly reduce the amounts of oil and gas consumed by the transport sector, heating systems and water

heating, we will lessen our dependence on energy imports, cutting fuel costs and consumers' heating bills. This package of measures includes stimuli for research and development, moves to tighten the binding efficiency standards buildings and products have to meet and economic incentives for the introduction of energy-efficient products onto the market. As in the field of renewable energies, Germany will continue to expand its leading international role in energy efficiency technologies. The German Government will support this as part of an effective export drive.

# 1 Combined heat-and-power generation

Current situation: So far, the reduction in CO<sub>2</sub> emissions through combined heat-and-power generation promised by German business in the CHP Agreement of 2004 has not been delivered to the necessary extent.

Goal: A doubling of the proportion of power generated from combined heat and power to approximately 25 % by 2020.

## Measures:

- i) Appeal to industry to stand by the CHP Agreement.
- ii ) Revision of the CHP Act with the following key elements:
  - Updating and capping of the CHP levy at the current level (approx. 750 million euro/year).
  - Retainment of the support systems put in place by the CHP Act, i.e. bonus payments made by grid operators for cogenerated power fed in from approved combined heat-and-power plants, refinanced by passing on costs to power-grid customers.
  - Discontinuation of support for existing plants as planned (current legal situation).
  - Funding for the new build and modernisation of combined heat-and-power plants commissioned between 2007 and 2013.
  - The expansion of local and district-heating grids (up to 20 % investment grant) will be incorporated into the levy procedure put in place by the CHP Act without the maximum level of funding being exceeded (up to 150 million euro).
  - Funding only for highly efficient combined heat-and-power generation.
  - Introduction of a guarantee of origin for cogenerated power.

- Limitations on the duration of funding both by time (years) and in quantitative terms (full-load hours) (funding to be discontinued once one of the two criteria has been satisfied).

Lead responsibility: Federal Ministry of Economics and Technology (BMWf)

## 2 Expansion of renewable energies in electricity generation

Current situation: Renewable energies currently hold a share of about 13 % of gross electricity consumption. The Renewable Energy Sources Act, which promotes the expansion of renewable energies, will be due for revision in 2008. According to the coalition agreement, the fees payable, degression steps and funding periods should be adjusted to the progress made in the development of the individual renewable energies.

Goal: Increase in renewable energies' share of power production to 25-30 % by 2020 (cf. resolutions adopted by the Christian Democratic Union/Christian Social Union [CDU/CSU] and Social Democratic Party of Germany [SPD] parliamentary groups in the German Bundestag) and further expansion by 2030. Expansion of electricity grids to ensure the demand-oriented integration of renewable energies, giving due consideration to economic efficiency, security of supply and environmental compatibility, and the creation of incentives for the demand-oriented feed-in of power from renewable energies in the Renewable Energy Sources Act.

### Measures:

1. Revision of the Renewable Energy Sources Act on the basis of the progress report on its implementation, with the following key elements:
  - Increase in degression steps for photovoltaics.
  - Extension of time limits for offshore wind and adjustment of fees to reflect increased costs.
  - Optimisation of the repowering of existing wind farms.
  - Improvement of feed-in, generation and grid management for power from renewable energies and incentives for the demand-oriented feed-in of power from renewable energies to the electricity grid.
  - Adjustments to the regulatory framework for biomass (in particular CHP).
  - Improvement of the regulatory framework for hydro power and geothermal power (in particular the efficient use of heat).
  - Maintenance of ecological standards intended to reduce environmental impacts, in particular with regard to biomass (e.g. palm oil).
2. Improved integration of renewable energies into the electricity grid while maintaining security of supply:

- Improved use of the grid capacities already installed, also taking into consideration the findings of the German Energy Agency (dena) Grid Study II; these issues include:
    - the creation of storage facilities to cope with fluctuations in the amounts of power being fed into the grid,
    - the use of economically acceptable opportunities for grid optimisation (e.g. temperature monitoring) and
    - the elimination of obstacles to the use of wind turbines with feed-in performance optimised to meet the requirements of grid operation, including obstacles in aviation law.
  - The German Government will examine what legal and other measures are required in order to drive ahead the necessary expansion of the grid.
3. Spatial plan for Germany's exclusive economic zone to be issued by the Federal Ministry of Transport, Building and Urban Affairs as a piece of secondary legislation defining the areas at sea designated for particular uses, in particular for offshore wind energy.
  4. Development of a concept for action in the field of development planning/regional planning to support the repowering of wind turbines (in cooperation with the *Länder* and the national associations that represent German local authorities).
  5. Introduction of a bundled approval procedure for the connection of offshore wind farms to the grid that combines the consideration of structures in the territorial sea and on-shore connections.

Lead responsibility: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)/BMW/BMWi/Federal Ministry of Transport, Building and Urban Affairs (BMVBS) within the scope of their respective competences

### 3 CCS technologies

Current situation: If lignite and coal-burning power stations are also to have a future over the medium to long term, given the tightening of reduction targets under emissions trading, it will be necessary to develop power stations with high efficiency factors and CCS technologies (capture and storage of CO<sub>2</sub>) capable of meeting the challenges of the future. A suitable framework should be created for the implementation of CCS technologies.

Goal: The technical, environmental and economic feasibility of CCS technologies is to be confirmed by demonstration power stations. This has also been agreed at the EU level. Other storage projects under which several hundred thousand tonnes of CO<sub>2</sub> are deposited each year should be implemented as soon as possible.

There must be rapid moves to organise the legal framework for the capture, transport and storage of CO<sub>2</sub> (CCS) so that the planned pilot facilities and, subsequently, power stations have a stable legal basis for the installation and operation of these systems. Taking into consideration the results of relevant R&D projects, the German Government will draw up proposals for a “capture-ready” standard. This standard could then be applied when new power stations are constructed.

