

GERMANY

The Competence Structure in Germany:

Germany is a Federal Republic comprised of 16 States (*Länder*). The national (or federal) level decides on the general legislative framework through the constitution, the "Basic Law" (*Grundgesetz*) as well as national laws and acts. The states may take up national laws and acts and develop them further, as long as they do not contradict the national law. Communities also have legislative power through the instrument of decrees.

As for the energy sector, it is under national competence as regulated through the "Act on the Supply of Electricity and Gas" - Energy Industry Act (*Energiewirtschaftsgesetz*) which was amended in November 1997 and came into force in April 1998. The act aims at a supply of electricity and gas via supply lines that is as secure, low-cost and environmentally compatible as possible in the interest of society as a whole. The Energy Industry Act of April 1998 replaced the "Act for the Promotion of the Energy Industry" of December 1935.

The main financial promotion and stimulation instrument for renewable energy sources (RES) on the national level is the "Act on the Supply of Electricity Generated from RES into the Public Grid" - Electricity Feed-In Law (*Stromeinspeisungsgesetz*) which first came into effect in 1991. It regulates the feed-in of electricity generated from RES, the legal obligation of utilities to take off all electricity generated from RES as well as the scope of prices paid for electricity generated from RES.

Before the amendment of the Energy Industry Act in 1997 there was intense discussions on the subject on the basis of several different proposals introduced by the then governing CDU/FDP government of Chancellor Kohl as well as the opposition parties. The government's original proposal, among others, intended to limit the feed-in tariffs paid for electricity generated from wind converters. This did not find a majority so that the proposal was changed.

The amendment approved on 28 November 1997 regulates the linkage of the Energy Industry Law and the Electricity Feed-In Law in a so-called Article-Law (*Artikelgesetz*). It will guarantee a Single Buyer System for communities until the end of 2003. This means that community owned power supply companies will buy and "deliver" the electricity which a customer within the company's service area has purchased from a supply company outside the service area to this customer. Furthermore, the amendment will maintain the present feed-in tariffs as well as establish a 5 % cap for RES. This means that after reaching 5 % of electricity fed-in from RES (of the annual over-all turn-over of electricity from one power supply company) the grid operator has to re-imburse the additional costs thereof to the power supply company. After the national elections of September 1998 the government has changed in October 1998. The new government of SPD and Bündnis 90/Die Grünen (the Greens) under Chancellor Schröder has announced to amend the Electricity Feed-In Law once again in order to delete some of the disadvantages of the 1997 version.

The Environmental policy and regulation takes place on the national, state and local level. The statutory bases are federal acts such as the "Act on the Management of Water Resources", the "Federal Pollutants Control Act" or the "Act on the Conservation of Nature and Maintenance of Landscapes". These contain the basic principles and are decided on by the German *Bundestag*.

The competence for the regulation of Building, Urban Development and Regional Planning is also distributed between the national legislative and the federal states. The relevant provisions are found principally in the "Federal Building Code" and in the "Land Utilisation Ordinance". States may take regulative influence on RES systems through a State Building Code that, for example requires a certain minimum distance of a wind converter from a private house.

The competence structure for new investments in the RES sector

Federal, state and local authorities are promoting the use of renewable energy sources with various programmes which are modified frequently. The main financial promotion measure on the national level for electricity from RES is the Electricity Feed-In Law. However, the tariffs paid for the electricity fed into the grid are not generated from taxes but from the revenues of the energy supply companies. Therefore, the Electricity Feed-In Law is not a subsidy but a para-fiscal measure. The feed-in tariffs in 1999 amount to: 16,52 German Pfennig (Pf) per kWh for Wind and Solar, 14,69 Pf/kWh for Biomass and Small Hydro as well as 11,93 Pf/kWh for Large Hydro (> 5 MW).

The new SPD/Green government has introduced a reform of the taxation system coming into effect on 01 April 1999 called "*Ökosteuere*reform" or Eco-Tax Reform. The underlying idea is that national welfare can be increased by internalising external environmental costs. This implies that the supply of the production means "environment" has to be shortened by rising the respective costs through taxation and that the additional tax revenues can be used for cutting down on the costs of labour (so called "double-dividend discussion"). In effect, the ecological-tax system will lead to a taxation of the consumption of energy. Gasoline will be taxed an additional 6 German Pfennig per litre, heating oil will be taxed an additional 4 Pfennig per litre, natural gas will be taxed an additional 0,32 Pfennig per kilowatt-hour and electricity will be taxed an additional 2 Pfennig per kilowatt-hour. The revenues expected from the *Ökosteu*er are 8400 million Deutsche Mark (DM) (= 4294,85 million EURO) per year. These revenues will be used to increase the federal contribution to the national pension scheme which leads to a decrease of an individual's contribution from the present 20,3 per cent to 19,5 per cent. RES will not be excluded from the tax. Instead, the revenues of taxing RES are being used for a special RES support programmes which was introduced in September 1999. This new programme will support RES with 200 million DM (= 102,26 million EURO) per year.

Subsidy-programmes for RES depend on the availability of budgetary means. In 1995 the German *Länder* spent 220 million DM on RES. Many programmes are still in force, but there are no more funds available. This is often a problem not only for the potential investor, but also for the small and medium size enterprises acting in the markets for renewable energies. Up to now there is little co-ordination between the federal, state and local programmes.

Successful legal initiatives on RES

The most dynamic development in Germany in the past years took place in the field of wind energy. Since 1990 the installed capacity increased from 60 to 3387,9 Megawatts by 30 June 1999 generated from 6809 wind turbines. This is mainly due to the guaranteed tariffs for electricity generated from RES based on the Electricity Feed-In Law.

