Germany’s GHG emissions reductions policies

German industry uses less energy than many other industrialized nations. Germany set, and achieved, the targets set out by the Kyoto Protocol and it now plans to reduce its national energy demand even further.

**ENERGY PROFILE**

Industrial energy consumption in Germany represents approximately a quarter of total energy use. Compared with other industrialised countries, the industrial sector in Germany uses less energy; much lower than Finland (41%) but still a little more than the UK (19%).

The German manufacturing industry was responsible for 13 percent of the country’s CO₂ emissions in 2009, due to fuel consumption. Energy intensity in the German industrial sector is lower than the average of EU and IEA countries.

**National targets**

As guided by the Kyoto Protocol, Germany aimed for a 21 percent reduction in greenhouse gas (GHG) emissions (from the 1990 baseline) to be achieved during the period of 2008 to 2012. It managed to reduce GHG emissions by 25.5 percent by the end of 2012. Germany and the UK were the only countries to surpass their targets.

Germany’s National Energy Efficiency Action Plans aims to reduce national energy demand by 9 percent between 2008 and 2016 (equivalent to 995 petajoules (PJ)).

**Policy structure**

Germany has extensive policies in place to help it achieve its energy goals. The policies in the industrial sector are mostly voluntary.

The government provides extensive financial and practical support to industry as incentives to cooperate.

Germany relies on a mix of voluntary agreements and the mandatory EU’s Emissions Trading System (EU ETS) to motivate improvements in energy efficiency, along with a range of financial incentives and supports. These incentives and supports focus on specific drivers of energy efficiency, such as energy advice services, investing in highly-efficient technologies or promoting combined heat and power (CHP). Tax rebates are also used to motivate industry into improving energy intensity.

Germany provides extensive implementation tools, including facilitating participation in the EU ETS and a number of initiatives to promote information sharing, and provide training and advice.
Policy types
The Institute for Industrial Productivity offers a framework for industrial energy efficiency policy packages. The pyramid below goes beyond just listing policies and instead illustrates a layered analysis according to a “policy pyramid”, which connects various policies, measures and implementation tools.

IIP POLICY PYRAMID

Effort-defining policies
Interventions that motivate and drive energy efficiency, energy savings or GHG emissions reduction.

Supporting measures
Carrot-and-stick policies that encourage action and address or alleviate barriers.

Implementation toolbox
Guidelines, tools, templates etc. that support the above policies.

Effort-defining policies
The two main effort-defining policies in Germany are the EU Emission Trading System (EU ETS) and the voluntary agreements in place with industry. The EU ETS is currently in its third phase (2013–2020), putting a cap on GHG emissions for individual entities in participating countries (mostly power generators and heavy industry). Phases one and two covered CO2 emissions from some 11,000 installations. The goal for EU ETS participants across Europe (a group that currently represents 40 percent of EU emissions) is to reduce CO2 emissions by 2020 to 21 percent below 2005 levels. In 2011, Germany had more than 1650 ETS participants registered.

The first set of voluntary agreements with industry in Germany ended in 1996. This was then extended in 2000 to cover 19 national industrial associations, with individual emissions reduction targets formulated for each association. Total reductions by 2010 were estimated to be a 24.8 percent decrease on 1990 emissions levels, representing 595 million tons of CO2. The latest voluntary agreements, which run from 2013–2022, include several changes. Targets are formulated for energy intensity reductions instead of emission reductions. These targets are not legally-binding. However, meeting these goals is a pre-condition to qualify for large tax rebates. As of 2015, the agreements will also include the mandatory implementation of an energy management system.

The EU ETS is also supported by the EU Product Ecodesign Directive and the Energy Efficiency Directive. The EU Product Ecodesign Directive mandates standards and/or labels on agreed industrial equipment. The EU Energy Efficiency Directive has legally-binding measures to ensure Member States use energy more efficiently and it sets national targets to be achieved by 2020. Measures include mandating energy audits and management plans for large companies and requiring Member States to create incentives for SMEs to undergo audits.

Supporting measures
Germany has a variety of instruments at its disposal to support the voluntary agreements and the EU ETS. The main approach is to provide liquidity to companies through various loan schemes to spur investments in energy efficiency, as well as other financial incentives.

The public bank KfW provides many loan schemes, which were traditionally targeted at SMEs. Since 2012, KfW is offering these loans to large companies. Public private partnerships are also eligible for projects with broader environmental benefits, such as waste and water management.

The Federal Environment Ministry provides loans for large-scale environmental innovations. These loans can come paired with grants for the project that cover up to 30 percent of eligible costs. Since 2012, a new loan scheme has been implemented by the Federal Office of Economics and Export Control (BAFA), which supports SME investment in highly-efficient cross-sectoral technologies.

Significant tax rebates are granted on energy and electrical taxes, covering up to 90 percent of the total tax bill, to motivate energy-intensive industries to meet voluntary agreement targets. Rebates are granted only if these targets and conditions are met.

Additional measures to support Germany’s effort-defining policies are:

- A feed-in tariff scheme to support electricity production through CHP
- A partnership with climate protection and energy companies to promote information sharing and provide grants for energy management trainings
- A 30 pilot network project that subsidizes the operating costs of 30 networks, regrouping 10-15 companies per network to further foster information sharing and achieve joint energy efficiency targets.

Implementation toolbox
The German government has a comprehensive implementation toolbox at its disposal to support industry in adhering to policy requirements. These include a virtual post office for secure and legally-binding digital communication on EU ETS matters, a helpdesk, free software, a handbook on emissions monitoring and a list of accredited verifiers for EU ETS participants. Free information events and company visits are offered through the partnership on climate protection and energy. The LEEN (Local Energy Efficiency Networks) network management system supports the 30-pilot network project and consists of an energy efficiency network manual as well as over two dozen economic calculation software tools.

This factsheet is based on data from IIP as well as other sources. For more information about industrial energy efficiency and GHG policies in Germany, and a full list of references, please visit the IIP Industrial Efficiency Policy Database: [www.iipnetwork.org/databases/policy](http://www.iipnetwork.org/databases/policy)