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**Analysis of the Support Policy
in European Union Member States
for Renewable Energy**

Study realised for
the EU-Japan Centre for Industrial Cooperation



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APERe asbl - 171, Rue Royale - 1210 Brussels - Belgium

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SUMMARY

Introduction

Information from the European Community that was updated by actors in the different Member States, have been compiled in this survey.

The data are still incomplete, in particular the figures on the different budget allocations to the programs.

Although there is quite an important diversity regarding strategies and tools for RES promotion, a general trend may be identified: The first stage was generally characterised by support for Research, Development and Demonstration (RTD&D). This support tool continues to play an important role, now focusing on key technologies, mainly photovoltaics. In a second stage, it was complemented by promotional activities aiming at creating a “critical mass” for a dynamic market development. Stable, favourable framework conditions, reflecting the environmental and social benefits of RES are characteristic for this stage. Most recently, promotional systems (already applied or under discussion) emphasise market elements (competition, fiscal incentives) and indicate a third promotional stage.

“Indirect” support measures, mainly favourable electricity feed-in tariffs and low-interest loans have risen considerably in recent years, becoming considerably more important than “direct” support tools (grants, subsidies..). In fact, the “support” share included in payments for RES electricity injected into the grid, is the major individual support tool (965 M€ per year).

Total RES support in the EU, on regional and national level, is actually about 1.7 B€, total expenditure (support plus corresponding private investment) about 2.9 B€.

In the Commission’s White Paper, annual investments of about 6,8 B€ were estimated in order to reach the aim of a 12% RES share in energy supply in 2010. Evidently, in spite of the progress achieved, substantial additional efforts will be needed in the future.

Motivations for RES-support

For all Member States of the European Union, the main objective of an energy policy favouring renewable energies is to achieve a sustainable, environmentally sound energy supply. Indeed, renewable energy sources (RES) emit no, or reduce drastically, harmful gaseous emissions such as CO₂, NO_x and SO_x.

The Kyoto protocol obliges the European Union Member States, either individually or jointly, to reduce greenhouse gas emissions by 8% of their 1990 levels in the commitment period 2008 to 2010. RES constitutes an important element of the package of measures needed if the European Union is to reach this target.

Supporting the RES will give an impetus to the European RES-industry. Export of European renewable energy technologies will contribute positively to the European Union’s trade balance.

Social and economic cohesion also play a role. RES have considerable advantages for isolated regions which are not sufficiently or are not at all connected to the grid, the use of RES-electricity (“RES-E”) in small isolated systems can help to avoid or delay expensive extensions of the grid. Some RES are a labour intensive form of industry and create jobs, especially at location sites in rural areas. This is especially the case for biomass.

Further reasons for RES-Support would be that RES can help to overcome market distortions, to diversify within the existing energy mix, and/or to solve organic waste problems.

RES strategies

The only renewable source of energy to have been exploited on a significant scale before 1990 has been hydro, and usually, large hydro. Since then the growth has been significant for all new renewable energies, between 15-30% over year. This evolution is due to various support measures of governments and of the Community.

However, the overall contribution to the EU electricity market still remains small, around 3% when excluding large hydro.

If the European Countries want the RES to play a substantial role in the energy supply, they need the industry to invest in renewable energy technologies. This will only happen if industry representatives has confidence in reliable, favourable long-term framework conditions. Such conditions will only exist if governments set clear targets, identify and remove non-technical barriers, and, finally, give financial support.

A majority of governments have adopted RES promotion strategies as an integral part of their national energy policy. These strategies were published in the form of documents.

The Commission's White Paper has motivated Member States' governments to prepare corresponding Green (*Ireland*) or White Papers (*Spain, Italy*). Such documents typically include targets and pluriannual Action Plans addressing issues such as the installation of the RES systems, as well as administrative, legal and other promotional measures and activities.

Several countries (*Austria, Finland, Sweden*) traditionally have a high share of RES in their energy balance, mainly based on large hydro power stations and biomass. Although the RES share in these countries is considerably higher than the 12% adopted as EU wide target by 2010, national policy aims at increasing the RES contribution further.

Denmark, the Netherlands, Greece and *Spain* are examples of countries, starting with a low RES share in the seventies, then adopting medium and long-term objectives and action plans with environmental (greenhouse gas reduction) targets. Their national surveys show that such targets, based on a broad political consensus and acceptance level, have progressive and stimulating effects. As an example, in Spain the targets for the year 2000 had already been overtaken by almost 200% (including installations under construction) by the end of 1997.

Austria has no national, but rather regional targets. One region (Upper Austria) even has the ultimate goal of 100% RES supply in coming years.

Among the countries without national targets (at least for the time being) are *Germany* and *France*, the countries with the highest energy consumption in the EU. Two federal German states have targets exceeding that of the White Paper (Bavaria: 13% of primary energy by 2000, and Schleswig-Holstein: 25% of final energy demand by 2010).

Country	Coherent RES Policy Paper (National Plan, White Paper..)	Targets
Austria	"Energiekonzept der Bundesregierung"	No national, but regional targets
Belgium	<i>Wallonia</i> : "Stratégie de Promotion des Energies Renouvelables" under preparation/ "Action Plan for RES" <i>Flanders</i> : "Sustainable Energy Plan Flanders", study on the potential for RES in Flanders (completed)	<i>Wallonia</i> : No targets. Forecast: 5 to 6% by 2010 ("ambitious", actual share 1,2 %); <i>Flanders</i> : Doubling RES by 2000, 3% RES share in energy consumption by 2010, 5% by 2020
Denmark	"Energy 21"; comprehensive reform package on energy legislation under preparation	Wind: 1,500 MW land based before 2005; 4000 MW off shore before 2030; biomass: 60% increase from 1995 to 2005; linked to CO2 reduction targets
Finland	Only sectoral programmes	High share already now: 19% of total energy consumption (biofuels, without peat); increase of bioenergy of 27% (1994 to 2005)
France	Only sectoral programmes and targets	No national target : EOLE 2005 target is being modified
Germany	New renewable energy approved	National targets : 10% energy from RES by 2010 Forecast: 2,5 to 3% by 2020; regional targets in some federal states
Greece	Action Plan "Energy 2001"	Objective: increase of RES share in national energy balance from 5.4% (1996) to 8.2 – 8.5% in 2010, mainly via wind and biomass (linked to reduction of CO2 emissions targets)
Ireland	"Renewable Energy – a Strategy for the Future" (published 1997)	To increase RES electricity generating plant to 10 % of the total electricity generating plant by year 2,000. Future targets will be outlined in a "Green Paper on Sustainable Energy", to be published in 1999
Italy	National White Paper on Renewable Energies (to be approved by April 1999) Approved in 1999 - Decree from DTI (Department of Industry) introducing a renewable obligation.	Doubling of RES contribution to the energy balance by 2010; linked to greenhouse gas reduction targets Target Decree : 2% electricity from RES by 2002 (including hydro and municipal waste)
Luxembourg	"Plan National de Développement Durable"; valid from 1/ 99	
Netherlands	Third White Paper of 1996; Energy; "Renewable Energy – Advancing Power" of April 1997: Action Programme for 1997 – 2000	Around 3% of energy demand from RES by 2000, 10% by 2020
Portugal	"Program Energia"	180 MW by the end of 1999 (RES electricity; within the Energy Programme)
Spain	"Plan de Fomento de las Energias Renovables/ Programa de Energias Renovables"	White Paper: 12% of energy demand by 2010 to be covered by RES
Sweden	Bill on a Sustainable Energy Supply (June 1997)	Additional 1.5 TWh electricity from RES by end of 2002 from 3 sources: <ul style="list-style-type: none"> ▪ Combined heat and power based on biofuels: additional 0.75 TWh ▪ Wind power: 0.5 TWh by end of 2002 ▪ Small scale hydropower: 0.25 TWh
UK	"New and renewable energy policy review" (FEB 2000)	10% of electricity demand by RES by 2010
Norway		Already now almost 100% of the electricity by hydro. Objective: more bioenergy, wind, solar, heat pumps