The main Federal investment support programme for wind energy (the 250-MW-Wind programme) started in 1989. It provided grants for the operation of wind turbines up to 0.08 DM/kWh to a maximum of 25 % of total investment costs. Extensive work in research and development in the field of wind energy was funded by the Federal Minister for Research and Technology. More than 300 million DM (153,39 million EURO) were spend in this field since 1980.

GERMANY

Legislative Measure		Scope - Objectives	Mechanism	Funding	Beneficiaries/ Sector	Timing
1. National and Regional Plans						
Fourth Energy Research Programme	National	<p>The main focus of the programme is on helping to ensure that technologies are developed that show promise in terms of long-term and sustainable decreases of CO₂ emissions.</p> <p>The Programme supports:</p> <ol style="list-style-type: none"> 1. Increase of energy efficiency and new secondary energies (among others hydrogen: supported are system components for production) 2. Efficient utilisation of energy and energy saving by the end energy sectors (among others solar heating systems in buildings) 3. Energy supply with the target to reduce CO₂/climate and environmental problems. Supported are: <ul style="list-style-type: none"> - The Programme "Photovoltaic 2005": High-Tech-Products with photovoltaic systems, elimination of barriers for a more important utilisation of photovoltaic - The 250-MW-Wind Programme (see below) - Biomass: New technologies for the utilisation of biomass - Geothermal systems and other RES. 	The grant amounts for universities and research facilities up to 100 % of the costs and for companies up to 50 % of the costs for research and development	Maximum of 750 million DM per year (= 383,47 million EURO), grants	Companies, research facilities and universities	since May 1996
2. Fiscal Measures						
Law on Excise Tax on Oil and Oil Products (<i>Mineralölsteuergesetz</i>)	National	In order to support the use and the market penetration of biofuel, the Law on Excise Tax on Oil and Oil Products does not include a specific passage on biofuels. This is widely considered as a tax exemption. However, in legal terms this is not the case since biofuels are not a taxable event according to this law.				
Act on the Supply of Electricity Generated from RES into the Public Grid - <i>Electricity Feed-In Law</i> (<i>Stromeinspeisungsgesetz</i>)	National	The Act on the Supply of Electricity Generated from RES into the Public Grid regulates the feed-in of electricity generated from RES, the legal obligation of utilities to take off all electricity generated from RES as well as the scope of prices paid for electricity generated	The scope of prices paid under the Feed-In Act is based on the standard average proceeds per kilowatt hour resulting from the utility's current supply to all final consumers. The standard average proceeds are defined by the value published in the official federal		Beneficiaries: RES operators; Energy and RES sector	January 1991

		from RES. The Feed-In Law has been amended within the framework of the Act on the Supply of Electricity and Gas (see below at Chapter 4). The tariffs paid are not generated from taxes but from the revenues of the energy supply companies. Therefore, the Feed-In Law is not a subsidy but a para-fiscal measure.	statistics for the respective last calendar year but one, expressed in German <i>Pfennig</i> (Pf) per kilowatt hour. Electricity generated from solar energy and wind power amounts to at least 90 % of the average proceeds, for electricity generated from small hydropower, deposit gas and waste gas amount to at least 80 per cent of the average proceeds as well as at least 65 per cent of the average proceeds for other electricity supplied. The tariffs paid under the Feed-In Law in 1999 amount to: 1. Wind and Solar: 16,52 Pf/kWh (= 0,0845 EURO); 2. Biomass and Small Hydro: 14,69 Pf/kWh (= 0,0943 EURO); 3. Large Hydro: 11,93 Pf/kWh (= 0,061 EURO).			
Income Tax Act (<i>Einkommensteuergesetz</i> -), more specific: § 82a Income Tax Enforcement Decree	National	§ 82a applies to: - Long-distance Heating Systems, - Heat Pumps, Solar Facilities, Heat Recovery, - Wind Turbines or Wind Farms, - Biogas Plants, - Collective Water Heating Facilities.	The Income Tax Enforcement Decree (EStDV) provides an additional deduction from the relevant income for production costs resulting from an RES investment in buildings of the taxable subject.		Taxable subjects under the Income Tax Act	

3. Subsidies - National

General Funding for RES by the Ministry of Economics and Technology (<i>Richtlinie zur Förderung von Maßnahmen zur Nutzung erneuerbarer Energien</i>) in the version published on 20 August 1999. (<i>The 200-million-DM-programme</i>)	National	Individual measures involving the use of RES are funded from the federal budget. This is not a general market-introduction programme. The following measures are supported: - Installation and extension of solar heating systems; installation: 250 DM (= 127,82 EURO)/m ² <100 m ² collector space, extension: 100 DM (= 51,13 EURO)/m ² for each additional installed collector space; - Installation and extension of heat pumps which run on electricity from RES: 200 DM (= 102,26 EURO) per kW if <13 kW under the condition a new heating system is also installed, 100 DM (= 51,13 EURO) per kW if no new heating system is build, max. 20 000 DM (= 10 225,84 EURO) per plant; - Installation, extension and re-activation of hydro power plants up to an energy output of 500 kW: 1500 DM (= 766,94 EURO) per kW for a new installation, 600 DM (= 306,77 EURO) per kW for an extension	Funds in 1994: 10 million DM (= 5,11 million EURO); 1995: 30 million DM (= 15,34 million EURO); 1996: 30 million DM (= 15,34 million EURO); 1997: 20 million DM (= 10,23 million EURO); 1998: 20 million DM (= 10,23 million EURO); 1999 - 2002: approx. 200 million DM (= 10,23 million EURO) per year.	Grants	All RES sectors except Wind Energy and PV (except for schools)	01 September 1999 – 15 October 2002
---	----------	--	--	--------	--	-------------------------------------

