

Germany's Environmental Transformation: From Pollution Haven to Environmental Leader

By Miranda A. Schreurs

What institutional steps were necessary to set Germany on a new environmental course?

How did unification impact Germany's environmental efforts?

How and why did Germany become a global environmental leader? Germany was not always an environmental trend setter. As in other European nations, after World War II both East and West Germany's main goals were reconstruction and promoting economic development. Very little attention was given to environmental protection in the quest to rebuild. This was particularly true in industrial parts of East Germany where the wide-spread burning of coal and the uncontrolled release of toxic chemicals into waters and soil seriously scarred the land and adversely affected human health. In 1990 *Der Spiegel* declared the city of Bitterfeld, center of East Germany's chemical industry, to be the dirtiest place in Europe.

As Western Europe's largest economy and one that had coal as its primary energy source, West Germany too suffered from severe pollution and degradation of natural areas. In a famous speech made in the early 1960s, the future German Chancellor, Willy Brandt, bemoaned the country's poor air quality and called for a return of blue skies to the Ruhr, West Germany's most heavily industrialized and a major coal producing region.

Value Transformation

The coalition government between the Social Democratic Party (SDP) and the Free Democratic Party (FDP) in 1969 (with Willy Brandt as Chancellor) set West Germany on a new environmental course. Responsibility for combating pollution was transferred from the Ministry of Health to the Ministry of the Interior in 1971 and Germany's first Environment Program was initiated. The Environment Program laid down the principles that still guide environmental law in Germany today: the polluter pays, the precautionary principle (preventing environmental pollution through precaution and planning), and the cooperation principle (the development of environmental legislation with stakeholder participation). In the next years, legislation addressing waste, air pollution, and air traffic noise were passed and in 1974 the Federal Environmental Agency was formed.

The 1970s was a decade of citizen mobilization and protest in West Germany. Citizens' initiatives formed across the country to protest against the country's many pollution problems and the destruction that was occurring to nature. A large number were brought together under an umbrella organization called the *Bundesverband Bürgerinitiativen Umweltschutz* (Federal Association of Citizens' Initiatives for Environmental Protection), which was founded in 1972. International environmental non-governmental organizations began to establish offices in Germany. The BUND (Friends of the Earth, Germany) formed in 1975; Greenpeace opened a branch in Hamburg in 1980.

The government's decision to expand its system of nuclear power plants in the wake of the 1973 Organization for Petroleum Exporting Countries (OPEC)'s oil embargo brought a powerful counter response from the German citizenry. The mobilization of anti-nuclear activists in several small communities rapidly expanded into national and international protest movements. Protests occurred in Wyhl (1975) and on a much

larger scale in Brokdorf, Schleswig-Holstein (1976); Grohnde, Lower Saxony (1977); and Gorleben, Lower Saxony (1978). In March 1979 around 100,000 people participated in a protest rally against nuclear power in Hanover, the capital city of Lower Saxony, and in October 1979, an estimated 150,000 people protested in Bonn. During the same month, over 1,000 environmentalists met in Offenbach to discuss the possibility of establishing a green political organization that later became known as *Die Grünen* (the Greens).

Die Grünen had a shaky start in the 1980 federal elections, winning just 1.5 percent of the vote. But by 1983 they had upped their share of the vote to 5.6 percent and as a result were able to win 27 seats in the 1983 federal election. By 1987 they were at 8.3 percent of the vote and could claim 42 seats in the German parliament. Their success was bolstered by the increasing concern emerging in the country related to pollution.

The success of *Die Grünen* was tied to the growing sense that industrial society was causing an environmental crisis. Germany's forests were threatened by acid rain. In 1985 British scientists' reported that a "hole" had been discovered in the ozone layer over Antarctica and attributed the cause to the wide-spread use of chlorofluorocarbons. The 1986 Chernobyl nuclear accident that resulted in radioactive fallout over parts of Europe including Germany caused considerable panic throughout the country.

In response to these problems and heightened public awareness, the major political parties began to compete with each other in their efforts to show their greenness. They responded to public opinion with policy proposals to address acid rain, stratospheric ozone depletion, global climate change, fossil fuel energy dependence, and packaging and recycling waste. In 1986, the government created the Ministry of the Environment, Nature Conservation, and Nuclear Safety—one of the strongest environment ministries in the world.

Unification

German unification led to what is undoubtedly one of the most extensive, rapid, and costly environmental clean-up efforts anywhere in the world. With German unification, industries and facilities in the east had to be brought up to the environmental standards of the west. Many of the most polluting factories were simply shut down. Others were retrofitted with pollution control equipment. Extensive environmental remediation efforts to clean up heavily polluted soils, streams, and lakes were initiated. This clean up was financed through the Solidarity Tax that was introduced shortly after unification on all tax payers.

Unification also resulted in a merging of *Die Grünen* with their East German counterpart, *Bündnis 90*, a group of civil rights activists to form *Die Grünen/Bündnis 90*.

The 1990s and 2000s: Two Decades of Climate Change Politics

Growing scientific warnings about climate change resonated strongly with the environmentally-sensitized German public. While there are areas related to clean energy and climate change where German policy has lagged behind other European countries (e.g., in relation to the setting of automobile fuel efficiency standards and autobahn speed limits), Germany is widely considered a leader internationally in developing policy proposals and goals for reducing dependence on carbon emitting fuels. Interestingly, the biggest difference in the positions of German parties on climate change has been on how to meet emissions reduction targets (e.g., whether to include nuclear energy), not whether to establish or fulfill them.

