

Economics in Brief



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EEG power runs along the supply chain

Authors:

Dr Caroline Dieckhöner, phone +49 (0) 69 7431-3854

Clemens Domnick, research@kfw.de

The German Government is currently considering revising the exceptions for companies with high electricity consumption contained in the Renewable Energy Act (EEG). The EEG promotion costs are set to rise to an estimated EUR 23.6 billion in 2014, funded by a levy on electricity prices. At the moment, high-consumption companies in the manufacturing sector, i. e. companies that use over 1 GWh per annum and for which the ratio of electricity costs to gross value added is 14% or above, benefit from a massively discounted EEG levy that ranges between 0.05 and 0.62 EUR cents per kWh in order to remain competitive. The full levy is currently 6.24 EUR cents/kWh, which is far higher than the average wholesale price for electricity in 2013 of 3.76 EUR cents/kWh. Stricter exception rules could therefore result in a sharp hike in energy costs for individual companies.

Impact of an intermeshed supply chain

The current discussion on the regulation of exceptions criticizes that the indicators currently used (electricity consumption and demand intensity) neither take the company's competitive position into account nor its relationships throughout the supply chain. Consequently, second-round effects are neglected. Taking indirect power costs and the actual competitive situation of the company better into account would make the EEG exception rules more efficient. In turn, such an approach would reduce the additional burden on private households and SMEs, who do not benefit from the exception rules.

It is important to consider energy-intensive intermediate products when de-

termining which sectors and companies require protection, as higher EEG-related electricity costs in one link of the supply chain could push up production costs for all subsequent production steps. This is particularly problematic when products are only exposed to strong international competition close to the end of the value chain, yet the final manufacturing steps require very little energy.

The national accounts report direct and indirect costs in the form of an input-output analysis. The table shows the German industries with the highest ratio of electricity supplies to production value, sorted by direct and indirect supplier relationships (i. e. those industries with direct and indirect electrical, heat or cooling energy supplies of at least 4% of production value, excluding utility companies).

Table: Direct and indirect electrical, heating and cooling inputs in energy-intensive sectors

Sector	Electrical, heating and cooling inputs (in percentage of production value)		
	Direct	Indirect	Total
Coal	2.4	2.1	4.5
Ores, minerals, other mining and quarrying products and services	3.5	3.0	6.5
Timber, basketware, wood, wicker, and cork goods (excluding furniture)	2.5	2.8	5.3
Paper, cardboard, paper and cardboard articles	4.4	4.0	8.3
Printing services, audio recordings, visual and data media	1.9	2.2	4.1
Chemical products	1.5	2.6	4.1
Glass and glassware	4.0	3.0	7.1
Ceramics, worked stones and clay	2.9	2.8	5.7
Crude iron, steel, first processing of iron and steel	2.2	5.2	7.4
Non-ferrous metals and semi-finished products	3.8	2.7	6.5
Cast products	2.7	2.4	5.1

Source: Destatis 2013.

Suppliers comprise the electricity, heating and cooling supplies and services sectors. No separate data are available for electricity supplies. As heat is a key input factor for the processing industry, the percentages quoted are far in excess of total electricity consumption.

The crude iron and steel industry has particularly high indirect inputs, which make up 5.2% of production value – more than double the proportion of direct inputs (2.2%). Indirect electricity costs can be considerable and should therefore be an additional factor when defining the exception rules for the EEG levy.

The input-output analysis has some weak points. (i) The analysis is static and the necessary data is published with a considerable time lag. (ii) The analysis uses fixed input coefficients that are not related to prices. In practice, demand for intermediate products can be very price-elastic in the short-term since companies can rapidly switch to cheaper or more energy-efficient intermediate products. (iii) The analysis does not make any allowance for technical advances, improved energy efficiency, and other medium to long-term substitution processes.

Criteria that factor in indirect EEG costs

In order to factor in indirect electricity costs from suppliers as part of the regulation of exceptions, a number of issues need to be considered. (i) Energy-intensive intermediate products manufactured by companies that are (mostly) exempt from the EEG levy, must be eliminated from the value chain calculations. (ii) With respect to the substitution processes described above, data on supplier relationships need to be updated regularly. (iii) The threshold values and scale of the reduction are essential for establishing the right balance between maintaining competitiveness while also ensuring that there are sufficient incentives to improve energy efficiency and for distributing the EEG costs fairly. ■