#### Measures:

- Development of a suitable legal framework for CCS:
  - The German Government will act rapidly to formulate its position in order to develop a stable legal framework for CCS at the European level. The European Commission will present proposals for a directive intended to put in place a legal framework for CCS before the end of the year.
  - As concerns the measures for the development of CCS technology being pursued at the moment in Germany, current mining and environmental law provides a basis for the conduct of the forthcoming research projects. A suitable legal framework for underground CO<sub>2</sub> storage on an industrial scale (including the planned demonstration

power stations), transport and capture must be developed in Germany on the basis of the European directive announced for November 2007.

- To make sure that industrial-scale projects for the permanent storage of carbon dioxide can be realised while taking account of European targets, binding standards are to be drawn up that ensure the carbon dioxide is sealed off permanently from the atmosphere and otherwise guarantee its secure, environmentally compatible storage over the long term.
- It is intended to include a provision in the Federal Regional Planning Act that would grant the Federal Government the power to lay down binding stipulations in spatial plans concerning spatially significant projects and measures of national significance relevant to climate protection. This would make it possible to secure significant locations for the storage of CO<sub>2</sub> across Germany.
- The German Government is working vigorously for the inclusion of CCS in the European Emissions Trading Scheme and its incorporation into the post-Kyoto regime.
- The BMWi, Federal Ministry of Education and Research (BMBF) and BMU are developing a detailed roadmap for CO<sub>2</sub> capture (BMWi/BMU) and storage (BMBF/BMU).
- Construction of demonstration power stations in Germany:
  - Construction of at least two or three of the up to 12 demonstration CCS power stations to be built across the EU, subsequent permanent storage of the carbon in Germany and the earliest possible implementation of smaller-scale CO<sub>2</sub> storage projects.

Lead responsibility: BMWi/BMU/BMVBS/BMBF within the scope of their respective competences

## 4 Smart metering

Current situation: The methods used to determine power consumption in Germany do not reflect the latest technological advances. As a rule, the power consumption of households and small and medium-sized enterprises is only recorded once a year. However, the real-time analysis of consumption is a precondition if users are to control their own consumption and energy services (contracting) are to be optimised.

Goal: Rapid dissemination of new technologies for the real-time measuring of consumption on the liberalised power-metering market as a precondition for energy savings.

Measures: The German Government will create the preconditions for these technologies to be applied more frequently, in particular by businesses:

- This field will be opened up to competition as soon as possible by means of amendments to the legislation regulating the energy industry (Energy Industry Act and secondary legislation). (Currently, meters still have to be provided by the grid operator.)
- Creation of the necessary basis in the legislation regulating the energy industry so that smart electronic meters can be introduced, which will also promote a broader range of variable-load tariffs. Smart metering will initially be introduced for commercial and industrial clients, then somewhat later for domestic clients as well, provided its use makes economic sense. Provision has been made for a transitional period of six years, which will be accompanied by a monitoring process intended to evaluate the results of liberalisation.

Lead responsibility: BMWi

## 5 Clean power-station technologies

Current situation: There is increasing resistance among the public to the construction of new power stations, with accusations that not enough is being done to protect the climate and air quality. Projects that are to be advocated from the perspective of climate protection frequently find themselves exposed to the accusation of insufficient immission control. When plans are put forward for the construction of new power stations, the charge is raised that nothing has been done to provide for carbon dioxide capture.

Goal: To increase acceptance, the climate protection and immission-control systems installed should meet the most advanced technical standards.

In addition to this, measures are necessary that are oriented towards the avoidance of increased pollution loads (including nitric oxides).

This will also put the preconditions in place for demanding air-quality targets to be met in the context of a revision of the NEC Directive.

### Measures:

Introduction of an obligation to use the most modern emissions-reduction systems made available by developments in plant engineering with the goal of markedly reducing NO<sub>x</sub> emissions from new furnaces, waste incinerators and co-incineration plants with thermal output greater than 50 MW as of 2013 compared to current requirements.

Lead responsibility: BMU

## **6 Introduction of modern energy management systems**

Current situation: At present, industrial enterprises enjoy extensive relief from energy and electricity taxes (the tax privileges alone amount to more than 2 billion euro/year). The current regulations provide for net-burden compensation to be granted until 31 December 2012 at the latest.

At the same time, there is also an awareness today that businesses still have enormous unexploited potential to enhance their energy efficiency. Examples of the measures that could be taken include the deployment of energy-efficient drives, the installation of energy-saving lighting systems, the use of heat, the optimisation of furnaces, etc.

Goal: Exploitation of the extensive potential for energy efficiency improvements in industry.

Measure: An agreement on the coupling of tax relief with the introduction of energy management should be reached with the German business community by 2013 at the latest.

Under an energy management system, the existing potential for the improvement of energy efficiency and the reduction of costs is identified and documented by a trained energy consultant. The process results in recommendations about the measures with which CO<sub>2</sub> emissions can be reduced, so achieving energy savings, and the costs these measures would involve.

Often, the potential savings identified are highly profitable, since many companies, above all small and medium-sized enterprises, have not focussed on energy costs in the past when optimising their management systems. It remains a matter for the businesses themselves to decide how the potential identified during an energy management exercise should be exploited.

Lead responsibility: Federal Ministry of Finance (BMF)

## **7 Support programmes for climate protection and energy efficiency (apart from buildings)**

Current situation: There is still considerable potential to enhance energy efficiency that can be exploited comparatively cost-effectively in all sectors if economic incentives are put in place.

Goal: Various support programmes are being expanded or set up in order to complement the regulatory legislation/standards by mobilising the most cost-effective energy efficiency measures in commerce, domestic households, agriculture, forestry, the retail sector, services and the transport sector.

