**Senate Standing Committee on Finance and Public Administration**

ANSWER TO QUESTION ON NOTICE

**Prime Minister and Cabinet Portfolio**

**Department of Climate Change**

**Supplementary Budget Estimates Hearing–October 2008**


**Written question reference:** CC8
**Outcome/Output:** Response to climate change
**Topic:** Feed-in Tariffs
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**Question: (Senator Milne)**

"I am glad you raised that, because I was going to ask you about that. My understanding is that the €68 billion claimed is actually the cost of the energy overall over that period and not the feed-in tariff, and therefore there is an error in your calculations.

It is certainly the advice I have, and it would fit with this latest report, in which the International Energy Agency is encouraging the adoption of a feed-in tariff rather than quota systems using tradeable credits as being the most effective and cost-effective and the best-case driver of the deployment of these technologies. So I would ask that you have a look at that again, because I noted that that was the Department of Climate Change response to the feed-in tariff, and it is a pretty critical issue to go back and have a look at those costs."

**Answer:**

The Department of Climate Change's (DCC's) submission to the Senate Inquiry on the Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008, referred to a number of findings from the 2007 International Energy Agency (IEA) report *Energy Policies of IEA Countries – Germany*. These included that "the feed-in tariff costs Germany some 3 billion euros per annum"; and that "the IEA estimates that between 2000 and 2012 the feed-in tariff will cost 68 billion euros in total (about $113 billion), or between 350 euros and 1000 euros per tCO2e".

The total cost of EUR 68 billion refers to total payments for the supply of electricity, including "excess costs above standard electricity costs" that in total over this period imply that "the excess cost of promoting renewable electricity in Germany will be EUR 30 to 36 billion in total, about EUR 2.5 to 3 billion per year" (IEA 2007, p.74). It is this excess or incremental cost of the feed in tariff that is the basis of the IEA's estimated "carbon abatement cost of EUR 1000 per tonne of $CO_2$ abated" if solar PV replaces gas fired generation or EUR 350-400 per tone of $CO_2$ abated "if renewables were to displace coal-fired generation", as reported in the DCC submission.

The IEA report goes on to note that alternative abatement options, particularly energy efficiency, are "30 to 50 times less expensive than the feed in tariff for solar PV in terms of abated $CO_2$" (p.74). This is consistent with emphasis of the analysis presented in the DCC submission:

> "The estimated (abatement) cost of between 350 and 1000 euros per $tCO_2e$ should be put into the context of the European Emissions Trading Scheme. Current permit prices in the EU ETS are around 20 to 25 euros per $tCO_2e$, implying a marginal cost of abatement around this level. Accordingly, based on these figures, the cost of abatement of the German feed-in tariff is in the order of around 12 to 50 times higher than that delivered through the European ETS."
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> DCC Submission, 2008, p.2

The IEA figures presented in the DCC submission for the total and excess costs of the feed in tariff are thus correct. The calculations of relative incremental costs of abatement were based on the IEA's estimate of the net, or excess, costs of the feed-in tariff (rather than on total energy payments).

The subsequent IEA report on renewable technologies, *Deploying Renewables: Principles for Effective Policies,* released on 29 September 2008 (after DCC's submission to the Senate inquiry), also found that "feed-in tariffs … have been very effective in Germany, albeit at a high cost" (IEA 2008, p.19).