ALTENER Programme - The ENER-IURE Project
"RES Legislation in Germany"
by Forum für Zukunftsenergien
Last Up-date: 10 November 1999

		<p>or re-activation (at least 3 years of shutdown);</p> <p>-Installation of photovoltaic plants in schools >1 kW_p: flat rate of 6000 DM (= 3067,75 EURO) per installation;</p> <p>-Installation of biomass plants for heat production < 100 kW: 120 DM (= 61,36 EURO) per kW, minimum of 4000 DM (= 2045,17 EURO) per installation;</p> <p>-Installation or extension of biogas plants for the energetic use of agricultural waste products: 30 % of investment costs to a maximum of 300 000 DM (= 153 387,56 EURO) as a loan;</p>				
The Federal Government 100 000 Roof Photovoltaic Programme	National	<p>This programme was introduced by the new government on 23 December 1998. The programme came into effect on 01 January 1999 and is administered by the German Credit Institution for Reconstruction (<i>Kreditanstalt für Wiederaufbau - KfW</i>). The programme supports the installation or extension of photovoltaic systems with a peak nominal power of at least 1 kW_p. The 100 000 Roof PV Programme is the successor to the 1000 Roof Programme of 1991 by the old government.</p>	<p>The programme offers a special zero-interest loan with a repayment period of 10 years and up to 2 starting years without credit repayment. After a repayment period of 9 years it is possible to waive the final payment if the PV systems is still operable. Applications for the loan have to be admitted to one's house bank which will then receive the money from the KfW and will then forward it to the applicant.</p>	<p>The possible share of financing is up to 100 % to a maximum sum of 500 000 EURO. The cumulation with other support programmes is possible.</p>	PV Sector	1999 until 2004.
The 250-MW-Wind Programme	National	<p>This programme was initiated in June 1989 as a "100 MW Wind Programme" and was extended to the 250 MW Wind Programme in February 1991. The programme provided grants for the installation and operation of wind turbines at suitable sites. The last grants were approved by the end of 1996 for turbines that had to be connected to the grid by mid 1998. From the beginning of the programme a "Scientific Measurement and Evaluation Programme" was part of the support scheme. All turbines which receive financial support will be scientifically analysed for 10 years.</p>	<p>Investment subsidies of up to 25 % to a maximum of 90 000 DM (= 46 016,27 EURO) were provided. Additionally, the programme provides operation subsidies of up to 6 German Pfennig (= 0,031 EURO) for every kWh fed into the public grid.</p>	Grants	Wind energy sector. Eligible to apply were private persons, private-law partnerships and legal entities, authorities and public-law institutions.	since 13 February 1991
Cont. Subsidies – States (Länder) (Selection)						
Demonstration Measures RES	Baden-Württemberg	<p>Model projects of RES technologies. Expected is a novel type of technology, economic efficiency, energy saving or the utilisation of RES. The phase of development and experiments must be finished. Grant of up to 40 % of investment costs.</p>	<p>"Guidelines of the Baden-Württemberg Ministry for Economics for the Support of Demonstration Projects of Rational Energy Use and the Use of RES" of June 1993</p>	<p>Grants; Funds for the support of RES 1991-1995: 76,8 million DM (= 39,27 million EURO)</p>	RES sector	since 21 June 1993
Use of RES	Bavaria	<p>Supported are until a maximum amount of 25 000 DM</p>	<p>"Guidelines for the Realisation of the Bavarian</p>	Grants;	Solar sector	since 19 April

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

	<i>(Bayern)</i>	(= 12 782,30 EURO) Solar Collector systems (250 - 350 DM (= 127,82 EURO - 178,95 EURO) per m ² installed collector space) and heat pumps (400 DM (= 204,52 EURO) per kW installed capacity, max. 30 % of investments costs).	Programme for the increased Use of RES" of April 1995	Funds for the support of RES 1991-1995: 95,7 million DM (= 48,93 million EURO)		1995
Rational Energy Use/RES (REN Programme)	Brandenburg	The target of this programme is to increase the efficiency of energy input and the quota of RES (according to the primary energy input of Brandenburg) from 0,2 % in 1996 up to 4 % in 2010. The Programme supports: <ul style="list-style-type: none"> - Determination of the economic useful potentials of RES by research projects; - Combined heat and power generation systems on the basis of RES; - Biomass installations; - Wind energy as far as the project refers to the first installations of a wind park for the future; - Hydro power: the funding depends on the maximal power generation of electricity and its economic efficiency; - Solar heating systems; - Photovoltaic systems; - Geothermal systems; - Demonstration measures RES; - Concepts, programmes and studies for the realisation of the energy political targets of Brandenburg; 40 to max. 50 % of investment costs will be reimbursed. 	"Guidelines of the Brandenburg Ministry for Economics, SMEs and Technology for the Granting of Financial Support of Rational Energy Use and Use of RES" of January 1996	Grants Funds for the support of RES 1991-1995: 62,1 million DM (= 31,75 million EURO)	RES sector	01 January 1996 - 31 December 1998
Implementation of the Federal Länder 250-MW-Wind Programme (see above)	Bremen	The Programme supports: <ul style="list-style-type: none"> - Wind energy plants with the intention to give incentives for an optimised utilisation of potential places for wind energy plants. The funding is determined in a way that the plants are able to refinance within the next 12 years. The maximum amount is limited at 33,33% of the investment costs. 	"Bremen Energy Law" of September 1991 In the case of a significant improvement of the market prices for RES, a part of the funding can be reclaimed	Funds for the support of RES 1991-1995: 4,9 million DM (= 2,5 million EURO)		since 12 November 1994
Support for Energy-Saving, Use of RES and Solar Heating Plants	Hamburg	The Programme supports: <ul style="list-style-type: none"> - Development of new energy technologies; - Demonstration of rational energy use; - Use of RES. - Grants of up to 35 %, RES projects of up to 80 %. - Furthermore it exists a special programme for supporting solar heating plants: - The installation of solar collector systems in buildings is supported of up to 500 DM/m² (= 255,65 	"Guidelines for the Granting of Financial Support of Projects for Energy-Saving and Use of RES" of October 1990	Grants; Funds for the support of RES 1991-1995: 6,6 million DM (= 3,37 million EURO)	RES sector	since 09 October 1990