### Measures:

- Energy efficiency in small and medium-sized enterprises:  
Support for energy consulting and loans at favourable interest rates (BMW).i).
- Extension of energy consulting for households (BMW).
- Support for energy consulting in the agriculture and forestry sectors (Federal Ministry of Food, Agriculture and Consumer Protection [BMELV]).
- Implementation of the European Directive on Energy End-Use Efficiency and Energy Services (BMW, also BMVBS for measures relating to buildings and the transport sector).
- Contracting: consulting initiatives, standardisation of contracting arrangements: coverage for the financial risks of energy-conservation and plant-services contracting (BMW).
- Market introduction programmes for new, highly efficient, climate-friendly technologies for use in appliances and the transport sector (BMW/BMVBS/BMU/BMELV).
- Expansion of the Energy Efficiency Initiative (dena) – information campaign (BMW).
- Energy Efficiency Export Initiative (BMW).
- CCS (BMW/BMU).
- Climate protection campaign (BMU).
- Consolidation of the market incentive programme for renewable energies (BMU).

- Further national climate protection projects (BMU).
- International climate protection activities, including:
  - Climate protection funds, JI/CDM (BMU).
  - Seawater desalination (BMU).
  - Strategies for adapting to climate change (BMU).

Lead responsibility: BMU/BMWi/BMVBS/BMELV

## 8 Energy-efficient products

Current situation: At present, there are no challenging energy efficiency standards for power-consuming products. Furthermore, when they buy an appliance, consumers do not know how much its power consumption will cost and can therefore not take account of this when making decisions about the products they purchase. The legislation applying hitherto at the EU level and in Germany (Ecodesign Directive and Energy Consumption Labelling Ordinance) has still not unfolded the intended effects (reduction of energy consumption, transparency).

Goal: Use of standards and the clear, consumer-friendly labelling of all power-consuming appliances to encourage the broad-based introduction of energy-efficient products onto the market with the aim of achieving the EU energy efficiency target (+20 % increase in efficiency above the trend).

### Measures:

- The German Government will demand immediate action to set high, challenging standards for appliances and products in the Ecodesign Directive and update them regularly (EU-top-runner approach). It will work for procedures to be streamlined and speeded up, and more product groups to be covered by the Ecodesign Directive.
- It will call on the Commission to update and extend obligatory energy labelling in the short-term and urge rapid steps to update the Energy Labelling Directive or the adoption of a more comprehensive directive on the labelling of energy consumption. Products should be labelled in such a way that consumers can easily identify efficient products, with data being given on annual power costs in euro as well as energy efficiency classes.
- The German Government is working with producers, importers and retailers for a voluntary agreement on the consumer-friendly labelling of electrical appliances to the extent that this is possible under European law. Should these efforts remain unsuccessful, it will – as far as possible under European law – adopt provisions on obligatory labelling.

Lead responsibility: BMWi/BMU (voluntary labelling with eco-labels)

## 9 Provisions on the feed-in of biogas to natural gas grids

Current situation: Germany has the potential to produce enough biogas to supply 10 percent of the country's current consumption of natural gas by 2030. By 2020, production should have reached 6 percent of that level. It is necessary to amend the existing legal framework and fill it out with more concrete provisions if this potential is to be exploited economically.

Goal: Facilitation of biogas feed-in to the natural gas grid in order to reduce Germany's dependence on imports of natural gas and stimulate climate-safe energy generation. Decentrally produced biogas should be used in more efficient, targeted ways for combined heat-and-power generation and as a fuel.

### Measures:

- Setting of targets for biogas' share of natural gas consumption for the years 2020 and 2030.
- Specification of concrete prioritisation provisions (obligations placed on grid operators to ensure biogas benefits from priority connections and priority purchasing and transmission).
- Market-oriented fees: agreed price; alternatively: market price plus the charges for the use of the grid not incurred (market price based on price for natural gas).
- Drafting of precise provisions on annual balancing and measures that allow the grid charges not incurred to be taken into account.
- Definition of specific quality requirements for biogas, in particular with regard to the necessary composition of the gas.

Lead responsibility: BMWi/BMU

## 10 Energy Saving Ordinance

Current situation: The requirements set out in the Energy Saving Ordinance concerning energy efficiency standards for buildings no longer reflect the latest technological developments. We are not making the most of the potential for the improvement of energy efficiency and use of renewable energies in buildings that could be exploited economically. In addition to this, the low-cost night-storage heaters still to be found in about 1.4 million homes should be replaced over the long term.

Goal: The energy efficiency requirements placed on buildings will be progressively adjusted to reflect the latest technological developments and movements in energy prices. As of 2020, new buildings should be heated as far as possible without the use of fossil energy sources.

Measures: Revision of the Energy Saving Ordinance as far as economically justifiable with the following key elements:

### A) Raised level of requirements and retrofitting obligations

- Energy efficiency requirements to be raised by an average of 30 % (revision during 2008/2009).
- In a second stage (envisaged for 2012), the energy efficiency requirements will once again be raised by up to the same percentage.
- Extension of certain retrofitting obligations for plants and buildings under the general technical requirements concerning repair work, with allowances being made for cases of financial hardship among those affected. Exceptions, in particular, for buildings protected by heritage-conservation law or scheduled for demolition. Provisions for hardship cases/exemptions; retrofitting obligations will cease to apply if retrofitting is uneconomic even when funding options are taken into consideration. Appropriate transitional periods for the cost intensity of the measures. Funding under the modernisation programme to reduce CO<sub>2</sub> emissions from buildings.
- Strengthening of enforcement through the intensification of private duties to demonstrate compliance (e.g. certificates issued by specialist contractors).

- It is intended to introduce uniform provisions concerning fines for non-compliance with the requirements placed on new and existing buildings.

Lead responsibility: BMVBS/BMWi, BMU involvement

## **B) Replacement of night-storage heaters**

- Regulations on the gradual removal of night-storage heaters used for space heating.
- Changeover to be completed within a period of at least 10 years; provisions for hardship cases/exemptions; duty to remove night-storage heaters will cease to apply if replacement is uneconomic even when funding options are taken into consideration.
- Support under the modernisation programme to reduce CO<sub>2</sub> emissions from buildings.
- Examination of the possibility of a commitment from the power industry to fund replacement with heat pumps.