Type of support

There is a wide range of renewable energy technologies : some provide electricity, others heat; some are small scaled and decentralised, other are in the multi-MW-range; some are economically competitive, other still need additional support; some are “classical”, others are in an experimental stage. This diversity need flexible, “tailor-made” promotional instruments. To do so, different forms of support are possible. The main support schemes are :

- Subsidies for research and development
- Capital investment or loans to investments
- Guaranteed prices coupled with a purchase obligation by the utilities : The level of the guaranteed prices vary considerably from country to country with, on average, regulation in *Germany, Denmark, Spain* and *Italy* offering the highest prices to RES-E producers
- Tendering system : Under this approach, the State decides on the desired level of RES, according to the source mix (wind, biomass, solar, waste, etc.) that public policy dictates. It then places a series of tenders for the supply of the electricity, which would thereafter be supplied on a contract basis. The electricity is then sold by the authority responsible for organising price through a non-discriminatory levy on all domestic electricity consumption.
- Voluntary green pricing schemes : Consumers can voluntary opt to pay a premium for renewable electricity. The consumers pay part or full extra costs that the generation of RES-E entails.
- Standard/consent procedures and regulation in building codes and design guidelines : objective reducing or streamlining planning barriers. The obligatory designation by local authorities of eligible zones for RES-development, for example, (as in *Denmark*) also facilitates renewable growth.
- Support via the tax system :
 - * exemption forms or refunds of energy taxes where they exist (*Finland* where the electricity tax is reimbursed, *Denmark* where the CO₂-tax is reimbursed, *Sweden* where an environmental bonus is given to wind power producers)
 - * lower VAT rates on some RES-systems, like solar energy system in *Portugal*
 - * tax exemptions for investments in small scale RES-E
 - * introduction of SO₂ and NO_x taxes as in *Denmark* and *Sweden* which especially favours the development of wind and hydro power.

Level in charge of the programmes

RES policy in *Belgium* is under the responsibility of the regional governments. However, energy tariffs, including feed-in tariffs for RES, are still a federal competence. In *Austria* and *Germany* both the federal government and the states adopted RES-related measures and programmes. In *Germany*, there is in addition an important number of local programmes launched by municipalities and local utilities.

In *Spain*, under the “umbrella” of the National Plan, the Autonomous Communities adopted regional plans, and are responsible for their implementation.

In the *UK*, the national government implements the “Non Fossil Fuel Obligation” in England and Wales; corresponding schemes exist for Scotland and Northern Ireland and are implemented by the regional authorities. In *Italy*, actually 2 regional RES electricity programmes are ongoing, financially supported by EU, national and regional funds. Regional authorities in *the Netherlands* have wind energy targets. Dutch electricity distribution companies, organised on a regional level, have RES targets as part of their Environmental

Action Plans, being part of a covenant with the national governments. Targets of some distributors aim even higher.

In the remaining countries covered by the survey, RES policy is the responsibility of the national governments. Regional structures, above all regional energy agencies, are however involved in implementation.

Annual expenditures for RES Support

Country	Annual RES support (in M€)	Population (million inhabitants)	RES support per head of population (€)
Austria	64,5	8,1	8,0
Belgium	7,0	10,2	0,7
Denmark	130,7	5,3	24,7
Finland	2,6	5,1	0,4
France	20,6	58,6	0,5
Germany	500	82	6,1
Greece	44,5	10,6	4,2
Ireland	9,3	3,6	2,6
Italy	232,9	56,8	4,1
Luxembourg	1	0,4	2,5
Netherlands	97,4	15,7	6,2
Portugal	24,9	9,9	2,5
Spain	227,5	39,1	5,82
Sweden	118,7	8,8	13,5
United Kingdom	188	57,6	3,3
Norway	35,7	4,4	8,1
Total	1.705 M€	376,2	Average: 4,53

Germany, Italy, Spain, and the UK are the EU-countries with the highest support expenditure for RES in absolute figures. *Denmark, Sweden, Austria and the Netherlands* lead as to budget spent per head of the population. Taking into account the total RES expenditure (support plus corresponding private investment) per head of the population, the leading European countries are *Denmark, Austria, Sweden, Ireland and the Netherlands*.

Austria, Belgium, France, Ireland, Italy, Greece, Portugal and Sweden indicate that they apply Community (Structural) Funds for their RES promotional activities or are in the preparatory phase of doing so. Indeed, for *Greece, Ireland and Portugal*, these funds are a major financial tool for implementation of their national RES programmes. For *Austria and Italy*, they are important on a regional level. All countries participate in EU programmes providing RES project support (JOULE, THERMIE, ALTENER).

While not being a member of the European Union, *Norway* is a European partner in the framework of the EEA. In spite of the actual high share of RES (almost 100% of the electricity is generated from 850 hydropower plants) the country is actively promoting bioenergy, wind and solar, aiming at a diversification in the national energy mix. Promotional activities include support of R&D, demonstration, market introduction and tax incentives. The annual budget (1998) for the promotion of “non-hydro RES” is 35.7 M€ (without considering tax incentives).

AUSTRIA

Target

No national targets.

Regional target for Upper Austria : « full RES supply in coming decades »

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task	Responsible Ministry
Biomass, biogas, geothermal, solar thermal, PV, wind	National program for support to environment	National	since 1993; solar thermal till 2005	Subsidies of 10% to 30% of eligible cost	not indicated	1997: 18 M€	Österreichische Kommunalkredit AG, Vienna	Bank specialised in financing environmental projects of municipalities and enterprises	Federal Ministry for Environment, Youth and Family
Biomass	Regional and local plans	National	since 1982	33% of eligible cost (no investments)	not indicated	0,18 M€	Federal Ministry for Economical Affairs, section for Energy	Responsible unit in the ministry	Federal Ministry for Economical Affairs
Solar and others	2 programs for tourism	National	one unlimited, one 1995 - 1999	Low-interest loans	not available	not available	Österreichische Hotel- und Fremdenverkehrs-Treuhand GmbH, Vienna	Enterprise, specialised on support of tourism	Federal Ministry for Economical Affairs
Biomass, biofuels, small hydro	Energy from biomass and alternative energies	National	since 1987	Subsidies, low interest loans (agriculture only)	not indicated	1997 : 16,7M€	Federal Ministry for Agriculture and Forestry	Responsible ministry	Federal Ministry for Agriculture and Forestry
Small Hydro	Investment support action small hydro	National	since 1983	Subsidies	not indicated	0,4 - 0,5 M€ (average)	Federal Ministry for Economical Affairs, section for Energy	Responsible unit in the ministry	Federal Ministry for Economical Affairs

