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Energy subsidies and renewables

State financial interventions in the energy sector have been common for many years. Governments have used subsidies to enhance security of supply, reduce air pollution and emissions of greenhouse gases, strengthen competitiveness, provide social benefits and protect employment.

There is, however, some dispute as to how effective they have been. Furthermore, political priorities and technological possibilities change over time. Existing subsidies should therefore be evaluated to determine whether they reflect the needs of society as a whole. This estimate of present subsidies in the old EU Member States (EU-15), with a special focus on renewables, is a contribution to such an evaluation.

What are energy subsidies?

There is no agreed definition of energy subsidies or harmonised reporting mechanism. To provide as complete a picture as possible, the EEA has looked at a wide range of direct and indirect support mechanisms (EEA, 2004). On-budget subsidies are transfers that appear on the national accounts as government expenditure. Examples are cash transfers to energy producers, consumers and related bodies, and low-interest or reduced-rate government sponsored loans. Examples of off-budget subsidies are tax exemptions and rebates, preferential market access, regulatory support mechanisms and preferential access to natural resources.

Table 1. Estimates of total energy subsidies in 2001, EU-15, billion euro

	Solid fuel	Oil and gas	Nuclear	Renew-ables	Total
On-budget	> 6.4	> 0.2	> 1.0	> 0.6	> 8.2
Off-budget	> 6.6	> 8.5	> 1.2	> 4.7	> 21.0
Total	> 13.0	> 8.7	> 2.2	> 5.3	> 29.2

Note: Electricity subsidies are allocated to fuels on the basis of generation inputs. Excludes external costs.

Source: EEA.

Estimate of energy subsidies in EU-15

Data from a range of sources has been used. Reflecting data availability, the scope of the study has been limited to EU-15.

Total subsidies (excluding external costs) are estimated to be about EUR 29 billion a year (Table 1). While solid fuels received the largest share of subsidies, renewables received significantly higher support on a per-energy unit basis than other fuels. Governments seem therefore to recognise that renewable energy is a much less mature industry with a greater need for technological and market support to enable full commercial development.

Solid fuels. Substantial on-budget subsidies continue to the coal industries in Germany (over EUR 4 billion) and Spain (over EUR 1 billion). Off-budget support is particularly high in Germany (circa EUR 3.5 billion).

Oil and natural gas. Oil receives little support. Support for natural gas, mostly off-budget, is substantial in the Netherlands (EUR 0.9–2.4 billion), the UK (circa EUR 1.4 billion) and Italy (circa EUR 0.9 billion).

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Nuclear power. The on-budget support to nuclear energy comes from R&D grants by Member States (mainly France, Germany and Italy) and the European Community. The figures exclude the cost of not having to pay for full-liability insurance cover.

Renewable energy. Support for renewable energy is now well established across the EU-15. Every Member State provides a combination of price support through feed-in tariffs, obligations or competitive tender, together with a range of capital subsidies and fiscal mechanisms (Table 2). In 2001, total levels of support were greatest in Germany and Italy, where over EUR 1 billion was provided, mainly in the form of feed-in tariffs.

Electricity. The Netherlands (more than EUR 1.5 billion), the UK (circa EUR 1.5 billion) and Germany (circa EUR 1.8 billion) provided substantial off-budget support to electricity consumption.

Subsidies and renewables

The present situation is characterised by energy market liberalisation and privatisation leading to energy prices that are lower than would otherwise have been the case, greater price volatility and increased commercial risk in connection with investment in new capacity. Energy planners have begun to voice concerns over current limited levels of private sector investment in new capacity, given projected energy demand growth over the next 30 years. Any delay in decommissioning of old fossil-fired plants to ensure supply will make it more difficult to reduce greenhouse gas emissions in accordance with international obligations.

Renewables can play a role in reducing greenhouse gas emissions, securing energy supply and reducing price volatility. These benefits are reflected in political goals such as the indicative EU renewable targets for 2010. These targets will however not be met at current levels of political and financial support.

References:

EEA (2004): *Energy subsidies in the European Union, a brief overview*. EEA Technical report 1/2004.
Stenzel, T., Foxon, T. and Gross, R.(2003): *Review of renewable energy development in Europe and the US*. A report for the DTI Renewables Innovation Review October 2003, ICCEPT.

Table 2. Support policies for renewable technologies in EU-15

Country	Capital subsidies	Feed-in tariffs	Certificates/ obligations	Competitive tender	Fiscal mechanisms
Austria	X	X	H		X
Belgium	X	X	X		X
Denmark	H	X			X
Finland	X				X
France	X	X		X	X
Germany	X	X			X
Greece	X	X			X
Ireland	X			X	X
Italy	X	H	X		X
Luxembourg	X	X			
Netherlands	X	X	X		X
Portugal	X	X			X
Spain	X	X			X
Sweden	X		X		X
UK	X		X	H	X

Note: X = Mechanism currently present, H = Historical policy, now changed.

Source: Adapted from Stenzel, Foxon and Gross (2003).

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