Lead responsibility: BMVBS/BMWi, BMU/BMF involvement

## 11 Operating costs of rental accommodation

Current situation: It is true that current landlord and tenant law contains incentives for the implementation of energy conservation measures, but there is also further potential that remains unexploited in this field.

Goal: Accelerated energy-efficient modernisation and exploitation of further energy conservation potential in rented multi-dwelling houses.

### Measures:

#### Revision of the Heating Costs Ordinance

- The model for the distribution of heating costs (balance between flat-rate/consumption-dependant distribution) and the relevant rules will be amended to distribute a greater proportion of the charges involved on the basis of consumption while ensuring that these financial burdens continue to be shared equitably (heat losses from pipes).
- For buildings that meet what is known as the passive-house standard, provision should be made for an exemption from the application of the Heating Costs Ordinance as a way of creating incentives for compliance with the passive-house standard when multi-dwelling houses are built or refurbished.
- Examination whether a right to withhold payment of a certain percentage of the charges billed by a landlord can be established in the Heating Costs Ordinance (based on the model in Section 12 of the Ordinance) for cases where there is a serious infringement of an obligation under public law to meet energy efficiency standards or retrofit installations.

#### Contracting

- Since no reliable, up-to-date statements about the energy conservation potential of contracting have been available to date, a report should be drawn up by an independent institution to clarify whether contracting can make a significant contribution to energy conservation and so the reduction of CO<sub>2</sub> emissions, the share of Germany's housing stock for which contracting could be considered and the scale of the energy conservation potential that could be mobilised. It will be

examined how existing legal and other constraints on energy conservation contracting can be eliminated.

Lead responsibility: BMVBS/BMWi, BMU involvement

## **12 Modernisation programme to reduce CO<sub>2</sub> emissions from buildings**

Current situation: Under the modernisation programme to reduce CO<sub>2</sub> emissions from buildings, 700 million euro a year are available for the energy-efficient modernisation of residential buildings in 2008 and 2009, and 200 million euro for the modernisation of local authority facilities. This funding will be continued beyond 2009 in order to exploit the potential these buildings have for energy conservation.

Goal: The existing modernisation programme to reduce CO<sub>2</sub> emissions from buildings should be further developed. In addition to this, the energy conservation potential to be found in urban structures and social infrastructure will be exploited more fully.

### Measures:

1. Stabilisation of the modernisation programme to reduce CO<sub>2</sub> emissions from buildings at the present level beyond 2009 to 2011.
2. Grant funding for the replacement of night-storage heaters.
3. As part of the modernisation programme to reduce CO<sub>2</sub> emissions from buildings, a module for the optimisation of energy efficiency in existing urban structures will be developed in consultation with the housing and energy industries. This will include the following components:
  - The use of district-based systems to heat and cool buildings (CHP, CCHP, use of waste heat).
  - Production and use of renewable energies in urban districts.
  - Intelligent energy storage and use inside and outside buildings.
4. Holding of a public competition under the title 'Construction of New Low-Energy Houses in Town-Centre Areas in Every County Borough/County'. Prizes for energy-efficient innovations and the architectural quality of the entries, e.g. buildings on disused land and in gaps between existing structures.

Lead responsibility: BMVBS, BMF/BMBF/BMWi/BMU involvement

## 13 Energy-efficient modernisation of social infrastructure

Current situation: More than half the buildings that make up Germany's social infrastructure (approx. 40,000 schools, 48,000 day nurseries, 50,000 youth facilities, etc.) are in urgent need of energy-efficient modernisation. In particular, there is a considerable investment backlog in local authorities that are having to cope with very tight budgets.

2008 will therefore see the launch of an investment pact between the Federation, the *Länder* and local authorities on the energy-efficient modernisation of social infrastructure with 200 million euro of federal financial aid. When this is combined with the equal contributions from the *Länder* and the local authorities (each providing one third of the financial backing), the volume of funding available will amount to 600 million euro. In addition to this, there will be 200 million euro to subsidise the interest rates on loans under the modernisation programme to reduce CO<sub>2</sub> emissions from buildings.

However, this special programme can only be used to undertake the most urgently needed modernisation work in schools and day nurseries (approx. 600 schools or 1,200 day nurseries).

Goal: Primary energy savings of up to 50 % per refurbished building. This will also help to strengthen local economic activities and employment.

Lead responsibility: BMVBS

## 14 Renewable Energies Heat Act

Current situation: Renewable energies' share of the heat generation market was 6.0 percent in 2006 and has only grown slowly in the last few years (2005: 5.4 percent). The technologies for the use of renewable energies in this field are widely available, but they have failed to penetrate the market, in part due to a lack of economic efficiency. Renewable energies are the "slumbering giant" on the heating market.

Goal: Increase in renewable energies' share of heat consumption to 14 % in the year 2020.

### Measure:

#### 1. Renewable Energies Heat Act:

- A duty to use a particular proportion of renewable energies will be introduced. Apart from solar radiation and heat pumps, use may be made of other renewable energies and CHP (e.g. district heating or fuel cells) to fulfil this duty. When solar radiation is used, there will be a duty to ensure that 15 % of the heat consumed in a new building comes from renewable energies, while 10 percent of the heat consumed in existing buildings following thorough modernisation will have to come from these sources. In future, the proportion of renewable energies used to heat a building will be declared and, as previously, counted towards the satisfaction of energy efficiency requirements. Alternatively, it will also be possible to fulfil the duty to use renewable energies by means of district-based solutions or energy-saving features 15 % more efficient than those required by the Energy Saving Ordinance in each particular case. Urban planning concerns will be taken into account, e.g. in inner cities.
- Provisions for hardship cases/exemptions and situations in which the duty to use renewable energies will cease to apply if the fulfilment of that duty or alternative measures would be disproportionate in each particular case.
- The market incentive programme for renewable energies will be strengthened with funding of up to 350 million euro (financed from the proceeds of auctions). An efficient industry will only be built up if it is possible to plan for the future (as under the Renewable Energy Sources Act). In particular, funding should be approved if

the owner does more than the minimum required by the statutory duty to use renewable energies or deploys innovative technologies.