Analysis of the Support Policy in EU Member States for Renewable Energy - Austria

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task	Responsible Ministry
RES electricity	Feed-in regulation	National + 4 federal states	since 1995 (regional: since: 1995, 1996, 1997)	Feed-in tariffs	not available	not available	utilities / Regional energy supply	Regional energy supply	Federal Ministry for Economical Affairs
Solar and others	Income tax	National	not indicated	Special investments deductible from income tax	not available	.-	Local tax authorities		Ministry of Finance
RES	29 Regional programs supporting RES/ heat from RES/ RES district heating, solar thermal systems/RES in tourism/ RES and habitat	Specific programs in 6 federal states	since 1986 / 1990/ 1991/ 1992/ 1993; eleven programs limited till 1999, 2000 or 2003, the others unlimited	Subsidies, long-term credits, low-interest loans, insurance (guaranteed results), consultancy	not indicated	23,5 M€ (varying from 0,011 M€ to 4,3 M€); data of 6 regional programs not available	Offices in the governments of the federal states of Burgenland, Carinthia, Lower Austria,...	Responsible units	
Biomass, environmentally sound energies, organic waste	Special action for district heating systems/ environment protection systems, energy cost reduction for municipalities in Lower Austria	Regional			not available	not available	Offices in the government of the federal state of Lower Austria		
Biomass	Action "F.I.T. 2001" (promotion of tourism) of the federal state of Lower Austria	Regional				0,04 M€	Fund for the Promotion of Tourism, Lower Austria	Institution for the promotion of Tourism	
Biomass, solar thermal, environmentally sound energies	Housing support programme, housing rehabilitation programme, grants for solar and heat pump systems in the Federal State of Salzburg	Regional				3,16 M€	Offices of the government of the Federal State of Salzburg	Responsible units	

Analysis of the Support Policy in EU Member States for Renewable Energy - Austria

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task	Responsible Ministry
RES	Housing support programme, support of solar thermal systems, Fund for Investments in Tourism, support programme for pilot and demonstration projects in Styria	Regional				3,19 M€ (figures for 1 programme not available)	Offices of the government of the federal State of Styria	Responsible units	
Biomass	Support of local biomass-fired district heating systems in Styria	Regional				2,65 M€	Federal Chamber for Agriculture and Forestry of Styria	Legal representation of the interests of farmers and forest-owners	
Biomass, solar thermal, environmentally sound energies	Support of solar thermal systems, district heating systems based on RES, heat recovery, PV, "Impulse Package Tyrol"	Regional				1,55 M€ (figures for 2 programmes not available)	Offices of the government of the federal State of Tyrol	Responsible units	
Biomass, solar thermal, environmentally sound energies	Measures for an increased use of biomass, support of solar water heaters, support of solar devices in sports facilities, support of rational use of energy in tourism in Vorarlberg	Regional			Not available	2,52 M€ (figures for 1 programme not available)	Offices of the government of the federal State of Vorarlberg	Responsible units	
RES	Housing support in the Federal State of Vienna	Regional			Not available	not available	Municipality of Vienna	Responsible unit	
Solar thermal and PV systems	Support of solar thermal and PV systems in Vienna	Regional			Not available	0,72 M€	Utility of Vienna	Electricity supply enterprise of the town of Vienna	

BELGIUM

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task	Responsible Ministry
Biomass, biogas	Recommandation CC 95/14	No	National	1995- 31-12-2003	Feed-in tariffs for electricity produced from RES: +1 BEF/kWh (24,8€/MWh)	Collect on the Rational use of energy fund	Collect on the Rational use of energy fund	CCEG, Comité de Contrôle de l'électricité et du Gaz	Control of the energy sector	Economy
Wind, hydro	Recommandation CC 98/19	No	National	1998- 31-12-2003	Feed-in tariffs for electricity produced from RES: +2 BEF/kWh (49,6€/MWh)	Collect on the Rational use of energy fund	Collect on the Rational use of energy fund	CCEG, Comité de Contrôle de l'électricité et du Gaz	Control of the energy sector	Economy
Solar PV	Recommandation CC 98/19	No	National	1998- 31-12-2003	Feed-in tariffs for electricity produced from PV: Compensation between purchase and sales	Collect on the Rational use of energy fund	Collect on the Rational use of energy fund	CCEG, Comité de Contrôle de l'électricité et du Gaz	Control of the energy sector	Economy
All RES	Recommandation CC 96/15	No	National	1998- 31-12-2004	Rational use of energy fund	100,4	11,15	CGEE, Comité Gestion des entreprises électriques	Electricity sector	Economy
Solar Thermal		200,000 m ² in 2010	Wallonia	2000-2002	Subsidy of 25,000 BEF (620 €) per solar thermal unit	Not available	Not available	CCEG, Comité de Contrôle de l'électricité et du Gaz		
Solar Thermal		No	Brussels		Subsidy of 25,000 BEF (620 €) per solar thermal unit	Not available	Not available	CCEG, Comité de Contrôle de l'électricité et du Gaz		
Solar Thermal		No	Brussels		Subsidy of 35% of investments	Not available	Not available	IBGE, Institut Bruxellois de la Gestion de l'Environnement	Energy administration of Brussels region	

Analysis of the Support Policy in EU Member States for Renewable Energy - Belgium

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task	Responsible Ministry
Solar Thermal			Flandria		25,000 BEFper SDHW	Not available	Not available	Energy distrubution		Energy
Solar PV	Ministerial Decision - 50 % for PV		Flandria	2000	50% Support + 25% by E-sector	Not available	Not available	ministry energy + E-producers		Energy
All RES		No	Wallonia		Subsidy of 15% of investments	Not available	Not available	DGEE of Ministry of Wallonia Government		Economy
All RES		No	Flandria		10/20% support of investments	Not available	Not available			Economy

DENMARK

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES	RTD	.-	National	since 1991	Grants	not indicated	1996: 5,33 M€
RES electricity	Electricity feed-in law	.-	National	since 1991	Feed-in tariffs: 85% of consumer tariff + Grant supporting running cost (1) + grant for internalizing external costs (2)	not indicated	1996 : grant 1: 36,6 M€ (wind electricity) 17,2 M€ (other RES electricity) grant 2: 24,77 M€
Biomass	CHP fund	.-	National	1992 - 1997, extended till 2002	Project support (max 50%, mainly 10 to 35%)	not indicated	1996: 2,8 M€ (Estimations: 1998: 3,3 M€; 2000: 3,3 M€)
RES (except wood stoves in private houses)	Development and Demonstration Program for RES (for commercial technologies)- dissemination	.-	National	since 1992	Subsidies (15% to 30% of construction cost)	not indicated	1996: 9,46 M€
RES	Development and Demonstration Program for RES (for commercial technologies)-demonstration	.-	National	since 1992	Subsidies (up to 50%, mainly 20% to 40%)	not indicated	1996: 7,4 M€
RES	Development and Demonstration Program for RES (for commercial technologies)- test stations	.-	National	since 1992	Capital investment support	not indicated	1996: 4,87 M€
RES	Development and Demonstration Program for RES (for commercial technologies)- all sectors						Estimation: 1998: 19,04 M€; 2000: 16,38 M€
RES	Samsø "Renewable Energy Island"	island with 100% RES supply	National/local	since 1998	Support within existing programs	not yet available	not yet available
"New" RES (wave, solar with interseasonal storage, private offshore wind, hydrogen)	Development of "new" RES	.-	National	1997 - 2000	RES dev. And demonstr. Program	13,3 M€ (total)	Estimation: 1998: 3,3 M€; 2000: 3,3 M€

