



EUROPEAN COMMISSION

Brussels, 18.10.2011  
C(2011)7593 final

**Subject: State aid SA.31861 (2011/N) – Ireland  
Biomass electricity generation**

Sir,

**1. PROCEDURE**

1. By electronic notification of 29 June 2011, registered by the Commission on the same day (SANI 5097), the Irish authorities, in accordance with Article 108(3) of the Treaty on the Functioning of the European Union (TFEU), notified<sup>1</sup> the aid scheme "Biomass electricity generation". The Irish authorities submitted additional information by letter on 4 August 2011<sup>2</sup>.
2. On 20 July 2011 the Commission received a complaint concerning the notified measure<sup>3</sup>. The non-confidential version of the complaint was forwarded to the Irish authorities for comment on 2 August 2011. The Irish authorities provided their comments on 18 August 2011<sup>4</sup>.
3. The measure was notified as a prolongation and modification of a previously approved State aid measure concerning operating aid for renewable energy sources (N 571/2006 RES-E support programme)<sup>5</sup>. In fact, while the notified scheme is a continuation of the aid scheme previously notified to the Commission under N571/2006, it constitutes a new aid scheme, as the previous scheme expired at the end of 2009.

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<sup>1</sup> The notified measure was pre-notified on 4 November 2010 (registered as PN 246/2010).

<sup>2</sup> The information was re-submitted and registered as a formal submission of information on 13 and 14 September.

<sup>3</sup> Registered on 25 July 2011 under the number SA.33408 (2011/CP) – Co-firing peat with biomass.

<sup>4</sup> The information was re-submitted and registered as a formal submission of information on 13 September.

<sup>5</sup> OJ C 311 of 21.12.2007, p. 3 - Decision C(2007)4317 final.

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## **2. DESCRIPTION**

### **2.1. Objective and background**

4. The main objective of the notified measure is to increase energy production from biomass and thus help Ireland achieve its obligation under Directive 2009/28/EC on the promotion of the use of energy from renewable sources (the Renewables directive)<sup>6</sup>. The Irish government undertook to increase the contribution from renewable energy sourced electricity to at least 15% of the electricity consumed by 2010 and 40% by 2020.
5. The Irish authorities explained that the notified scheme (REFIT III) is a continuation of the aid scheme previously notified to the Commission (N571/2006, which expired at the end of 2009). However, the current notification covers only support for biomass, and by comparison with the previous scheme, new biomass technology categories were included<sup>7</sup>. According to the Irish authorities, REFIT III will incentivise the addition of 310MW of renewable electricity capacity to the Irish grid.
6. The support measure is based on a Renewable Energy Feed in Tariff (REFIT), which operates as a floor price tariff mechanism. It is financed through a fund collected from all subscribers to the electricity network, the same way as the previous scheme.

### **2.2. Scope of the notification, legal basis, granting authority**

7. The notification concerns operating aid for the generation of electricity from biomass based on the following technologies: anaerobic digestion (CHP<sup>8</sup> and non-CHP), biomass CHP and biomass Combustion.
8. The Irish authorities confirmed that the aid is only granted for the promotion of renewable energy sources as defined in the Community Guidelines on State Aid for Environmental Protection (Environmental Aid Guidelines)<sup>9</sup>, and in particular point 70(5) of those guidelines.
9. In so far as support for CHP is concerned, the Irish authorities confirmed that only electricity generated by a plant meeting the High Efficiency CHP standard (in line with Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand<sup>10</sup>) will be deemed as eligible for REFIT under the appropriate REFIT categories. The non-CHP REFIT level for that technology will be paid in respect of electricity exported by a plant, in case it does not meet the High Efficiency CHP standard. Furthermore, the Irish authorities confirmed that only new plants are

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<sup>6</sup> Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L 140 of 5.6.2009, p. 16.

<sup>7</sup> The Irish authorities also notified a support scheme for other renewable sources, registered as SA.31236 (2011/N).

<sup>8</sup> Combined Heat and Power.

<sup>9</sup> OJ C 82 of 1.4.2008, p. 1.

<sup>10</sup> Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC, OJ L 52 of 21.2.2004, p. 50.

eligible (except where biomass is co-fired with peat in an existing plant - see point 14).

10. The legal basis is the Electricity Regulation Act 1999.
11. The Department of Communications, Energy and Natural Resources (DCENR) is the granting authority for the notified measure.

