GPP In practice

Electricity from 100% renewable sources

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CITY OF TURKU, FINLAND

Background

The City of Turku set itself a target of reducing greenhouse gas (GHG) emissions per capita by 2020 by 30% compared to 1990 levels. A principle aim of the City Council is to "reduce GHG emissions to a level that is sustainable from the climate's perspective".

A steadily rising population, however, led to the City reaching a peak in emissions at the turn of the millennium. By 2010 Turku had only achieved a 16% drop in emissions per capita from 1990 levels so the City decided to intensify its efforts towards meeting the original target by purchasing 100% of its electricity from renewable sources.

Procurement objectives

In order to ensure that it was feasible for Turku to specify that it required electricity of 100% renewable origin, external consultants carried out a market consultation. Expert advice on methods to verify energy company claims about green electricity was also sought as it was the first time the City had stipulated these requirements.

Turku used a restricted tendering procedure enabling only companies that were able to provide electricity at the capacity required to service the city to express an interest. A criterion for the total sale of electricity during the previous three years was set at a minimum of 3,000 GWh. Companies which could meet the requirement were then invited to tender as part of the second phase of the procurement.

Criteria used

The following green criteria were used during the second phase of the procurement:

Technical specifications: Electricity produced from 100% certified renewable sources. The definitions were written according to the European Directive on the promotion of the use of energy from renewable sources (2009/28/EC)*.

Verification: During the contract period, the tenderer must be able to present guarantees of origin of the electricity each quarter and any other time upon request.

*Note: The relevant directive was not implemented in Finland until 2013. The guarantees of origin (article 15 of the Directive 2009/28/EC) will have a legal status only from the beginning of 2014 although the mechanism has been in use in Finland already. For these reasons, no reference to the directive was made in the documents, but in practice the content was the same.

Award criterion: Price only.

Results

Four different energy providers expressed an interest in this contract, however only one submitted a tender.

The contract began in January 2013 and will run until 2015 (optionally until 2016) and covers all electricity that the City, as a legal entity, purchases. This includes electricity used for municipal buildings, street lighting, etc. but does not include electricity bought by domestic or private customers.

In terms of competition, it was a concern for Turku that only one provider bid for the contract. However, a recent analysis of current prices for conventional electricity showed that the renewable electricity used by Turku costs almost the same as conventional electricity. It was also found that other factors, such as fluctuation of the Nordic electricity market, affect electricity prices to a greater extent than switching to renewable energy sources.

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Environmental impacts

Calculations were undertaken comparing electricity generated from the standard "Nordic energy mix", which fluctuates between around 20 – 40 % renewable sources to the 100% renewable electricity provided under the current contract. The reduction of GHG emissions was found to be 31,000 tonnes a year, which is equivalent to 2% of the total emissions of Turku's urban area.

A large proportion of the electricity provided under the contract is generated from hydropower, but part of the mix used by the energy company also includes wind and biomass.

As long as there is no common power market for renewable energy only, a tradable green certificate can be transferred independently of the energy to which it relates. The financial support to the producers of renewable electricity arises from the sale of these certificates in addition to the revenues from the sale of the produced electricity on the power market. In Finland however, the green certificate market is voluntary and due to an imbalance of supply and demand, prices are low. Therefore it is important to increase the demand of green electricity by big consumers like municipalities.

Lessons learned

Although within the Municipality there was almost a consensus on the merits of buying 100% green electricity, buy-in from the local media and some of the general public was not as strong. Some people felt sceptical that the level of demand created by the City would have an effect on the energy market, and that claims made by the City Council were sometimes portrayed as "green washing". Objections were fuelled by concerns about premium prices being paid for a 100% renewable electricity service.

The requirement for renewable electricity only had a minor impact on the purchase price, which is encouraging for future development of green procurement at the City. This was conveyed by the Council through the media to address the concerns of the general public. At the same time, Turku took the opportunity to increase awareness about other municipal initiatives to reduce energy use and GHG emissions to demonstrate their commitment in mitigating local air pollution and climate change in a cost effective manner.

If the whole process had to be done again, a follow-up with suppliers who expressed an interest but did not tender would be undertaken, to investigate more closely why this was the case. Also, a more detailed explanation of the merits of such a contract would be communicated to the public at an earlier stage.

For more information, please see European GPP criteria for Electricity and the Technical Background Report.

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