Analysis of the Support Policy in EU Member States for Renewable Energy - Denmark

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
Wind energy	Energy 21, wind energy part	1.500 MW land-based before 2005, 4.000 MW offshore before 2030	National	Since 1996		Not indicated	Not indicated
Biomass combustion	Energy 21, biomass combustion	1,4 million tons of straw and woodchips yearly before 2000	National	1996, amendment 1997; target from 2000 till 2004		Not indicated	Not indicated
Biomass: biogas	Biomass Agreement (feed-in obligation)	not specified	National	1997		Not indicated	Not indicated
Biomass: CHP in existing district heating plants	Conversion of CHP district heating plants to biomass	conversion of 40 plants (of actually 100) before 2005, the others after 2005 (actually under revision)	National			Not indicated	Not indicated
Biomass: New district heating and CHP plants	New plants for small urban communities	not specified	National			Not indicated	Not indicated
Biomass: block heating units	Block heating units of 250 kW each	not specified	National			Not indicated	Not indicated
all biomass sectors	All measures in the biomass sector listed above, plus individual wood stoves and existing biomass heating plants	increase of biomass utilization by 60% by 2005 (base: 1995)	National			Not indicated	Not indicated
RES	Community Funds	not applied	not applied			Not indicated	Not indicated

FINLAND

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task
Biomass - electricity (wood/ wind/ small hydro)	Tax reimbursement to RE electricity suppliers	--	National	since 1/ 1998, continuing until 2001 amendment expected still in 2001	tax reimbursement	actually 0,0042 €/ kWh, for wind 0,0068 €/ kWh	Exact amount not indicated. 1999 about 35 M€	Ministry of Finance	
Wind, biomass, small hydro, energy saving, energy efficiency	National energy support scheme	--	National	permanent	Support to investments	fixed yearly, In addition 15-30 M€ once in 3 yrs to demonstrating new technology solutions in large scale	2000: approx. 25M€	MTI - Ministry of Trade and Industry, Energy departement	Responsibility for the implementation of energy policy
wind & solar / biomass	NEMO 2/ BIOENERGIA, LIEKKI2	biomass: 27,3% increase by 2005 (basis: 1997)	National	1993 - 1998	Research grants	6,5 M€		Finnish Bioenergy Association, Wood Energy Association, Finnish Biogas Centre, Finnish Wind Energy Association, Finnish Solar Energy Association	Promotion of RES generation, commercialisation, dissemination of information, training..
Wood	Wood-Firing Technology TULISIJA	To assist manufacturers in their efforts to develop emission-free & efficient wood-firing equipment.	National	1997-1999	RTD	1.5M€	0.5M€	TEKES - Technology Development Center, University of Turku	

Analysis of the Support Policy in EU Member States for Renewable Energy - Finland

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Main Task
REF	Waste to REF & Energy	Prevent the generation of waste, to make use of waste in the form of materials and energy, to carry out safe final disposal of unusable waste.	National	1998-2001	RTD	17 M€	4.5M€	TEKES - Technology Development Center, VTT - Technical Reasearch Center of Finland	
Wood	Wood Energy	To reach 2.5 million m ³ forest chips in energy use in 2003. (yr 1998 0.5 mill m3)	National	1999-2003	RTD	Budget for 1999 - 2003 is 42 M€, Tekes's share of which amounts to 8.5 M€	8.5 M€	VTT Energy, TEKES	
RES	Tekes, VTT (institution)	--	National, international, (co-operation)	--	RTD	not indicated	not indicated	TEKES - Technology Development Center VTT - Technical Reasearch Center of Finland	Energy technology R&D Research and testing
wind	MTI wind energy promotion programme	150 MW wind by 2005, 500 MW by 2010	National	since 1993	RTD, investment subsidies, land use planning, utlity agreements, information	not indicated	not indicated	MITI - Ministry of Trade and Industry, Energy departement	Responsibility for the implementation of energy policy
RES	MOTIVA (institution)	--	National	since 1998	Training, information, advice	not indicated	not indicated	MOTIVA	Dissemination of information

FRANCE

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation / institution	Main Task	Responsible Ministry
PV for isolated sites	FACE	--	National	since 1995	Subsidies	not indicated	6,1 M€/ year	FACE	Investments for electrification	Ministry of Industry
RES electricity (hydro, incineration and cogeneration)	Electricity feed-in conditions		National		Electricity feed-in tariffs					
Biomass	Several programs for wood combustion, biogas and bio-electricity	225 MW combustion, 10 MW electricity, 50 MW biogas and electricity	National + 14 regions	1994 - 1999, since 1998, 1998 - 2002	Help to decision-making, investments / electricity tariffs (feed-in)	not indicated	two programs: 10,4 M€/ year; bio-electricity programs: no figures indicated	ADEME	R&D, dissemination	Ministry of Industry
Solar thermal	20.000 solar water heaters	10 kTOE/ year	Regional	1996 - 2000	Subsidies	not indicated	1,2 M€/ year	ADEME /EDF	R&D, dissemination /Utility	Ministry of Industry
Hydro	--	--	National	since 1997	Improvement / simpli. of electricity feed tariffs	not indicated	not indicated			
Wind	EOLE 2005	500 MW	National	1996 - 2005	Feed-in tariffs	not indicated	2,9 M€/ year	ADEME /EDF	R&D, dissemination /Utility	Ministry of Industry
All RES	IPEEFI	--	National	since 1994	Credits (to be paid back in case on success)	1,4 M€	not indicated	ADEME	R&D, dissemination	Ministry of Industry
All RES	Regional plan	--	Guadeloupe	not indicated	not indicated	not indicated	not indicated			
RES	Community funds	--	Corsica, DOM	not indicated	not indicated	not indicated	not indicated			

GERMANY

Target

RES share :

- 1,7%(1996)
- 1,9% (2005)
- 2,1% (2010)

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Responsible Ministry
Sun, wind, biomass, heat pumps	Program of the Ministry of Economy	--	National	94-98 (extension in progress)	Subsidies	50 M€	10 M€		
RE electricity	Electricity feed law	--	National	law of 1990, amendments 1994, 1998	Electricity tariffs (utility payments)	653 M€ (payments accumulated 91-97),	1998: 550 M€ (estimation) Support share : 50% (=275 M€)		
RE electricity	REL-law for the priority access of electricity from renewable energy sources	doubling the share of renewable energy in the electricity market form 5% to 10% by 2010	National	Law of 25/2/2000	Electricity tariffs (fixed prices based on actual generation cost of the various renewable energy technologies, so there is variety of tariffs)				
wind, hydro, biomass, biogas	ERP environment and energy savings program of DtA	--	National	since 1990	Low-interest loans	1.500 M€ (total loans 90-97)		DtA- Deutsche Ausgleichsbank	Federal Ministry of Economy and Technology
PV, solar thermal, heat pumps, geoth.	DtA-environment program, including. 50.000 roof-initiative	--	National	since 1990	Low-interest loans	600 M€ (total loans 90-97)		DtA- Deutsche Ausgleichsbank	Federal Ministry of Economy and Technology