- The Renewable Energies Heat Act maintains the principle of economic justifiability and will be harmonised with the technical requirements set out in the Energy Saving Ordinance.

2. District-based heating solutions that use renewable energies should be driven ahead and closely coordinated with the regulations applying under building law.

Lead responsibility: BMU (Renewable Energies Heat Act), BMVBS/BMWi (Energy Saving Ordinance and technical harmonisation with the Renewable Energies Heat Act)

## **15 Programme for the energy-efficient modernisation of federal buildings**

Current situation: At present, a programme for the energy-efficient modernisation of federal buildings subject to direct federal administration (used by supreme federal authorities) has been put in place for the period 2006-2009 with funding of 120 million euro/year. 5 percent of these funds are earmarked for high-tech measures (e.g. fuel cells). The overall cost of the energy used in the properties occupied by the Federation amounts to almost 0.5 billion euro/year. There is considerable potential for energy savings slumbering in this field that could be exploited by means of architectural, design and technical modernisation measures (including contracting) – and the same is also true of buildings subject to indirect federal administration (used by indirectly administered federal corporations, institutes and foundations under public law).

Goal: Realisation of the extensive potential for energy and cost savings, reduction of CO<sub>2</sub> emissions from federal buildings in accordance with the commitments entered into by the German Government.

Measure: Stabilisation of the programme at the current level beyond 2009 to 2011 with the following key elements:

- Additional energy-efficient modernisation work on buildings subject to indirect federal administration (including the Federal Employment Agency).
- Increase in the share of the programme devoted to innovative, but hitherto uneconomic, technologies (e.g. fuel cells, photovoltaics, vacuum-insulation panels) to up to 15 %.
- Funding also for more recent service systems in buildings (equipment installed since 1995) that are to be expanded or modernised (above all for the use of renewable fuels, etc.).
- Monitoring of CO<sub>2</sub> emissions by the Federal Office for Building and Regional Planning in cooperation with the Federal Environmental Agency in accordance with the commitments entered into by the German Government.

As a result of the extension and stabilisation of these programmes, it will be possible to make energy savings worth 30-90 million euro/year.

Lead responsibility: BMVBS/BMU (monitoring of action on commitments)

## 16 CO<sub>2</sub> strategy for passenger cars

Goal: Under the Commission's CO<sub>2</sub> strategy, the average CO<sub>2</sub> emissions from new cars in the EU are to be reduced to 120 g CO<sub>2</sub>/km by 2012, with allowances being made for the competitiveness and diversity of the European automotive industry. At the same time, however, the use of biofuels and various other measures will also be counted towards this target at a level of 10 g CO<sub>2</sub>/km, which means the vehicles themselves will only have to reach a target of 130 g CO<sub>2</sub>/km by 2012.

Measures:

- (1) The German Government will work for the introduction of appropriate binding CO<sub>2</sub> values, which must be anchored legally at the EU level.
- (2) The German Government will only deliberate on the consequences for the tax treatment of company cars once the European Commission has finalised how its CO<sub>2</sub> strategy is to be implemented.

Lead responsibility: (1) BMU with BMVBS, BMF involvement on (2)

## 17 Expansion of the biofuels market

Current situation: The Biofuels Quota Act, which has been in force since January 2007, obliges enterprises that place fuels onto the market to sell a statutorily determined minimum proportion (quota) of those fuels in the form of biofuels.

Goal: Assessment of biofuels on the basis of their potential to reduce greenhouse gas emissions and greater use of second-generation biofuels, accompanied by action to ensure the sustainable cultivation of raw materials for the production of biofuels

Measures:

- Adoption of secondary legislation on the sustainable cultivation and use of biofuels (Biofuels Sustainability Ordinance), which is essential if they are to be counted towards the quotas and receive favourable tax treatment (Bundestag Finance Committee to be tasked with implementation).
- In order to create additional incentives for investment and lasting prospects for biofuels in the period after 2015 as well, the Biofuels Sustainability Ordinance should provide for biofuels to be assessed on the basis of the extent to which they reduce greenhouse gas emissions, with the consequence that biofuels with a good greenhouse gas balance would count more towards the fulfilment of quotas under the relevant provisions and, as a result, would be treated favourably in comparison to other biofuels.
- Increase in the contribution to climate protection made by biofuels: The quota to be fulfilled (in the Biofuels Quota Act) will be set as a net climate protection contribution (decarbonisation) at 5 percent until 2015 and 10 percent from then until 2020. Since the greenhouse gas emissions from the production of biofuels will be factored into the calculations, a correspondingly higher quantity will have to be added to conventional fuels in order to fulfil this quota. This means that by 2020 blends will have to contain approx. 20 % biofuels by volume (equivalent to 17 % by energy content).
- To ensure that quota obligations above 7 percent biofuels by volume can also be complied with by means of blending, the combined hydrogenation of high-quality vegetable oils with mineral-oil-based oils will be permitted as of 2010, subject to the precondition that the cultivation and use of the vegetable oils are certified.

The amount of vegetable oil that can be hydrogenated with mineral oils will be limited to 3 percent by volume.

Lead responsibility: BMF/BMU/BMELV

## 18 Reform of vehicle tax on CO<sub>2</sub> basis

Current situation: The average CO<sub>2</sub> emissions from newly purchased cars currently lie at approx. 164 g CO<sub>2</sub>/km.