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

		EURO/m ²) per 4 – 10 m ² and up to 650 DM/m ² (= 332,34 EURO/m ²) per 3 – 7 m ² installed collector space.				
RES Support Programmes	Hesse (Hessen)	Two separate programmes offer support of: -Solar-thermal water heating systems: grants of up to 20 % of investment costs, max. 1 000 - 2 000 DM (= 511,29 - 1 022,58 EURO); -The installation of wind power systems with an electrical capacity of up to 1 MW. Grants of up to 20% of investment costs, max. 100 000 DM (= 51 129,19 EURO) per plant and max. 700 DM/m ² (= 357,90 EURO/m ²) Rotor surface; Furthermore the "Hesse Energy Law" offers support of: -Photovoltaic Systems: Grants of up to 30 % of investment costs, max. 17 000 DM (= 8 691,96 EURO) per plant; -Biomass installations, which are not supported by the Agriculture Investment Programme; grants of up to 50 % of investment costs.	"Hesse Energy Law" of May 1990	Grants; Funds for the support of RES 1991-1995: 88,7 million DM (= 45,35 million EURO)	RES sector	since 31 May 1990
RES Support Programme	Mecklenburg-West Pomerania (Mecklenburg-Vorpommern)	Target of the support is a wide application, acceptance and development of technologies for the use of RES. The Programme supports: -Biomass (up to 30 %); -Wind energy (up to 10 %); -Hydro power (up to 20 %); -Solar heating systems (up to 20 %, max. 3 000 DM (= 1 533,88 EURO)); -Photovoltaic systems (up to 40 %); -Heat Pumps (up to 25 %, max. 3 000 DM (= 1 533,88 EURO)) -Geothermal systems (up to 40 %); -Hydrogen technology (up to 40%). -Measures with investment costs of up to 5 000 DM (2 556,46 EURO) are excluded from a support.	"Guidelines for the Granting of Support of Mecklenburg-West Pomerania for the Increased Use of RES" of April 1997	Grants; Funds for the support of RES 1991-1995: 33,8 million DM (= 17,28 million EURO)	RES sector	since 29 April 1997
RES Support Programme	Lower Saxony (Niedersachsen)	The Programme supports: -Photovoltaic systems: with a peak output of at least 2 kW _p ; investment costs only up to 17 000 DM/kW _p (= 8 691,96 EURO/kW _p) of installed output -Solar Collectors - also for open-air baths - (at least 20 m ² collector systems). The plants must reach an	"Guideline RES" of the Ministry of Economics, Technology and Traffic of July 1997	Loans; Funds for the support of RES 1991-1995: 91,4 million DM (= 46,73 million EURO)	RES sector	07 July 1997 - 31 December 2000

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

		<p>appropriate solar-energetic margin of loss; -Heat Pumps (at least 100 kW) and Co-Generation (at least 40 kW) on the basis of biomass; -RES Pilot and Demonstration Projects. Support is given by special loans of 50% (Solar collector systems and biomass plants) to 70 % (Photovoltaic plants, pilot and demonstration projects) of investment costs, as a fixed based financing; over 100 000 DM (= 51 129,19 EURO) as a prorate financing. Rate of interest: 2,5 % p.a. Disbursement: 100% Credit currency: max. 15 years Repayment: in fixed contributions per three months, a premature repayment is always possible.</p>				
Rational Energy Use/Use of RES (REN Programme)	North Rhine-Westphalia (<i>Nordrhein-Westfalen</i>)	<p>The Programme supports: -Heat Pumps in combination with warm water heating systems which operate on the basis of fossil fuels (25 %); -Biomass installations for combined heat and power generation (25 %); -Wind energy 100 DM/m² (= 51,13 EURO/m²) rotor surface; with an expert opinion about units of a special sound intensity 120 DM/m² (= 61,36 EURO/m²) up to the following maximum amounts: * <600 kW 80 000 DM (= 40 903,35 EURO) (normal) * <600 kW 96 000 DM (= 49 084,02 EURO) (noiseless) * 600<1000 kW 120 000 DM (= 61 355,03 EURO) (normal) * 600<1000 kW 144 000 DM (= 73 626,03 EURO) (noiseless) * 1000<1500 kW 200 000 DM (= 102 258,38 EURO) (normal) * 1000<1500 kW 240 000 DM (= 122 710,05 EURO) (noiseless) * >1500 kW 300 000 DM (= 153 387,56 EURO) (normal) * >1500 kW 360 000 DM (= 184 065,08 EURO) (noiseless) Several applications for a common plant at one place will be combined to one application. If an applicant plans several plants for one common wind park, the</p>	"Guidelines for the Granting of Support from the REN Programme" of the Ministry of Building and Housing of December 1996; Projects with investment costs over 1 million DM (= 511 291,88 EURO) are supported by a low-interest loan. The low- interest loan can amount to 50 % of the investment costs. The rate of interest is up to 5%-points and for wind energy plants up to 4%-points below the current interest rate of investment credits and is fixed at the promise of the project. The currency of the credit amounts to 11 years (1 redemption-free period). The credit has to be repaid in 10 equal annual rates.	Grants; Funds for the support of RES 1991-1995: 113,5 million DM (= 58,03 million EURO)	RES sector, not eligible are communities, associations of communities, public utilities and companies with annual sales >250 million DM (= 126 million EURO)	since 01 January 1997