Analysis of the Support Policy in EU Member States for Renewable Energy - Germany

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Responsible Ministry
Heat pumps, solar systems	Law for incentives for family homes	--	National	1996-2000	Incentives	per case: up to 250 € for 8 years Total budget not available			
Heat pumps, solar syst., biomass	Agricultural investment support program (AFP)	--	National/regional	till 2000	Subsidies or low-interest loans	not available		Ministries of Agriculture of the Federal States	Federal Ministry of Agriculture
RES	Bilateral co-operation with developing countries	--	Bilateral	ongoing	Donations or low-interest loans	1991-96: 67 M€			
RES	Research and Development (includes demonstration)	--	National	ongoing	Project (co-) financing, support to R&D institutions	not indicated	1996: 104 M€ 1998: 102M€ (estimation) 2000: 101 M€ (plan)		
Solar Photovoltaics	"100.000 Roof Programme"	Installation of 100.000 Rooftop PV systems	National	Will start in 1999	Credits at 0 interest, to be reimbursed within 10 years; 2 years are free	About 500 M€	Not yet fixed		
RES	Federal State programs	--	Regional	ongoing	Subsidies or low-interest loans	1991 to 1996: about 600 M€	not indicated	not indicated	
RES	Municipal & local utilities	--	Local	ongoing	Subsidies, tariffs	several hundred programs; cumulative figures not available	not available		
RES	Community funds	not applied	not applied	--	--	--	--		
All RES, except biomass	Federal Programme for non-nuclear energy research		National				About 100 M€	Forschungszentrum Jülich, Projektträger Biologie, Energie und Umwelt (BEO)	Federal Ministry of Economy and Technology

Analysis of the Support Policy in EU Member States for Renewable Energy - Germany

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation/ institution	Responsible Ministry
Solar collectors, heat pumps, hydro, wind, PV, biomass, biogas	Support of measures for the utilisation of RES		National				12,5 M€	Bundesamt für Wirtschaft	Federal Ministry of Economy and Technology

GREECE

Target

1996: 5,4%

forecast : 8,2 - 8,5% in 2010 (=25% CO2 red., basis: 1990)

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
All RES	Operational Programme for Energy	Not quantified	National	1994 - 1999	grants on equipment, installation and auxiliary	220 M€	Not indicated	Ministry for the Development
All RES	Operational Programme for Research and Technology	Not quantified	National	1994 - 1999	co-financing (EU, national)	Not indicated	Not indicated	Ministry for the Development - General Secretary for Research and Technology
RES and RUE in the building sector	Action Plan "Energy 2001"	Not quantified	National	since 1995	tax exemptions, loans, TPF	Not indicated	Not indicated	Ministry for Environment Spatial planning and Public Works
RES and RUE in the building sector	Circular of Ministry	Not quantified	National	since 1998	RES and RUE in buildings	Not indicated	Not indicated	Ministry for Environment Spatial planning and Public Works
RES and RUE in public buildings	Circular of Ministry	Not quantified	National	1997	RES and RUE in public buildings	Not indicated	Not indicated	Ministry of Interior, Public Administration and Decentralization
All RES	Private sector investment support (Law 2601/98)	Not quantified	National/regional	since 1998 (replaces Law 1892/90, expired 1997)	combination on capital grants, interest subsidies, leasing subsidies and tax exemptions	Not yet available Capital grants: 40%, interest subsidy: 40%, leasing subsidy: 40% or tax exemption: 100 and interest subsidy 40%	Not yet available	Ministry of National Economy - Regions

Analysis of the Support Policy in EU Member States for Renewable Energy - Greece

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
RES in the housing sector (mainly solar thermal)	Law 2364/95	Not quantified	National	since 1995	tax exemptions	Not indicated	Not indicated	Ministry of National Economy
all RES	Center for Renewable Energy Sources (CRES)	--	National	not indicated	project management, training, information..	Not indicated	7,5 M€	Ministry for the Development
all RES	Bilateral and international co-operation (CEEC, CIS, Asia, Med. countries)	Not indicated	Bilateral/ international	not indicated	not indicated	Not indicated	Not indicated	Ministry of National Economy / Ministry of Foreign Affairs / Ministry for the Development
RES and RUE	Community funds	Not quantified	National	1994 - 1999	co-financing (EU, national)	About 40% of the total costs of projects in Operational Programme for Energy	Not available	Ministry of National Economy

IRELAND

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
RES electricity	Alternative Energy Requirement (AER) V	Target in Green Paper published 1999 of 500 MWe of new RES capacity by 2005	National	2000-2005	TBA - annual support programme Infrastructural investment/ support renewables/ CHP	50	10	Department of Public Enterprise [www.irlgov.ie]
RES electricity	Alternative Energy Requirement (AER) I - IV	260 MWe by year 2000	National	1994 - 2000	Competition / electricity feed-in tariffs, grants Grants : AER III : up to 80,000 € / MWe Plus 11,670 € / MWe for projects of 5 MWe or less AER IV : about 53,200 € / MWe	8,5 ('97 – 2000)	2.1 (4 years)	Department of Public Enterprise
RES electricity	THERMIE support		National		Electricity feed-in tariffs (for successful THERMIE projects sited in Ireland)	Not available	Not available	
RES electricity	Tax relief for investments in Renewable Energy undertakings		National	1999-2003	50% of the marginal tax rate otherwise payable by corporates for equity investments in renewable energy undertakings	30	10	Department of Public Enterprise
RES	Feasibility Study Grant Scheme		National	1998		Less than 1	Not available	
RES investments	National Development Plan	Support to Green paper Targets	National	2000-2006	Investment in electricity grid infrastructure	47	Not available	
RES electricity					Support part in RES electricity payments -PSO on consumers	Not available	7	
RES Research	National Development Plan		National	2000-2006	New and Renewable technologies	25	Not available	

Organisation / Institution

International & Sustainable Energy Division :

Sector : all RES, alternative Energy Requirement Competitions

Main task : Formulation and Implementation of policy; set targets for RES

Responsible ministry : Department of Public Enterprise

Irish Energy Centre :

Sector : all RES

Main task : Promotion of Energy Efficiency and the Development of RES in Ireland

Responsible Ministry : Joint Initiative of the Department of Public Enterprise and Enterprise Ireland (Irish Business Development Agency)

Estimated budget : 29 M€, average budget per year : 5 M€

ITALY

Target

Doubling the share of RES in the national energy mix by 2010

RES rate in Italian energy balance: 7.37% (1996)

Document : "White Paper for the Valorisation of Renewable Energy Sources"