Goal: By 2012, the CO<sub>2</sub> emissions from new cars in the EU should go down to 130 g CO<sub>2</sub>/km, incentives for which are to be created using vehicle tax

Measure: While maintaining rates differentiated by pollution-emission standards, a revenue-neutral restructuring of vehicle tax will be initiated by means of the incorporation of CO<sub>2</sub> emissions into the basis on which it is calculated. As a result, it will be possible to reduce the tax burden on economical vehicles while increasing the tax burden on vehicles with high consumption. Key elements:

- A revenue-neutral reform of vehicle tax will take place at the next possible point in time, applying to all new vehicles.
- Older vehicles will continue to be taxed by cubic capacity and pollutant emissions. Moderate increases in the tax rates for older vehicles – beginning with vehicles covered by the Euro 2 pollution emission standard – should be used to ensure that new vehicles are not placed at a disadvantage when it comes to taxation and scope is allowed for financial incentives to purchase new vehicles.
- Every gram of CO<sub>2</sub> will be taxed equally and the different mineral-oil tax rates on petrol and diesel will be harmonised as in the past.

Lead responsibility: BMF

## 19 Energy labelling of passenger cars

Current situation: To date, the energy labelling of passenger cars (transposition of the European CO<sub>2</sub> Labelling Directive) is not approached uniformly across Europe. Customers in Germany are not provided with any significant information about vehicles' energy efficiency.

Goal: The German Government will present a concept intended to improve national labelling. The goal is consumer-friendly, clear labelling that also selectively incorporates the EU targets for CO<sub>2</sub> emissions and provides information about the energy efficiency of vehicles on sale. Basing itself on this concept, the German Government will also seek to persuade the Commission to introduce a harmonised consumer-information scheme.

### Measures:

- Immediate amendment and notification of the Passenger Car Energy Consumption Labelling Ordinance to improve the information provided about CO<sub>2</sub> emissions from passenger cars. This proposal will also be submitted to the European Commission as soon as possible for harmonisation within the EU. The improved labelling should include a graphic representation of the vehicle's efficiency and the level of carbon dioxide emissions per kilometre driven, as well as information about the level of annual vehicle tax to be paid and fuel-consumption costs.
- If the Commission does not wish to adopt uniform European provisions in the short term, the German Government will introduce the notified legislation into the decision-making process.

Lead responsibility: BMWi

## 20 Reinforcing the influence of the HGV toll

Current situation: The level of freight moved – in particular by road hauliers – will rise strongly in the years to come. The toll on vehicles of 12 tonnes max. gross weight and above has already exerted a positive influence on this vehicle segment with regard to the more efficient use of vehicle capacities and the deployment of low-emissions vehicles.

Goal: Further reduction of emissions from the transportation of goods by means of increases in efficiency, the deployment of the least polluting vehicles and the prevention of evasive strategies.

Measures: The toll system should be further developed in order to achieve an even stronger climate protection effect:

- Broader spread and greater differentiation of toll rates by emissions classes: 100 % spread between lowest and highest rates (hitherto 50 %). This will further reduce the charges for less-polluting vehicles and increase the charges for more-polluting vehicles.
- Toll rates that recognise the retrofitting of particle-filtering systems.
- Differentiation of toll rates to control the formation of traffic congestion.
- Greater coverage of roads below motorway level.
- Development of a concept for the incorporation of external costs when the level of the toll is being calculated that takes account of the forthcoming amendment of the Infrastructure Charging Directive (BMVBS).

A broader spread of toll rates is possible in the short term, other steps will depend on the further evolution of the on-board units (OBUs, electronic devices used to record vehicle movements). The financial effects of this measure will not result in the revenues from the toll falling below the planned level in the period covered by the current financial plan.

Lead responsibility: BMVBS

## 21 Aviation

Current situation: Since 1990, the greatest growth in transport-related CO<sub>2</sub> emissions has been in the aviation sector.

Measures:

- **Extension of emissions trading to air traffic**

The German Government is working actively for the competition-neutral extension of the European Emissions Trading Scheme to air traffic. At the ICAO Assembly due to take place in September, the German Government will argue that no regulations should be adopted that obstruct the extension of the European Emissions Trading Scheme to air traffic envisaged by the EU in the planned form. This means that, in order to avoid distortions of competition, the scheme would also have to be extended to non-European airlines.

Lead responsibility: BMU

- **Creation of the “Single European Sky”**

It is hoped that the creation of a unified European airspace will reduce the CO<sub>2</sub> emissions per flight from European air traffic by up to 10 percent.

Measures: These targets can only be achieved in a European context. However, the German Government will work actively at all levels for the creation of the Single European Sky.

Lead responsibility: BMVBS

- **Emissions-related landing charges at airports**

Incentives for the use of less-polluting modern aircraft may be created by the emissions-related structuring of landing charges. In view of the indirect impact NO<sub>x</sub> have on the climate, this would constitute a direct contribution to the limitation of the greenhouse effect.

Munich Airport and Frankfurt Airport have declared their willingness to operate a three-year, revenue-neutral test phase that is intended to start on 1 January 2008. After approx. one year, the German Government will present a report on the experience that has been gained. If the conclusions reached in this report are positive, the German Government will seek to ensure that other airports apply this instrument.

Lead responsibility: BMVBS

## 22 Shipping

Current situation: With the growth of the shipping industry, emissions of greenhouse gases and other air pollutants (a problem at ports in particular) are increasing strongly.

- **Extension of emissions trading to maritime shipping**

Measure: The German Government has a positive attitude towards the competition-neutral extension of emissions trading to shipping. It will therefore, firstly, work at the international level for the adoption of regulations on emissions trading in this sector by the IMO and the UNFCCC and, secondly, call upon the European Commission to present analyses and proposals concerning action on this issue.

Lead responsibility: BMU (UNFCCC), BMVBS (IMO)

- **Further development of limit values for shipping**

Measures: The German Government is working for the relevant regulations to be tightened in various ways in order to reduce emissions from ships, as is currently being discussed in the International Maritime Organisation (IMO). The goal is to put in place more rigorous standards, including provisions on the quality of ship fuels, in order to facilitate the improved aftertreatment of exhaust gases.