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

		<p>first wind energy plant is supported of up to 100 %, the following until an installed energy output of 3 MW of up to 90% and the following of up to 80%.</p> <p>-Hydro power up to 500 kWel installed energy output (25 %); New-constructions, re-activation or extension of plants are supported of up to 10 000 DM/kWel (= 5 112,92 EURO/kWel)</p> <p>-Solar Collectors (1 000 DM per System (= 511,29 EURO) + 200 DM/m² (= 102,26 EURO/m²) installed collector space);</p> <p>-Photovoltaic systems (1-10 kWp: 6 800 DM/kWp (= 3 476,78 EURO/kWp));</p> <p>-other RES plants with a specific agreement of the ministry.</p>				
RES Support Programme	Rhineland-Palatinate (<i>Rheinland-Pfalz</i>)	<p>The Programme supports:</p> <p>-Hydro Power: installation, re-activation of hydro power plants, repairs and modernisation to increase the energy output (up to 20 %, max. 6 000 DM/kW (= 3 076,75 EURO));</p> <p>-Wind Power (up to 20 %; max. 1 800 DM/kW (= 920,32 EURO/kW));</p> <p>-Heat Pumps (up to 25 %, max. 5 000 DM (= 2 556,46 EURO));</p> <p>-Solar Collectors (1 500 DM/3-10 m² collector space (= 766,94 EURO/3-10 m² collector space) for each additional collector space 150 DM/m² (= 76,69 EURO/m²), and for Absorber Plants up to 15% of the investment costs);</p> <p>-Photovoltaic Systems (1-5 kW up to 40 %, max. 7000 DM/kW (= 3 579,04 EURO/kW));</p> <p>-Biomass Systems: combined heat and power generation on the basis of raw materials and biogas (up to 25 %); tiled and chimneys stoves are not supported.</p> <p>-RES pilot and demonstrations projects; several technologies should be applied in the projects (up to 40%)</p>	There are no funds available at this time.	Funds for the support of RES 1991-1995: 32,8 million DM (= 16,77 million EURO)	RES sector	since 15 January 1996
Future Energies Programme	Saarland	<p>The Programme consists of four different formats:</p> <p>1. Market penetration programme of RES; the programme offers support for:</p> <p>- solar collectors for warm water heating systems:</p>	"Saarland Future Energies Programme" of the Ministry of Environment, Energy and Traffic of July 1995	Grants; Funds for the support of RES 1991-1995: 16,2 million DM (=	RES sector	01 July 1995-31 December 1998

ALTENER Programme - The ENER-IURE Project
"RES Legislation in Germany"
by Forum für Zukunftsenergien
Last Up-date: 10 November 1999

		<ul style="list-style-type: none"> * up to 2 500 DM (= 1 278,23 EURO)/3 - 4 m² collector space * up to 5 500 DM (= 2 812,11 EURO)/8 - 10 m² collector space * up to 8 000 DM (= 4 090,34 EURO) >14 m² collector space - Photovoltaic systems for electricity production * up to 6 000 DM (= 3 067,75 EURO)/1 - 3 kW * up to 5 000 DM (= 2 556,46 EURO)/3 - 5 kW <p>2. Demonstration Projects RES; supported are:</p> <ul style="list-style-type: none"> - photovoltaic facades or other plants on the basis of solar cells - wind power - solar collectors and solar heating systems - biomass and biogas plants <p>3. Rational Energy Use; Combined heat and power generation</p> <p>4. Planning and Studies; System studies and planning for investment projects from the programme components 1. - 3.</p>		8,28 million EURO)		
RES Support Programme	Saxony (<i>Sachsen</i>)	<p>The Programme supports:</p> <ul style="list-style-type: none"> -Solar Collectors (300 DM (= 153,39 EURO)/m² collector space <20 m²; 150 DM (= 76,69 EURO)/ m² collector space >20 m², maximum amount 50 000 DM (= 25 564,59 EURO); -Biomass Systems (150 DM (= 76,69 EURO)/kW for plants >15 kW; in supported areas up to 70 % of the investment costs); -Biogas plants (up to 20%) -Wind Power (150 DM (= 76,69 EURO)/kW for plants >250 kW)); -Heat Pumps for the use of geothermal energy (up to 20 % for plants > 20 kW); -Hydro power: Re-activation and modernisation of hydro power plants (for plants > 500 kW up to 70 % of the costs, which were necessary to reach ecological standards, maximum amount 70 000 DM (= 35 790,43 EURO). 		Grants; Funds for the support of RES 1991-1995: 55,2 million DM (= 28,22 million EURO)	RES sector	since 01 January 1997
RES Support Programmes	Saxony-Anhalt (<i>Sachsen-Anhalt</i>)	<p>Four separate Programmes support:</p> <p>1. Solar Heating Systems (up to 30 %, in buildings maximum amount 6 000 DM (= 3 067,75 EURO)/plant, for other greater plants max. 60 000 DM (= 30 677,51 EURO)/plant); the energy</p>	"Guidelines of the Ministry of Economics, Technology and Traffic for the Granting of Support for: Solar Heating Systems, Wind Power and Small Hydro Power" of September 1991	Grants; Funds for the support of RES 1991-1995: 47,6 million DM (= 24,34 million	RES sector	since 19 September 1991

