**ANNEX I**

***Aid for electricity from renewable energy sources – Operating aid***

Until 2014, the EEAG provided that operating aid under FIT schemes could be granted for 20 years (*i.e.* the approximate lifetime) to compensate for the difference between:

* the operating costs of producing renewable energy; and

- the operating income based on market prices.[[1]](#footnote-1)

However, as of 2014 the aid landscape changed. As for 2014, the EEAG provides that for installations above 500 KW and wind plants of 3 MW, aid may be granted only in the form of a **premium** on top of the market price (FIP schemes) for 10 years and that the facilities must be selected in a technically neutral and competitive bidding process. [[2]](#footnote-2) However, for all facilities with up to 1 MW installed electricity capacity and for wind energy facilities of up to 6 MW capacity, [[3]](#footnote-3) the bidding procedure may be waived. Above these thresholds, the bidding process can be limited to specific technologies.[[4]](#footnote-4)

For installations with an installed electricity capacity below 500 KW and 3 MW for wind energy, the GBER applies, according to which aid may be granted through a **premium** on top of the market price for the lifetime of the plant provided that there is a competitive bidding procedure (which may thus however be waived).[[5]](#footnote-5) While, the idea of the bidding process is to ensure that competition takes place on the basis of the costs, the bidding process is almost never required and it is therefore questionable whether the bidding process has played a role for renewables.

The problem is that these FIP schemes provide for limited and thus new kinds of renewables, such as wave technology, do not receive sufficient aid to be launched. Thus, for these kinds of new technologies we propose an alternative way to grant aid, namely, granting aid on the basis of a Net Present Value (NPV) calculation. An NPV calculation essentially defines the value of the investment and is best explained by means of a simple example.

Imagine a scenario where the investment costs for the construction of a renewable energy plant are EUR 500 000. The plant will have operating income of EUR 1 million and operating costs of EUR 500 000 over its lifetime of 20 years. The difference between operating income and operating costs over 20 years – in this case EUR 500 000 (income of EUR 1 million less costs of EUR 500 000) – in other words, the net income, discounted to present values, must be capable of covering the initial investment costs (EUR 500 000). In this example, the NPV is zero, that is, the project breaks even, which means that the costs of the investment have been recovered through the income.[[6]](#footnote-6) However, if the NPV is *less than zero*, the net income generated is too little to cover the investment costs and the project is not profitable. To finance this gap, the proposal is to grant state aid, in other words, where the NPV of a project is less than zero, it will be eligible for state aid. The amount of aid will be the amount necessary to bring the NPV to zero, plus a reasonable profit.

If the market price relied on in the NPV is too high, compared to the market price, the model can be combined with obliging the generators to sell the electricity in the market. In addition, the requirement of a bidding process ensures that there is competition on the costs.

An NPV which reaches zero is, for a rational investor, the trigger point for when a project can be realized. No rational investor would launch a project with a negative NPV, because the original investment costs would not be recuperated. Thereby, the NPV method ensures that only unprofitable projects are eligible for State aid. At the same time, by granting aid to cover the gap, the aid would serve as a trigger for the particular investment to go ahead. In this way, the amount of aid would be limited to the minimum necessary in order for the project to go ahead. Further, given that many investors prepare an NPV calculation in any event (in order to determine the profitability of their investment), it is a readily available commercial calculation.

In summary, the FIP method of granting aid should be retained only for renewables which are genuinely not commercial. However, for entirely new technologies aid should be granted on the basis of an NPV calculation. For almost all commercial technologies, the FIPs will progressively lose their attraction and Power Purchase Agreements are a better option.

1. Section 3.3.2. EEAG. These schemes are referred to as FIT and today is only possible to receive a FIT for very small plants, if at all. [↑](#footnote-ref-1)
2. Commission decisions SA.499918 (2018/N) – Denmark – Multi-technology tender 2018-2019, 17.08.2018. [↑](#footnote-ref-2)
3. Point 127 EEAG. [↑](#footnote-ref-3)
4. Point 126 EEAG. [↑](#footnote-ref-4)
5. Article 42 (8) and (11) GBER. [↑](#footnote-ref-5)
6. This is the case in the example since the net income of EUR 500 000 covers the original investment costs of EUR 500 000. [↑](#footnote-ref-6)