

# Fossil fuels at what price? EU analysis looks at energy costs

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Solarkraftwerk Waldpolenz, the first Solar 40-MW CdTe PV Array installed by JUWI Group in Brandis, Germany. Credit: JUWI Group

A new report, "Subsidies and costs of EU energy" addresses different forms of energy production. The study was ordered and paid for by the European Commission, Directorate-General for Energy. Why bother? "The functioning of [energy](#) markets and the size and effect of government interventions has been the subject of debate for years," said

the European Commission. "To date however, a consolidated dataset for government interventions in the power market of the European Union has been missing. This is why the European Commission has commissioned a study that aims at helping to close the knowledge gap by quantifying the extent of public interventions in energy markets in all 28 Member States." They presented the interim results of the external study on subsidies and EU energy costs earlier this month.

"Over the past decades, energy systems in the EU have gradually moved from a system based entirely on fossil fuels, nuclear and hydro energy to a system with an increasing share of solar, bio and [wind energy](#)," wrote the authors of the report.

The largest [amounts](#) of current public support in 2012 went to renewables, in particular to solar (€14.7bn) and onshore wind (€10.1bn), followed by biomass (€8.3bn) and hydropower (€5.2bn). Among conventional power generation technologies, coal received the largest amount in current subsidies in 2012 with €10.1bn, followed by nuclear (€7 bn) and natural gas (about € 5.2 bn).

The energy consultancy Ecofys [conducted](#) the study which presents the estimates on costs across power-generation technologies. Ecofys said that "These are costs that are not reflected in market prices, such as costs of environmental and health impacts and the impact of climate change. The methods for quantifying external costs come with a high degree of uncertainty, and the report only aims to identify orders of magnitude for external costs. It puts the figure of external costs of the EU's energy mix in 2012 at between €150 and 310 billion."

According to the European Commission news release summarizing the findings, the report presented figures on the cost competitiveness of the different power generation technologies. Estimated ranges reflected costs of new power generation without public intervention (levelized

costs). Costs for producing one MWh of electricity from coal were in a range around €75. Electricity from onshore wind was generated at only somewhat higher costs. Costs for power from nuclear and natural gas were in comparable ranges around €100/MWh. Solar power costs have fallen considerably since 2008, said the news release on the study, to about €100-115/MWh depending on installation size.

The new report provides a dataset on energy costs and subsidies for EU28 (The EU comprises 28 member states). "The interim report presented today collects a hitherto not existing set of data on costs and subsidies across the various generation technologies in the electricity sector and across all EU Member States," the Commission said.

Data collection support also came from KPMG, the Center for Social and Economic Research (CASE) and CE Delft.

The European Wind Energy Association stated that "Based on EWEA's analysis of the data in the report, onshore wind has an approximate cost of EUR 105 per megawatt hour (MWh) which is cheaper than gas (up to EUR 164), nuclear (EUR 133) and coal (between EUR 162-233). Offshore wind comes in at EUR 186 and solar PV has a cost of around EUR 217 per MWh. The total cost of [energy production](#), which factors in externalities such as air quality, climate change and human toxicity among others, shows that coal is more expensive than the highest retail electricity price in the EU. The report puts the figure of external [costs](#) of the EU's energy mix in 2012 at between EUR 150 and EUR 310 billion."

Justin Wilkes, EWEA deputy chief executive officer, said, "We are heavily subsidizing the dirtiest form of electricity generation while proponents use coal's supposed affordability as a justification for its continued use. The irony is that coal is the most expensive form of [energy](#) in the European Union." He said the new EC report "highlights the true cost of Europe's dependence on fossil fuels. Renewables are

regularly denigrated for being too expensive and a drain on the taxpayer. Not only does the Commission's report show the alarming cost of coal but it also presents [onshore](#) wind as both cheaper and more environmentally friendly."

**More information:** — [www.ecofys.com/en/news/first-f ... 8-across-all-techno/](http://www.ecofys.com/en/news/first-f ... 8-across-all-techno/)

— [ec.europa.eu/energy/studies/do ... costs eu energy.pdf](http://ec.europa.eu/energy/studies/do ... costs eu energy.pdf)

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