		<p>production of the collector must be certified by a serious research facility; the production of energy from warm water heating plants must result up to 100% from solar energy and up to 80% from the collector space.</p> <p>2. Wind Power: Installation and going to operation of wind power plants as demonstration projects (60 kW - 1 MW: up to 30 %, max. 3 000 DM (1 533,88 EURO)/kW). Wind power plants, which are already supported within the energy saving programme of Saxony-Anhalt, are not eligible.</p> <p>3. Small Hydro Power: re-activation, maintenance, installation and extension of plants > 300 kW (up to 30 %, max. 6 000 DM (= 3 067,75 EURO)/kW). A currency of at least twenty years must be possible. Supported are also pilot and demonstration projects.</p> <p>4. Bio- and Deposit Gas: plant systems for the production of energetic useful bio- and deposit gas (up to 30%). The applicant obliges to describe the results in a report.</p>		EURO)		
RES Support Programmes	Schleswig-Holstein	<p>Three separate Programmes support:</p> <p>1. Photovoltaic systems: for photovoltaic solar plants as a demonstration project a support of up to 49 % of the costs is possible. Photovoltaic systems in buildings (1 kW_p - 5 kW_p) can be supported with a fixed rate of 4 000 DM (= 2 045,17 EURO)/ kW_p, max. 49% of the investment and planning costs. For plants, which are also supported by the Electricity Feed-In Law (see below), results a debiting of the funding.</p> <p>2. Wind Power: The programme offers support of wind power plants, wind parks and demonstration projects. The support depends on the investment costs, the economic efficiency, the energy output and the sound intensity of the plants. The maximum amount is limited at 17 %/plant. Plants <301 kW can get an additional support of 3 %-points, but max. 17 %. By getting interest rate subsidies to the credits, the support is limited at 50% of the investment costs. The interest rate subsidy amounts 2,5 %-points and can be guaranteed for the currency of max. 5 years. For demonstrations plants an investive support of up to 30 % can be granted. A cumulation is possible, for demonstration</p>	"Programme RES" - Decrees of the Ministry for Finance and Energy of August 1996 and May 1993 respectively	Grants; Funds for the support of RES 1991-1995: 39,4 million DM (20,14 million EURO)	RES sector Photovoltaic Programme: since 26 August 1996; Wind Power Programme: since 26 May 1993; Programme for RES Research and Studies: 28 June 1996-31 December 1999.	

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

		<p>projects up to a maximum amount of 49 %.</p> <p>3. Research and studies</p> <ul style="list-style-type: none"> - for the use of biomass and biogas in energy production plants - for the use of solar energy (solar thermal and photovoltaic systems) - for getting areas for the use of wind power - for the modernisation of wind power plants - for the use of geothermal energy <p>The grant amounts for solar energy, wind power, hydro power and geothermal energy up to 40 % and for biomass up to 50 % of the investment costs.</p>				
Rational Energy Use and Use of RES, Programme with measures to decrease emissions	Thuringia (<i>Thüringen</i>)	<p>1. The Programme Rational Energy Use and Use of RES supports:</p> <ul style="list-style-type: none"> - Wind Power (400 DM (= 204,52 EURO)/kW, max. 200 000 DM (= 102 258,38 EURO), for wind parks max. 300 000 DM (= 153 387,56 EURO)); - Hydro Power (<50 kW 900 DM (= 460,16 EURO)/kW, >50 kW 700 DM (357,90 EURO)/kW; for extensions of plants 500 DM (= 255,65 EURO)/kW, max. 200 000 DM (= 102 258,38 EURO)); - Photovoltaic systems (< 2 kW 8 500 DM (= 4 345,98 EURO)/kW, >2 kW 7 500 DM (= 3 834,69 EURO)/kW, max. 150 000 DM (= 76 693,78 EURO)) - Solar Collectors (< 10 m² 400 DM (= 204,52 EURO)/m², >10 m² 300 DM (= 153,39 EURO)/m², max. 50 000 DM (= 25 253 EURO)); - Biomass systems (15-50 kW 150 DM (= 76,69 EURO)/kW, >50 kW 100 DM (= 51,13 EURO)/kW, max. 200 000 DM (102 258,38 EURO)); - Combined heat and power generators on the basis of RES (<100 kW 500 DM (= 255,65 EURO)/kW, >100 kW 400 DM (= 204,52 EURO)/kW, max. 200 000 DM (= 102 258,38 EURO)); on the basis of fossil sources of energy (<100 kW 300 DM (= 153,39 EURO)/kW, >100 kW 200 DM (102,26 EURO)/kW, max. 200 000 DM (= 102 258,38 EURO)); - Pilot and demonstration plants 	"Guidelines for the Granting of Rational Energy Use and the Use of RES of the Thuringia Ministry of Economics and Infrastructure" of February 1996	Grants; Funds for the support of RES 1991-1995: 26,1 million DM (= 13,34 million EURO)	RES sector	Programme No. 1: since 22 February 1996; Programme No. 2: since 15 March 1996