Lead responsibility: BMVBS

## 23 Reduction of emissions of fluorinated greenhouse gases

Current situation: Fluorinated greenhouse gases have a very high greenhouse potential (up to 20,000 times higher than CO<sub>2</sub>). They are particularly used as coolants and propellants. Each year, considerable amounts of these gases are released directly during the operation of the systems where they are found and as a result of leakage. A rise in emissions can be expected on account of the moves to halt the use of CFCs/HCFCs. Alternative technologies (e.g. refrigeration and air-conditioning systems and appliances with natural coolants such as CO<sub>2</sub>) are already available for certain applications.

Goal: Reduction of extremely climate-damaging emissions of fluorinated gases

Measures:

- Adoption of a Chemical Climate Protection Ordinance, which will include requirements concerning the impermeability (limit values for coolant losses) of new and existing stationary refrigeration systems with fluorinated coolants. These restrictions will be based on state-of-the-art technology (German Engineering Federation) and depend on the quantity of coolants the systems contain (exception for hermetically closed systems containing less than 6 kg fluorinated greenhouse gases).
- Measures that lead to an early changeover from fluorinated-gas air-conditioning systems to air-conditioning systems with a GWP value clearly lower than 150 in new cars.
- Funding from the Climate Protection Efficiency Fund for the development and market introduction of particularly energy-efficient, climate-friendly refrigeration systems with natural coolants (funding will be graduated in line with the systems' TEWI contributions and structured degressively over time).
- In addition to this, the German Government will make representations to the European Commission, arguing for the European legislation on fluorinated gases to be updated, particularly in relation to aerosols, foams, mobile and stationary refrigeration systems and air-conditioning systems, with the goal of further reducing emissions of fluorinated gases.

Lead responsibility: BMU

## 24 Procurement of energy-efficient products and services

Current situation: Public procurement activities have a quite considerable exemplary function. Despite the fact that demand from the public sector is spread between a large number of contract-placing public authorities and individual contracts, its overall volume is still of major economic significance. Hitherto, energy consumption has, as a rule, been of secondary importance in public procurement, although in most cases energy costs represent a considerable proportion of operating costs.

Goal: The Federal Government will cut its energy consumption, reduce the pressures on its budget and act as a model for the procurement of energy efficiency technologies and the integration of climate protection into other activities.

Measure: The German Government has decided to develop environmentally friendly, in particular energy-efficient, technical guidelines that will form the basis for the procurement decisions made by the Federation. To this end, the German Government has decided that, when the Federation makes procurements, the foreseeable operating costs over the serviceable life of the system being considered (above all the costs for the energy consumption of the devices to be procured) are to be taken into account as well as purchasing costs during the evaluation of offers (life-cycle-costs principle). The action required to implement this decision, including appropriate monitoring, will be taken by and with the support of an inter-ministerial Working Group on Green Purchasing.

The German Government is also calling upon all the *Länder* and local authorities to introduce guidelines for environmentally friendly and, in particular, energy-efficient procurement and to scrutinise compliance with these guidelines by means of monitoring.

Lead responsibility: BMWi

## 25 Energy research and innovation

Current situation: The German Government's 5th Energy Research Programme will form the basis of the Federation's ongoing funding policy in the years to come. It sets the right priorities with its focus on energy efficiency and renewable energies. Work on these topics is also being supported by the funds additionally directed into energy research by the High-Tech Strategy under the 6 Billion Euro Programme. This means energy and climate research is able to build on solid foundations.

Goal: Implementation of the roadmap for energy research presented at the energy summit.

Measures: The German Government will consolidate ongoing activities in energy and climate research and launch a number of selected new initiatives. This will require the identification of pioneering projects and initiatives. It will also involve support for strategic partnerships between publicly and privately funded research. Furthermore, fundamental and applied research should be expanded, on the one hand, in order to exploit the potential to optimise energy systems over the short to medium term and, on the other hand, to ensure innovative climate protection technologies continue to become available in the period after 2020 as well.

To this end, the German Government has further increased the funding for energy research from 2008 onward.

Examples of concrete measures in this context include:

- Launch of a technology programme on climate protection and energy efficiency (BMWi).
- Expansion of research into the use of renewable energies, in particular in innovative fields (BMU).
- Launch of a programme of fundamental energy research, including activities focussed on CO<sub>2</sub> storage (BMBF).
- Consolidation of research into the use of biomass to produce energy (BMELV/BMU/BMBF/BMVBS).
- Technology and efficiency programme for future drive technologies (BMVBS/BMU/BMWi/BMBF).

- Expansion of applied research into measures that can be taken in buildings (BMVBS).
- High-tech strategy for climate protection, under which important areas of concern will be addressed together with business, to be presented by October 2007.

Lead responsibility: BMWi (overall approach)/BMU (renewable energies and climate protection/BMBF (in particular High-Tech Strategy/6 Billion Euro Programme), BMVBS/BMELV (subprogrammes)

## 26 Electric mobility

Efficient vehicles and drive technologies will be crucial factors in the efforts to further exploit the potential to reduce CO<sub>2</sub> emissions in the transport sector and, at the same time, lessen Germany's dependence on energy imports. As far as drives for passenger cars are concerned, the electrification of drives and fuel-cell technology will become ever more prominent in future.

The automotive industry and the German Government are already working jointly on the development of innovative drive technologies under various programmes, such as the National Hydrogen and Fuel Cell Technology Innovation Programme (NIP). The automotive industry is also engaging in complementary activities, looking to various variants of hybrid technology for increases in efficiency and CO<sub>2</sub> savings. Almost all the manufacturers have this technology in their product range or are at least preparing to introduce it in the near future.

Thanks to the development of battery technology, new possibilities are opening up for hybrid vehicles: short journeys could be made using an electric motor and a battery charged up from the fixed power grid. This would create new opportunities for certain market segments.

Vehicles with electric drives do not release any fine particulates or NO<sub>x</sub> emissions in the location where they are driven. The only noise pollution produced is tyre noise. This means, above all, that they are able to make an important contribution to improvements in the quality of the environment and of life in conurbations. With regard to CO<sub>2</sub> emissions, the advantageousness of electric mobility depends on how power is generated and hydrogen produced.

