



Purchase of green electricity -

German Ministry for the Environment (BMU)

Environmental impacts

“The principal environmental impacts concerning energy are related to the burning of fossil fuels, to generate either heat or electricity. Fossil fuel combustion is the main source of greenhouse gas emissions, and other serious concerns relate to acidification and the depletion of resources. The environmental impacts associated with the burning of coal, oil and gas are local, regional and global in scope”¹.

Background

German Ministry for the Environment (BMU²), general information:

The German Ministry for the Environment (BMU) aims to be a trendsetter on green energy procurement. Over the course of 2004-2006, the department has purchased almost 40 million kilowatt-hours of green power, about 80 % supplied by new installations.

Strategy and objectives

The green electricity procurement by the BMU is an indirect result of the German government’s aim, as stated in the National Climate Protection Programme (2000), to reduce CO₂ emissions in Germany by 25% between 1990 and 2005. The government wants to commit itself to reduce emissions in its own buildings and public areas by 25% by 2005 and 30% by 2010. The BMU has acted on this policy goal by setting up a detailed action plan including energy efficiency measures, the introduction of energy management schemes for its agencies and sustainable procurement. As a result, the BMU decided to purchase green electricity, in strict compliance with European and national tender legislation.

Implementation: development of a call for tender

A working group, involving the BMU, the German Environment Agency (UBA³), and the Energy office “Switch.on”, was formed to develop a model call for tender for procurement of green electricity in compliance with public procurement legislation, the latest technical standards and environmental criteria. To ensure that all tender procedures and requirements were in exact compliance with current European and national tender legislation, a specialised law firm was hired to provide advice to the BMU⁴.

The tendering process took place during the second half of 2003 and was published at the EU and national level. Two criteria formed the focus of the energy procurement. Firstly,

¹ *Buying into the environment*, 2003, Greenleaf Publishing Limited, p. 88

² Bundesumweltministerium

³ Umweltbundesamt

⁴ Schnutenhaus & Kollegen, Berlin, Germany

green electricity already supported through the German feed-in system was excluded, thus preventing double support of renewable energy. Secondly, a concrete reduction of 30% in CO₂ emissions must be demonstrated, principally through the construction of new power installations.

The environmental specifications included in the call for tender were as follows:

- 1) 100% of electricity to come from renewable energy sources (RES-E)⁵ as defined by European Directive 2001/77/EC⁶. Regarding biomass, a reference was made to the German Regulation on biomass from 2001⁷.
- 2) The RES-E supply to be combined with certified CO₂ reduction during the delivery period, this means:
 - a) CO₂ reduction achieved during the delivery period has to amount to at least 30% of the amount of average power supply during the same period; and
 - b) Proof of the levels of CO₂ reduction realised through new plants, i.e. plants coming into operation in the year of actual supply, must be provided. Proof must be given through the provision of specific data record sheets. (Explained in more detail in Section 1.4 below)
- 3) **Guarantee of Origin:** The origin of the electricity must be clearly traceable and based on identifiable sources. In case there are various sources the split between the sources must be clearly explained. Special data record sheets (see below for more information) serve to provide proof of the origin of the electricity and the expected CO₂ reduction achieved during the delivery period. The bidder may supply RES-E from plants that are not mentioned in the contract, however, they must also meet the targeted levels of CO₂ reductions indicated in the bid.
- 4) **Exclusion of subsidised supply:** The supplier is required to confirm in the form of a self-declaration that the power supply has not been subsidised, either entirely or partly at the domestic (e.g. Germany Renewable Energy law) or international level. The Renewable Energy Certificate System (RECS)⁸ is implicitly excluded since the tender requirements do not allow to separate power supply from environmental benefit.

During the award phase, additional points were awarded to the supplier whose bid went beyond the minimum requirement of achieving CO₂ reductions of 30%. The most economically advantageous bid was determined from the best price-performance ratio.

Defining CO₂ reductions

⁵ RES-E is used as an acronym used to describe electricity produced from renewable energy sources or 'green electricity', reflecting the environmentally friendly origin of the electricity. The detailed definition of RES-E in this case, refers to the definition provided under Directive 2001/77/EC of the European Parliament and the Council on the promotion of electricity produced from renewable energy sources in the internal electricity market.

⁶ EU Renewables Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market

⁷ Biomasseverordnung – Biomasse V from 21 June 2001

⁸ For more information please refer to <http://www.recs.org/>



The BMU took an innovative approach to ensuring genuine CO₂ reductions on the market place, and thereby achieving additionality. The winning supplier needed to demonstrate that it would achieve a 30% reduction in CO₂ emissions over the course of the contract compared to the existing energy mix in Germany at that time. The relative CO₂ emissions of the different renewable and non-renewable electricity sources was found using the GEMIS online database⁹.

The age of the RES plants being used to supply the BMU was critical in determining this:

- A “new” plant (i.e. going into operation in the year the contract was signed) could claim 100% of the CO₂ emission savings generated
- A “newer” plant (i.e. going into operation not more than 6 years before the contract) could claim 50% of the CO₂ emission savings generated
- An “older” plant (i.e. going into operation not more than 12 years before the contract) could claim only 25% of the CO₂ emission savings generated
- An “old” plant (i.e. going into operation more than 12 years before the contract) could not claim any of the CO₂ emission savings generated

This approach had the clear result of rewarding the new construction of RES plants, and thus an overall increase in supply of green electricity on the market.

Compliance with criteria, enforcement and monitoring

So as to guarantee transparency and reliability from the supplier to the contractor, the working group developed specific data record sheets. The following procedure was applied: three months following the first year of supply; the supplier was asked to submit the data record sheets to prove the origin of the electricity, divided between new and already established power installations, and the amount of CO₂ reduction achieved during the delivery period in question. After three years of supply, a state-recognised control agency or an EMAS-approved environmental expert was appointed to certify the data submitted. Then, the contractor checked the data sheets. In addition, the supplier was required to confirm by preparing a self-declaration form that the power supply did not receive any subsidies, as was described previously. At any time, the contractor can decide to control or check the environmental compliance of the supply through its own technical experts, and at its own expense.

Results

Seven green power suppliers responded to the BMU’s call for tender, of which four were eligible. “Unit Energy Stromvertrieb GmbH” was awarded the contract¹⁰ following their commitment to achieve 80% CO₂ reductions through providing the equivalent proportion of electricity from new installations. The green electricity, stemming from hydro power installations in Austria and the newly built biomass plant “Stendal GmbH”, amounts to 40 million kilowatt-hours and covers three quarters of the electricity demand of all BMU buildings for two years (2004-2006). The Ministry expects to pay a premium of about 5 to 10% above normal power market prices for this electricity.

⁹ <http://www.oeko.de/service/gemis/en/index.htm>

¹⁰ On the 1 January 2006 the contract was taken over by Stadtwerke Schwäbisch Hall GmbH.



Transferability

As informed by the German experience, an EU-wide call for tender for the public procurement of green electricity on the basis of current tender legislation proved to be feasible. In order to have additional benefits for the environment, the insertion of environmental criteria is essential.

After specific talks with green electricity suppliers that participated in the tendering process, an information brochure on the preparation of calls for tenders for the public procurement of green electricity (*Beschaffung von Ökostrom*) has been by the BMU and UBA intended to be used as a basis for preparation of future calls for tenders of this nature. The brochure is available on the BMU website www.bmu.de

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