		<p>(35-50 %, max. 300 000 DM (= 153 387,56 EURO))</p> <p>2. Furthermore there is a programme to decrease emissions; it supports:</p> <ul style="list-style-type: none"> - The change of energetic processes on the basis of fossil fuels to RES - The installation of emissions decreasing technology - The installation of natural gas and biofuel filling stations for the running of low-emission vehicles - Production of sources of energy out of renewable raw materials (for example biofuel) or application of technologies for the use of biomass; grant of up to 20 % of the investment costs, max. 50 000 DM (= 25 564,59 EURO); 				
4. General Electricity Law						
<p>Act on the Supply of Electricity and Gas - <i>Energy Industry Law (Energiewirtschaftsgesetz)</i> as amended in November 1997, came into force on 29 April 1998</p>	National	<p>The amendment introduces competitive elements within the electricity and gas industries. It is aimed at eliminating exclusive rights of passage and demarcation contracts. It regulates the linkage of the Act on the Supply of Electricity and Gas and the Act on the Supply of Electricity Generated from RES into the Public Grid (see below) in a so-called Article Law (<i>Artikelgesetz</i>). It will guarantee a Single Buyer System for communities until the end of 2003. It will also maintain the present feed-in tariffs as well as establish a 5 % cap for RES.</p>			<p>Energy sector in general; RES sector;</p>	<p>Came into force on 29 April 1998</p>
<p>Act on the Supply of Electricity Generated from RES into the Public Grid - <i>Electricity Feed-In Law (Stromeinspeisungsgesetz)</i></p>	National	<p>The Act on the Supply of Electricity Generated from RES into the Public Grid regulates the feed-in of electricity generated from RES, the legal obligation of utilities to take off all electricity generated from RES as well as the scope of prices paid for electricity generated from RES. The Feed-In Law has been amended within the framework of the Act on the Supply of Electricity and Gas. The tariffs paid are not generated from taxes but from the revenues of the energy supply companies. Therefore, Feed-In Law is not a subsidy but a para-fiscal measure.</p>	<p>The scope of prices paid under the Feed-In Act is based on the standard average proceeds per kilowatt hour resulting from the utility's current supply to all final consumers. The standard average proceeds are defined by the value published in the official federal statistics for the respective last calendar year but one, expressed in German <i>Pfennig</i> (Pf) per kilowatt hour.</p> <p>Electricity generated from solar energy and wind power amounts to at least 90 % of the average proceeds, for electricity generated from small hydropower, deposit gas and waste gas amount to at least 80 per cent of the average proceeds as well as at least 65 per cent of the average proceeds for other electricity supplied.</p>		<p>Beneficiaries: RES operators; Energy and RES sector</p>	<p>January 1991</p>

			The tariffs paid under the Feed-In Law in 1999 amount to: 4. Wind and Solar: 16,52 Pf/kWh (= 0,0845 EURO); 5. Biomass and Small Hydro: 14,69 Pf/kWh (= 0,0943 EURO); 6. Large Hydro: 11,93 Pf/kWh (= 0,061 EURO).			
<i>Act for the Promotion of the Energy Industry</i> <i>Following the amendments of November 1997 coming into force in April 1998 (see above) this law is no longer valid.</i>	National	<i>The Act for the Promotion of the Energy Industry regulated the public influence in all matters relating to energy supply as well as the organisation of an energy supply which is as securely and cheaply as possible. Energy installations were defined as installations serving to generate, transmit or supply electricity or gas.</i>			<i>Energy sector in general;</i>	<i>December 1935 – April 1998</i>
5. Building Sector						
Federal Building Code (<i>Baugesetzbuch</i>)	National	It regulates (1) the General Urban Planning Legislation: Urban Land-Use Planning; Safeguarding Land-Use Planning; Control of Land Use for Building or other Purposes; Land Reallocation; Expropriation; (2) Special Urban Planning Legislation: Urban Redevelopment Measures; Urban Development Measures; The Preservation Statute and Urban Development Enforcement Orders; Tenancies and Leases; Measures for the Improvement of the Agrarian Structure; (3) Other Provisions: Valuation; General Provisions;	Section 35 of the Building Code regulates "Building in the Undeveloped Outskirts Area" which, therefore, is relevant to RES projects. An amendment of this section of June 1996 grants preferential status to some RES by ruling that "a development project in the undeveloped outskirts area is only permissible where there are no conflicting public interests, (...)and where <u>it is intended for research and development into, or the use of wind energy or hydroenergy.</u> "		Building Sector; Urban Planning; Wind, Solar and Hydro Energy Sector;	last amended: June 1996
6. Urban Planning / Environment						
Federal Building Code (<i>Baugesetzbuch</i>) see above	National					last amended: June 1996
Act on the Management of Water Resources (<i>Wasserhaushaltsgesetz</i>)	National	The Act applies to surface, ground and coastal waters. The Act provides that if activities can have an impact on a water the necessary steps should be taken to prevent contamination of the water or any other detrimental change in its properties.	The use of waters requires an official permit or concession, unless otherwise specified by the provisions of this Act or of the regulations issued by the Länder in accordance with this Act.		Hydro Energy Sector; all sectors affecting water resources;	last amended: August 1992
Environmental Impact Assessment Act (<i>Gesetz über die Umweltverträglichkeitsprüfung</i>)	National	The purpose of this Act is to ensure that for the projects set out in the act, such as the creation, removal and re-shaping of water bodies or waterways, consolidation of farmland, mining projects,	The Act is ruled by two uniform principles: 1. the effects on the environment are identified, described and assessed in time; 2. the results of the environment impact assessment		Urban planning; all sectors affecting the environment; Hydro Energy	last amended: December 1993