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation / institution	Main Task	Responsible Ministry
RES electricity	Liberalisation of power production (Law n° 10, 9th Jan. 1991)		National	Since 1991 (ongoing)	Allow independent power production	74,88 M€ (cumulated)	.-			
RES electricity	Electricity buy-back-rates (Interministerial Provisions n° 6 (CIP 6/92))		National	Since 1992 (in force only for installations approved till 30.6.95)	Tariffs for RES electricity fed into the grid	1993 – 97: 1,020 M€ (ENEL: 476.1 M€, others: 543.9 M€)	1997: 232.9 M€ (ENEL: 138.9 M€, others: 94 M€)			
Solar PV	"10.000 PV Roofs"	Installation of 50 MWp PV power	National	1999 – 2003 (approval expected in 4/99)	Subsidies on investment	290 M€		ENEA, ENEL, CNR, University	RTD, demonstration, management	Industry-, Environment
Solar thermal	"Commune solarizzato"	Installation of 70.000 m ² collector surface on public buildings	National	Approval expected in 4/99		400 M€		ENEA	Demonstration, diffusion	MINAMB (Environment)

Analysis of the Support Policy in EU Member States for Renewable Energy - Italy

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	organisation / institution	Main Task	Responsible Ministry
Biomass: gasification of agro-industrial residues for electricity production	Co-operation programme Italy-China		Bilateral	1997 – 2000		1,09 M€	Not available			
RES electricity	RES plants POP Apulia region		Regional	1994 – 1996 (some activities ongoing)	Subsidies on investment	25.8 M€ (50% EU, 30% national, 20% regional funds)	Not available			
RES electricity	RES plants POP Campania region		Regional	1995 – 1999	Subsidies on investment	25 M€ (50% EU, 30% national, 20% regional funds)	Average: 5 M€			
RES electricity	RES plants, POP Sicily region		Regional	1994 - 1999	Subsidies on investment	35 M€ (50% EU, 30% nat., 20 % reg.)	Not available			
Geothermal	Electricity from geothermal energy (utility programme – ENEL)	Activity around SOMWE from geothermal energy in the next 4 to 5 years	Utility programme	1999 - 2003	Utility programme no public support	Not available	125 M€	ENEL	Diffusion	MICA (Industry)
Small hydro	Programme Agreement (under definition)		National					ENEL	Diffusion	Industry
Wind			National					ENEA	Diffusion	Industry
Biomass	Programme agreement (under definition)		National					ENEA	RTD, demonstration, management	Industry-, Agricultural Policies

LUXEMBOURG

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES, CHP	Agreement between government and national utility	National	since 1995	investment obligation	.-	.-
RES, RUE	PEEC Program	National	since 1996	activities at municipal level	not indicated	not indicated
RES (wind, solar, heat pumps, biomass, biogas), CHP	Two regulations, one law	National	since 1994/1996	subsidies : wind: grid connection cost (75 €/kW), subsidy (25% for small turbines), solar, biomass, biogas, heat pumps: 25%	not indicated	about 1 M€/ year
RES, RUE	Energy Agency (AEL)	National	since 1991	development of RES and RUE, project selection		

Organisation / Institution

AEL – National Energy Agency

Sector : all RES

Main task : Promotion of RUE and RES, exploitation of the potential of RUE and RES, selection of projects

NORWAY

Target

No targets.

More than half of domestic energy consumption derives from RES (hydro)

RES sector	Title of the program + legal reference text	Level	Period	Way of support	average budget per year (M€)
RES R&D	Efficient and Renewable Energy technologies	National (co-ordinated by the Research Council of Norway)	1995 - 1999	R&D grants	1998: 2,7 M€
RES R&D	Power Exchange and Grid Monopolies	National (co-ordinated by the Research Council of Norway)	1996 - 2000	R&D grants	1998: 3,8 M€
RES R&D	Socio-economic framework for energy and environmental policy	National (co-ordinated by the Research Council of Norway)	1996 - 2000	R&D grants	1998: 0,9 M€
RES R&D	Basic RE Research Programme	National (co-ordinated by the Research Council of Norway)	1996 - 2000	R&D grants	1998: 1,9 M€
RES	Introduction of RE and RET	National (co-ordinated by the Norwegian Water Res. And Energy Administration)	Year to year basis	Grants for market introduction / demonstration	1998: 24,8 M€
RES	Applied research in watercourse management	National (co-ordinated by the Norwegian Water Res. And Energy Administration)	Year to year basis	Grants for market introduction / demonstration	1,6 M€
Bioenergy, wind, heat pumps, district heating, wave power, micro hydro	Tax exemptions	National	Will start in 1999	Exemption from investment tax (7 %)	Not available

Analysis of the Support Policy in EU Member States for Renewable Energy - Norway

RES sector	Title of the program + legal reference text	Level	Period	Way of support	average budget per year (M€)
Wind energy	support	National	From 1/99 on	Support corresponding to half of the consumer tax on electricity per kWh	
RES	Co-operation with CEEC countries	Bilateral		Technical assistance	
Hydro	Co-operation with developing countries	Bilateral		Delivery of consultancy services and equipment (Asia, Latin America)	

Organisation / Institution

The Research Council of Norway

Sector : all RES

Responsible Ministry : Ministry of Education, Research and Church Affairs

Main Task : R&D

1. Efficient and renewable energy technologies (199-99)
2. Power exchange and grid monopolies
3. Socio-economic framework for energy and environmental policy (1996-2000)
4. Basic RE research programme (1996 – 2000)

Budget : 1998:

1. 2,7M€
2. 3,8M€
3. 0,9M€
4. 1,9M€

The Norwegian Water Resources and Energy Administration

Sector : all RES

Responsible Ministry : Ministry of Petroleum and Energy

Main Task : Market introduction/ demonstration

- 1 Introduction of RE and new energy technologies
2. Applied research in watercourse management

Budget : 1998:

1. 24,8M€
2. 1,6M€

PORTUGAL

Target

National targets to be achieved with existing instruments:

By 200:

Wind: 90 MW
 Mini-hydro: 350 MW
 Solar: 35ktep
 Biomass: 17 MW

By 2006:

Wind: 290 MW
 Mini-hydro: 500 MW
 Solar: 55 tep
 Biomass: 47 MW

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES	"Program Energia" from the Secretary of State for Industry and Energy	National	1994 - 1999	Biomass, wind, small hydro (larger plants): Loan at 0 interest, till 1997 up to 40% of eligible cost; since then up to 60%; Total capacity installed till 7/98: 129 MW Smaller projects (solar collectors, biomass steam generators, biogas plants, micro hydro)	Not available	Not available
RES (and RUE)	Regional Energy Plans	Regional			Not available	Not available
RES	Action Plan to Endogenous Resources Utilisation and for Municipalities Energy Management (PAM)	Regional, local			Not available	Not available

Analysis of the Support Policy in EU Member States for Renewable Energy - Portugal

RES sector	Title of the program + legal reference text	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES	Community Fund: FEDER		1995 - 1999		Not available	1996: FERDER: 10,0 M€ National: 0,3 M€ 1997: FEDER: 15,9 M€ National: 1,0 M€ 1998: (prevision): 23,3 M€ National: 1,6 M€