With intelligent measures to integrate the additional demand for power into the future energy system, vehicle batteries will make an important contribution to the improvement of grid management. This would, above all, simplify load management by increasing storage capacities, given that a growing proportion of Germany's power will come from renewable energies with fluctuating levels of output, and at the same time make it possible to exploit efficiency reserves.

Just as in Japan and the USA, for example, long-term, coordinated funding for research into batteries is needed in Germany. This should also encompass modern high-voltage

drive batteries in order to develop alternative drive technologies (hybrid, fuel-cell and battery vehicles).

Goal: Provided certain conditions are taken into consideration, the use of vehicles with hybrid and pure electric drives can improve the environmental balance of the transport sector. At the same time, the integration of these vehicles into modern power grids could make a further contribution to the improvement of grid management.

Measures:

The German Government will:

- Collaborate with industry under the auspices of the National Hydrogen and Fuel Cell Technology Innovation Programme to develop an R&D and demonstration concept for battery systems and electric drives.
- Carry out a field test with plug-in-hybrid vehicles in consultation with the automotive industry.
- Conduct practically relevant research projects intended to analyse questions relevant to the practicality, acceptance and efficiency of this technology, as well as the material flows it requires.
- Present and consult with the relevant business groups on a concept detailing how the efficiency reserves available in the field of grid management, in particular, can be exploited as electric mobility increases its share of the transport sector, given the marked increases in the amount of power being supplied from renewable energies.

Lead responsibility: BMWi/BMVBS/BMBF/BMU

## **27 International projects on climate protection and energy efficiency**

Current situation: At the moment, Germany holds only a very small share of the market for project-based mechanisms under the Kyoto Protocol (Germany's share of Joint Implementation/CDM projects is about 3 percent – market leaders: UK, Spain, Italy, Netherlands, Denmark).

Today, very few exports from German companies are marketed with claims about “climate protection” and “energy efficiency”.

Nevertheless, German industry is a technological leader or one of the top global providers on the world market in many fields relevant to climate protection and energy efficiency.

Goal: Support for, and systematic strengthening of, the participation of German companies in project-based mechanisms, partly so that they fulfil their obligations under emissions trading cost-effectively. Support for the export of climate-safe, energy-efficient products and services by German businesses.

### Measures:

1. Consistent implementation of CDM/JI initiatives (BMU)
2. Implementation of the Energy Efficiency Export Initiative (BMW i)
3. Strengthening of efforts by German business (German Association of Chambers of Industry and Commerce/Federation of German Industries, with support from the German Government)

Lead responsibility: BMU/BMW i (Export Initiative)

## 28 Reporting on energy and climate policy by German embassies and consulates

Current situation: To a great extent, national energy and climate policy is made through the implementation of European and international agreements; developments in energy and climate policy abroad have repercussions for national policy.

Goal: Comprehensive, up-to-date reporting from German representations abroad.

Measures: The Federal Foreign Office will instruct German embassies, consulates and representations at international organisations to submit more frequent regular and occasional reports on energy and climate policy topics.

Apart from the continuation of the annual reporting on energy policy from strategically important countries, this relates in particular to reporting on:

- Developments in the energy sector of the host country (political structures, changes to legislation, etc.).
- Developments with consequences for the security of energy supply in Germany and the EU (e.g. energy infrastructure projects, new extraction licenses).
- The host country's policies towards renewable energies (and at present the initiative started by Germany to establish an International Agency for Renewable Energies [IRENA]), as well as energy efficiency.
- Opportunities for German companies in the host country in the fields of energy and climate protection, including renewable energies; opportunities for cooperation on the basis of the CDM and JI mechanisms.
- Research projects and calls for tenders in the host country in the fields of new low-emission energy technologies, renewable energies and energy efficiency
- Energy and climate policy in international organisations.

Lead responsibility: Federal Foreign Office (AA)

## **29 Transatlantic climate and technology initiative**

Current situation: It is of decisive significance that, as one of the biggest emitters of greenhouse gases, the USA should be involved more in the fight against climate change. Energy and climate issues must be a central theme in the transatlantic dialogue.

In this respect, one key topic could be innovations in energy and climate-friendly technologies.

The Federal Foreign Office launched the transatlantic climate and technology initiative during the German presidency of the European Council as part of the German Federal Chancellor's efforts to promote a broad-based "new transatlantic economic partnership" between the EU and the USA. The focus of this initiative lies on the harmonisation of standards, joint research projects and coordinated calls for tenders in the research field. The first concrete measures to be taken as a result of these steps were agreed at the joint EU-US summit in April 2007.

Goal: Closer transatlantic cooperation and consultation on climate protection and technology, in particular in the following fields: clean coal, development of renewable energies and energy efficiency.

### Measures:

- Clean coal: the EU will fund demonstration power stations; the USA will increase financial incentives for CCS research; there will be joint action to encourage newly industrialising countries, such as India and China, to adopt CCS technology.
- Renewable energies: the EU has adopted a binding target of 10 percent for biofuels' market share by 2020; the USA wants to reduce fuel consumption by 20 % by 2017 through the increased use of alternative fuels; common standards for biofuels are to be drawn up jointly by the end of 2007.
- Continuation of the work of the joint US-EU Energy CEO Forum as part of the "transatlantic technology initiative": among other things through the involvement of entrepreneurial expertise in the following areas:
  - Biofuels (harmonisation of standards, sustainability aspects).

- Energy production (CCS, feed-in of renewable energies).
- Energy efficiency (harmonisation of construction regulations, labelling, e.g. ENERGY STAR).
- Research & development (CCS, second-generation biofuels, energy storage).
- Within the EU and in its discussions with the Commission, Germany is seeking an intensification of EU-US research cooperation in the field of climate-friendly energy technologies.

Lead responsibility: AA, BMWi