		establishment and operation of nuclear facilities, etc., effective preventative environmental protection measures are guaranteed.	are taken into account as early as possible in all cases in which authorities decide upon the approval of projects.		Sector, wind power and biomass sector	
Federal Immission Control Act (<i>Bundesimmissionsschutzgesetz</i>)	National	The purpose of this Act is to protect human beings, animals and plants, soil, water, the atmosphere against harmful effects on the environment and from hazards and significant disadvantages and to take precautions against the emergence of any such harmful effects on the environment.	The provisions of the Act apply to: 1. the production, marketing and importation of installations, fuels and petrols, substances and products made of any such substances; 2. motor vehicles, railborne vehicles, aircraft and watercraft; 3. the construction of public roads as well as railways;		Any energy producing and energy using sector; Hydro Energy Sector, Biomass sector	last amended: April 1993
Federal Nature Conservation Act (<i>Bundesnaturschutzgesetz</i>)	National	The Act serves the following purposes: 1. to maintain the performance of the household of nature, 2. to preserve the exploitability of nature's resources, 3. to conserve fauna and flora, and 4. to safeguard the variety, particularity and beauty of nature and landscapes, as a basis for humankind's existence and a prerequisite to recreation in nature and in landscapes.	The execution of this Act and of any regulations adopted in its framework are incumbent upon the competent authorities in charge of conservation of nature and of landscapes.		All sectors affecting the environment; Wind and Hydro Energy Sector;	last amended: March 1998
Technical Instructions on Air Quality Control (<i>Technische Anleitung Luft</i>)	National	The Technical Instructions (TI) serve the protection of the general public against harmful effects on the environment due to pollutants, as well as the precaution against harmful effects on the environment due to air pollutants. They apply to the facilities requiring approval in accordance with the Federal Immission Control Act (see above). The TI set emission and immission standards and limitation for various substances.	The TI contain provisions governing the maintenance of air quality by: 1. examining applications for approval of construction and operation of a facility; 2. ordering investigations on the nature and extent of emissions emanating from a facility, as well as immissions within the effective area of a facility.		All facilities which produce harmful emissions; Biomass energy sector; Co-generation;	February 1986

7. Agriculture Sector

Agricultural Investment Support Programme (<i>Agrarinvestitionsprogramm</i>)	National	The programme supports investments for the energy saving in the agricultural sector: - heat pumps - solar plants - biomass plants - shift of the heating system to economically sound energy sources. Small investments are supported by an interest-subsidised loan (up to 5 % for the currency of max. 10 years for a loan of max. 150 000 DM (=76 693,78	Programme of the Federal Ministry of Food, Agriculture and Forestry	Subsidies (loans, grants and interest-subsidised loans)	Agricultural sector	last amended: November 1993
---	----------	--	---	---	---------------------	--------------------------------

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

		EURO)); Larger investments are supported by a combined grant and interest-subsidised loan. The maximum amount for an agricultural company is determined at 2,5 million DM (= 1,28 million EURO).				
Programme for the Retirement of Agricultural Areas (<i>Flächenstillungsprogramm</i>)	National/ EU	This programme was originally not intended to support RES. The programme offers a bonus to farmers for the retirement of agricultural areas. Since 1993 it is also possible to get the bonus for the production of renewable raw materials instead of the retirement of the agricultural areas.	Programme of the Federal Ministry of Food, Agriculture and Forestry on the basis of EU Decree 1586/97.	Subsidies (bonus)	Agricultural sector	amended in 1993
Subsidies for Support of Renewable Raw Materials	National	A programme of the Federal Ministry of Food, Agriculture and Forestry to support research, development and demonstration projects in the area of biomass. A criterion for a support are potential contributions for the market penetration of products and processes on the basis of renewable raw materials. Furthermore it is possible to get support for public relation, which is able to increase the use of renewable raw materials. The support is a non-repayable grant. Two kinds of grants are possible: -grants on the basis of the costs: up to 50% for industrial research and up to 25% for development costs; -grants on the basis of expenditures: at least 50% for industrial research and up to 75% for development costs (100% for universities and public research institutes); expenditures, which are supported, are as a rule such for personal, external consulting, travels and for business establishment.	Programme of the Federal Ministry of Food, Agriculture and Forestry	Subsidies	Agricultural sector	01 January 1996-31 December 2000
8. Others (Industry, Services, Transport)						
Rational Energy Use & RES: Programme of the German Federal Foundation of Environment (<i>Deutsche Bundesstiftung Umwelt</i>)	National	The German Federal Foundation of Environment supports projects for the protection of the environment under special consideration of the small and medium-scale sector of the economy. The promotion sector 3 supports technologies for a rational energy use and for the extension of RES with the intention to complete the national and regional legislative measures.	Guidelines for Support by the German Federal Foundation of Environment	grants (in exceptional cases loans or guaranties)	RES sector	since December 1991
European Recovery Programme (ERP) -		This programme offers long-term loans with low-interest rates for investments in the use of RES such as	The programme is administered by the federally owned <i>Deutsche Ausgleichsbank</i> (DtA), Bonn.	Loans In 1995 the total of	RES sector	

ALTENER Programme - The ENER-IURE Project
 "RES Legislation in Germany"
 by Forum für Zukunftsenergien
 Last Up-date: 10 November 1999

Environment and Energy Savings Programme (ERP-Umwelt- und Energie-einsparprogramm)		thermal and PV-use of solar energy, biomass, biogas, geothermal energy, hydro and wind power.	Loans may mount to a 50 % of investment costs. Interest rates are around 5 % p.a. with terms of 10 years, for construction projects up to 20 years and two up to five starting years without credit repayment.	473,3 million DM (=241,99 million EURO) were paid under this programme.		
Several programmes (260 in 1997) of the local power-supply companies for the support of Rational Energy Use and RES	regional/local	The programmes are different, but include the support of all RES sectors: -Hydro Power -Biomass and Biogas -Wind Power -Photovoltaic Plants (42 local power-supply companies -Solar Collector Systems -Heat Pumps -Geothermal Systems -Combined Heat and Power Generation Systems.	The several programmes can be requested at the specific local power-supply companies and must be checked on their actual conditions of support.	different (subsidies, grants, loans, feed-in compensation etc.)	RES sector	different
Several programmes (160 in 1997) of cities, rural districts and communities for the support of Rational Energy Use and RES	regional/communal	The programmes differ from community to community, but follow one target: to support the use of RES: -Photovoltaic and Solar thermal Systems -Hydro Power -Wind Power -Biomass and Biogas -Geothermal Systems -Heat Pumps -Combined Heat and Power Generation Systems.	The special programmes can be demanded at the specific city, rural district or community.	different	RES sector	different