Organisation / Institution

INETI/ITE

Sector : all RES

Main task : Support to technology transfer, quality standards, evaluation of new equipment, assessment of RES potential and sites

CCE- Energy Conservation Centre

Sector : all RES and RUE

Responsible Ministry : Secretary of State for Industry and Energy

Main task : Public information, technical support to promoters

Regional energy agencies

Sector all RES and RUE

Main task : Public information, technical support to promoters

SPAIN

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES	Energy Saving and Efficiency Plan (PAEE): Renewable Energy Programme		National (includes regional programmes)	1991 – 2000	Subsidies, Third Party Financing, promotion and follow-up Organisation : IDAE	420.7 M€ for the whole period 1991-2000	Average support (91-97): 23.7 M€ 1997: 27.5 M€
RES	Energy plans of the Autonomous Communities		Regional	Starting in 1995/ 96/98 till the year 2000/ 02/ 05		Not available	Not available
RES electricity	Law of the Electricity Sector 54/1997	RES share in primary energy consumption on nat. level: 6,5 %. National target: 12 % of energy demand to be covered by RES	National	In force since 27 Nov. 1997	Electricity feed-in tariffs concerning RES power plants under Special Regime (biomass, biofuels, mini and medium hydro): 80 to 90% of the average electricity tariff; special rates for PV	Not available	Not available
RES electricity	Royal Decree 2818/1998	Determines the feed-in tariffs for Special Regime	National	In force since 23 Dec. 1998	Guaranteed access to the grid, with determined economical conditions	Not available	Estimated payments (support part): about 200 M€ (1999)

Regional policies

(no budget available)

Title of the program + legal reference text	organisation/ institution	Responsible Ministry
PROSOL	SODEAN	Junta de Andalucia
Plan de Accion E.R. 1997 – 2005	Departamento de Economia, Hacienda y Fomento	Diputatcion General de Aragon
Plan de E.R. del Principado de Asturias (1995 – 2005)	Ente Asturiano de la Energia (ASTURENER)	Principado de Asturias
	Conselleria de Medio Ambiente	Autonomia de las Islas Baleares
Plan E.R. Canarias (1996 – 2002)	Consejeria de Industria y Comercio	Gobierno de Canarias
Programa de Energias Renovables (1998 2000)	EREN	Junta de Castilla y Leon
Libro Verde de las E.R. en la Euroregion (1996 – 2005)	ICAEN	Generalitat de Cataluna
Annual Grants Programme Financial aids for energy efficiency and RES projects : Subsidies, Third Party Financing, promotion and follow-up budget : 2 M€ for the year 2000	ICAEN	Generalitat de Cataluna
	Consejeria de Economia, Industria y Hacienda	Junta de Extremadura
Plan Energetico de Galicia	Conseilleria de Industria y Comercio	Xunta de Galicia
Plan E.R. de la Region de Murcia	Consejeria de Industria, Trabajo y Turismo	Region de Murcia
Plan Energetico de Navarra	Consejeria de Industria	Comunidad Foral de Navarra
Plan E.R. de la Comunidad Valenciana	IMPIVA	Comunidad Valencia
Estragia Energetica de Euskadi al 2005	EVE	Gobierno Vasco
	Consejeria de Economia y Empleo	Comunidad de Madrid
	Consejeria de Turismo, Transportes y Comunicacionese Industria	Gobierno de Cantabria

SWEDEN

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
Biomass	Investment aid for biomass-based CHP	Estimation: expansion of CHP of 0,75 TWh / year over 5 years (part of national target of 1,5 TWh electricity from RES by end of 2002)	National	By end of 2002	Grants for investment (320 € per kW installed, max 25% of the investment)	48 M€	Biomass, wind and small hydro power together: 15,2 (1998)
Wind energy (land-based)	Investment aid for wind power	Annual increase of "wind electricity" by around 0,5 TWh over 5 years (part of national target of 1,5 TWh electricity from RES by end of 2002)	National	By end of 2002	Grants for investment (15% for wind turbines >200 kW)	32 M€	Biomass, wind and small hydro power together: 15,2 (1998)
Small Hydro	Investment aid for small-scale hydropower	Annual increase of "small hydro electricity" by 0,25 TWh over 5 years (part of national target of 1,5 TWh electricity from RES by end of 2002)	National	By end of 2002	Grants for investment (15% for hydro power stations <1,5 MW)	16 M€	Biomass, wind and small hydro power together: 15,2 (1998)
RES electricity (biomass-CHP, wind, small hydro)	Aid for the procurement of new electricity generating technology	--	National	1.1.98 – 31.12.2002 (not yet in force)	Support/ subsidies for capital investment	10,7 M€ (not yet in force)	Not available
Biofuels		--	National		Exemption from energy taxation (energy, CO2 and sulphur tax)	Not available	Not available
Wind energy	Environmental bonus for wind power production	--	National	1.7.94 – (no final date)	Operation aid equal to electricity tax (subsidy, 0,016 € per kWh)	Not available	5 M€
Electricity from small-scale (<1,5 MW) generators	Purchase obligation for electricity from small-scale generators	--	National	1.1.96 – (no final date, review within 5 years)	Purchase obligation for utilities	Not available	Not available

Analysis of the Support Policy in EU Member States for Renewable Energy - Sweden

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES	Climate investment projects	-.-	International	1.1.98 – 31.12.2004	Investment support i.a.	39 M€ (covers RES, RUE etc.)	5,6 M€ (1998)
RES	“Programme for Southern Sweden due to Decommissioning of Barsebäck”	-.-	Regional	1.1.98 – (no final date)	Investment support i.a.	45 M€ (covers RES, RUE etc.)	11,2 M€ (1998)
Electricity from small-scale generators	Simplified and reduced grid tariff for small-scale generators	-.-	National	1.1.96 – (no final date)	Exemption from paying annual input tariff to the grid	Not available	Not available
RES (Biofuels, wind, hydro, storage, fuel cells and batteries, artificial photosynthesis, solar cells, solar heating..; socio-economic aspects)	Research, Development & Demonstration	“An Ecologically Sustainable Energy System”	National	1.1.98 – 31.12.2004		562 M€ (covers all fields of the energy programme, not only RES, and includes corresponding investments from industry etc.)	33 M€ (1998, RES share only)
RES	Research and Technological Development		National				7,1 M€ (1998)
RES (as part of sustainable development programmes)	Local Communities’ Programme for a sustainable development		Regional, local	4 years (dates not indicated)	Investment support	Total programme: 639 M€, of which 20-30% are for energy; RES share within the energy sector about 2/3	41,6 M€ (1998, RES share only)

Organisation / Institution

Swedish Energy Administration (STEM)

Sector : all RES

Program :

- a) national Energy RTD programme;
- b) investment programmes (biomass, wind and small hydro);
- c) climate investment projects
- d) Programme for southern Sweden due to decommissioning of Barsebäck

Turnover : 65 M€ (1998)

Ministry of Environment

Sector : all RES

Program : Specific Programmes for a Sustainable Development (local communities)