It was under Helmut Kohl's leadership (and his environment minister Klaus Töpfer (1987-1994)) that the Environment Committee of the German Bundestag agreed in 1987 to establish an Enquete Commission on Preventive Measures to Protect the Earth's Atmosphere. Shortly after unification, Kohl's government introduced a 25-30 percent

reduction target for CO₂ emissions relative to 1987 levels by 2005.

Chancellor Angela Merkel was Kohl's environment minister from 1994-1998 and helped negotiate the Kyoto Protocol. When the EU committed to an 8 percent reduction goal for its greenhouse gas emissions relative to 1990 levels by 2008-2012, Germany agreed within the EU burden sharing agreement to a 21 percent reduction in its own emissions for the same time period.

Further important policy changes were introduced by the Red-Green (SPD-*Die Grünen/Bündnis 90*) coalition that formed after the 1998 elections. These included ecological tax reform (reducing the tax burden on workers, while increasing it on energy consumption), a Nuclear Phase-out Law (a ban on new plants and a phased shut down of existing reactors by about 2020), a Renewable Energy Law (building on the success of a 1990 Electricity Feed-in Law), and an aggressive climate change policy. The Red-Green coalition's National Climate Change Protection Program (2005) presented a goal of reducing CO₂ emissions by 40 percent relative to 1990 levels by 2020 if other EU member states agree to a 30 percent reduction of European emissions over the same time frame.

The Renewable Energy Law of 2000 set a target for doubling the share of renewable energy in the electricity market from 5 to 10 percent by 2010. As a result of developments at the EU level (the formation of EU Directive 2001/77/EC) and domestically, this target was subsequently changed to 12.5 percent between 2000 and 2010, 20 percent by 2020, and "around half of energy consumption" by the middle of the century. To meet these goals, a 100,000 Solar Roof Program was initiated. The Renewable Energy Law was amended in 2004 and 2006. It now includes fixed feed-in tariff rates for twenty year remuneration periods. Particularly favorable rates were established for photovoltaics, offshore wind, and biomass. Utilities are required to buy the higher priced renewable power regardless of whether it is generated by commercial, industrial, or residential producers.

Combined these policies have had a powerful impact on the German energy sector. Germany has become a world leader in both wind and photovoltaic power generation. By 2007, 14.2 percent of German gross electricity consumption was generated by renewable energy sources. Renewable energy jobs in Germany jumped from 160,500 in 2004 to 249,300 in 2007 and the government estimates this figure could grow to 400,000 by 2020.

After the grand coalition between the CDU/CSU and SPD was formed in November 2005, Angela Merkel introduced yet more significant new policy goals and programs. In the lead up to the G-8 Summit in Heiligendamm in July 2007, she forcefully called for the U.S. to accept that any post-2012 agreement should be conducted through the United Nations and that nations should agree to a plan aimed at limiting the warming of the planet to 2 degrees Celsius above pre-industrial levels by 2050 to reduce the risks of extreme events associated with anticipated alterations in the climatic system.

In April 2007, also in the run-up to the G-8 Summit, the Environment Ministry issued "Climate Agenda 2020," a plan for achieving 40 percent CO₂ emission reduction cuts without relying on nuclear energy. The plan called for increasing the share of renewables in electricity to 27 percent by 2020, doubling combined heat and power, modernizing power plants, and improving energy efficiency by 11 percent. In December 2007, Angela Merkel reiterated the German goal of a 40 percent reduction in CO₂ emissions by 2020 and backed it up with a Climate Agenda 2020 designed to promote energy conservation and renewable energies.

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The new Black-Yellow (CDU/CSU-FDP) coalition that came to power after the September 2009 elections has largely maintained the environmental and energy policies put in place by the previous government. It remains to be seen if the new coalition will try to extend the running time of the nuclear reactors that are scheduled to be shut down under the Nuclear Phase Out Law. Also in question is the stance the government will take toward the building of new coal fired power plants and carbon capture and sequestration programs.

Two decades of climate leadership have had noticeable effect. Germany has already met its 21 percent emission reduction requirement under the EU's burden sharing agreement for the Kyoto Protocol. Germany's large reductions are certainly in part a result of its special domestic situation. Unification in 1990 strongly affected Germany's possibilities. While the heavy costs that Germany has had to pay for the environmental clean-up of the former German Democratic Republic are frequently over-looked, the shut-down of many heavily polluting industries strengthened Germany's chances of achieving major emissions cuts. Yet, it would be unfair to dismiss the German targets as little more than wall fall profits. Certainly the many climate measures that have been introduced in the past two decades, including extensive energy efficiency improvements, the wide-scale push to develop renewable energy, the promotion of environmental technologies, and participation in the EU emissions trading system have contributed to the 21.3 percent drop in emissions that Germany achieved between 1990 and 2007.

Conclusion

Germany's public and its leaders have come to the conclusion that pollution and energy inefficiency come with unacceptably high costs to the economy, society, and the environment. This was the result of a number of factors including learning from abroad (the case of the early 1970s), value change within the public, and acceptance by the country's political and industrial leadership of the need to find new approaches to economic development. Today, environmental protection is a policy area that is strongly embraced by all of Germany's major political parties. Germany's political and economic leaders believe that if Germany can succeed in the areas of environmental protection, energy conservation, and clean energy development, its industries will have a stronger chance of remaining internationally competitive and the quality of life in the country will further improve.

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