THE NETHERLANDS

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
All energy	Law concerning energy saving equipment (5 February 1986)		National					Economic Affairs
All energy	Law concerning energy distribution (14 December 1996)		National					Economic Affairs
All energy	Electricity Law (recent, 1998)		National					Economic Affairs
All energy	Law concerning the General Energy Council (25 September 1995)		National					Economic Affairs
RES	Third White Paper on Energy Policy	energy policy 10% RES to 2020	National	1996 - 2020	Fiscal R&D demo and market introduction		118 Meuro	Economic Affairs
RES (includes waste incineration)	Action Programme "Renewable Energy – Advancing Power"	3% RES share by 2000, 10% by 2020	national	1997 – 2000	- improving proce/performance ratio - promoting marketpenetration - addressing adminitrative bottlenecks	233 Meuro	47 Meuro	Economic Affairs
Wind	Administrative Agreement on Wind Energy Siting	Regional targets for 7 provinces	Regional/national	1991 - 2000	Setting regional targets/ public information campaign/ demonstration			Economic Affairs
All energy	Regulatory energy tax		national	Since 1996	Tax exemption for RES from this tax			Finance
RES	Energy Investment Relief		national	Since 1997	Tax relief in RET and energy conservation technologies. Equals to a subsidy of approx. 15%			Finance

Analysis of the Support Policy in EU Member States for Renewable Energy - The Netherlands

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
RES	"Green Funds"			Since 1995	Free of interest and dividends from funds financing nature- + environment related projects is exempted from income tax	Not available	Large	Finance
EPN (Energy Performance Norm)	Energy Performance Standards for new buildings				Will increase demand for renewable equipment in new buildings	Not available	Not available	Jointly: Economic Affairs / Environment
EPK (Energy Performance Approval)	Energy Performance Standards for existing buildings			Not yet in force	Will increase demand for renewable equipment in existing buildings	Not available	Not available	Jointly: Economic Affairs / Environment
Solar thermal	Direct subsidies for domestic hot water equipment		National	1999 - 2002		Not available	Not available	Economic Affairs
Solar thermal	Long term agreement for solar water heater market development	80.000 solar water heaters by 2000	National	1994/97 – 2000	Market introduction	Not available	Not available	Economic Affairs
Solar thermal	Solar thermal		National	1996 - 2000		15.6	7.8	Economic Affairs
Solar PV	Agreement on solar PV	7,7 MWp installed in 2000	National	1997 – 2000				Economic Affairs
Solar PV	Solar Current		National	1997 - 2000	R,D&D support	47.5	23.8	Economic Affairs
Wind	TWIN		National	1999 - 2000	R,D&D support	17.1	8.6	Economic Affairs
Energy storage	MRE		National	1999 – 2000	Market introduction of energy storage in aquifers	2.7	1.4	Economic Affairs
Biomass & waste	EWAB		National	1999 – 2000	R,D&D support	11.0	5.5	Economic Affairs
Heat pumps	Heat pumps		National	1999	R,D&D support	3.5	3.5	Economic Affairs
RES	EET (Renewables part only)		National	1998 - 1999	Incentive Scheme. Support of technological breakthroughs related to Energy, ecology and technology	15.8	7.9	Economic Affairs

Analysis of the Support Policy in EU Member States for Renewable Energy - The Netherlands

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)	Responsible Ministry
Electricity from wind, hydro, biomass, PV, solar thermal	"MAP Supplement" (MAP = Environmental Action Plan)	CO2 reduction by 2,7 Mt by 2000 (3,1% of electricity and 0,1% of gas sales from RES)	National	(1990)- 1999 - 2000	Additional cost for RES energy financed by supplement (surcharge), levied on electricity distribution customers, and by Government	61.4	30.7	Economic Affairs
RES	Targeted subsidies		National		Generic R&D support	Not available	8.2	Economic Affairs
RES electricity	"Green electricity"		Utility	1995 -	Voluntary consumer payments (higher tariffs) for RES electricity	Not available	Not available	Economic Affairs
RES electricity	"Green Certificates"		National	Start in 2001 possible	Tradable certificates awarded to producers of RES electricity	Not available	Not available	Economic Affairs
RES electricity	Electricity buy-back-rates		National	1998 – 2001 (capacity > 600 kW in 2008)	Special tariffs for RES electricity fed into the grid	Not available	Not available	Economic Affairs
All energy	CO2 reduction plan		National	1999 - 2000	Incentive scheme, Calls for Tender. Support of CO2 reducing investment projects Management of the plan : CO2 Project Bureau	Max. 680 M€, about 170 M€ (25%) of which for RES	Not available	Jointly: Economic Affairs / Environment

Organisation / Institution

Netherlands Agency for Energy and the Environment (NOVEM)

Sector : Heat pumps, biomass, energy storage in aquifers, solar PV, solar thermal, wind
Responsible ministry : Economic Affairs
Main task : Programme management
Annual Turnover : 120M€

Agency of the Ministry of Economic Affairs (SENER)

Sector : all RES
Responsible ministry : Economic Affairs
Main task : Management of technology related incentive schemes
Budget for solar heaters is 3.6 M€ for 1999

Netherlands Energy Research Foundation (ECN)

Sector : all RES
Responsible ministry : Economic Affairs
Main task : Research

Netherlands Organisation for Applied Scientific Research (TNO)

Sector : all RES
Responsible ministry : Economic Affairs/ Education, Culture & Science
Main task : Research

THE UNITED KINGDOM

RES sector	Title of the program + legal reference text	Target	Level	Period	Way of support	Estimated budget (total program) (M€)	average budget per year (M€)
RES electricity	Non-Fossil Fuel Obligation (NFFO) in England and Wales, Scottish Renewable Obligation (SRO), Northern Ireland NFFO (NI-NFFO)		Sectoral	Since 1990 (NFFO), Since 1994 (SRO), since 1994 (NI-NFFO)	Electricity feed-in tariffs (institutional framework est. as part of the 1989 Electricity Act, Sections 32 and 33). Expenditure on aid is demand-led and depends on the amount of electricity generated and the difference between contract price and the refer	Not available	Expenditure in 1997/98: 167,0 M€
RES	New and Renewable Energy Programme (Department of Trade and Industry)		National	Since 1974 (under revision)	Support to R&D, demonstration, dissemination	Not available	1998/99: 16,0 M€
RES	Blue Sky and fundamental research at universities (Eng. And Physical Science Res. Council – EPSRC)		National		Grants	Not available	5,0 M€
RES	Review of new and renewable energy policy	10 % of UK's electricity needs from renewables	National	Target to be reached by 2010	To be announced	To be announced	Not available

Organisation / Institution

Department of Trade and Industry (DTI)

Sector : all RES

Responsible Ministry : Department of Trade and Industry (DTI)

Program :

- a) National Policy
- b) Non-Fossil Fuel Obligation (NFFO), England and Wales
- c) National New and Renewable

Main task :

- a) National Policy
- b) Non-Fossil Fuel Obligation (NFFO), England and Wales
- c) National New and Renewable

Scottish Office

Sector : all RES

Program : Scottish Renewables Order (SRO)

Main task : Scottish Renewables Order (SRO)

Northern Ireland Office

Sector : all RES

Program : Northern Ireland NFFO (NI-NFFO)

Main task : Northern Ireland NFFO (NI-NFFO)