### **2.3. Duration, budget**

12. The aid will be granted under the notified scheme as from the Commission's approval of the measure. The measure will be open for applications until 31 December 2015. The support for any particular project cannot exceed 15 years and may not extend beyond 31 December 2029.
13. The Irish authorities explained that the total budget of the scheme depends largely on the electricity prices. On the basis of a market price for electricity of 70 EUR/MWh, the budget was estimated at 70 million EUR to be paid per year, corresponding to a total budget of 1.05 billion EUR. The Irish authorities underlined that if market payments are higher then the budget will be lower, because the support is designed as a top-up to the market price.

### **2.4. Beneficiaries**

14. The beneficiaries of the notified measure are the generators who produce electricity from anaerobic digestion, biomass CHP and biomass combustion (including limited amounts of co-firing biomass with Peat in existing plants). They must be new plants in Ireland (except for the three existing peat plants which are also eligible for support, as detailed below), or new plants in other EU Member States<sup>11</sup>. Projects must be built or under construction by end 2015.
15. The aid will be offered up to the following capacity limits: anaerobic digestion (AD) – 50MW; biomass CHP – 100MW; biomass Combustion – 160MW. These capacity limits are set in respect of new applications made under REFIT III and do not apply in situations where a proportion of the electrical output of a plant fails to meet the High Efficiency CHP standard (as set out in the Directive 2004/8/EC) and is supported at the non-CHP REFIT level for that technology and size of installation for one or several calendar years.
16. As regards the existing peat facilities aid will be offered to co-fire biomass to a maximum of 30% of the generation electrical capacity at each plant. There are three such plants eligible for support under the notified scheme<sup>12</sup>: two plants owned and operated by the ESB (Electricity Supply Board) and the Edenderry Bord na Mona's

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<sup>11</sup> In this case, in line with the flexibility mechanisms included in the Renewables Directive, electricity imported from another EU Member State must be covered by an inter Member State agreement whereby that Member State accepts explicitly and states in a document agreeing a statistical transfer between Ireland and that Member State, that it will not use the electricity from that plant to meet its own RES-E target and has thereby also accepted that the electricity can be counted towards Ireland's renewable target.

<sup>12</sup> The plants that are presently subject to 'Take or Pay' contracts for peat will not be allowed access to REFIT until such a time as the obligations under those contracts have been removed for that volume of peat displaced by co firing, as the objective of the scheme is to incentivise these plants to displace certain quantities of peat and replace them with biomass.

plant. 110 MW corresponds to 30% of the stated generation capacity for these existing peat plants. The difference of up to 160 MW will be available to other biomass combustion projects.

17. The expected number of beneficiaries is estimated between 11 and 50.

## **2.5. Form of the aid, aid levels, aid intensity**

18. The aid is granted in the form of a floor price tariff, calculated per MWh electricity produced, and is financed by a Public Service Obligation levy which is operated by the energy regulator.
19. The aid will be granted to those retail suppliers of electricity who enter so called Power Purchase Agreements (PPA) with generators of electricity from renewable energy sources (RES-E). However, the indirect beneficiaries of the aid are RES-E generators.
20. Under a PPA, the supplier undertakes to purchase all the output from a selected new RES-E plant at contract prices which are fixed between the RES-E producer and the supplier at the commencement of each individual contract (PPA prices) for 15 years, irrespective of the open market price. For every kWh purchased under the PPA, the supplier will receive a so called REFIT payment from a fund, the amount of which varies according to the average annual market price.
21. The PPAs are negotiated in the open market between any selected RES-E generator and any supplier, and the PPA price of each contract is decided by the contracting parties. The notified scheme operates as a floor price mechanism. It follows that when, on an annual average, the market payments are above the levels set out in REFIT, the scheme does not make any payments.
22. Once access to the programme is granted, the support can continue for up to 15 years, since the PPAs are entered for up to fifteen years.
23. A contracting generator can cancel a PPA at any time by agreement, (or, in the case of a dispute, after giving a minimum period of notice of 12 months to the contracting supplier), but in the event of such cancellation, the generator cannot re-enter the scheme at a later stage.
24. The REFIT payments were established based on the following elements: technology cost, balancing cost, and the market payments.
25. The notified scheme covers a number of technologies operating from different production cost bases, and the Irish authorities have used the following technology prices, as of 1 January 2011:
  - i. AD CHP ( $\leq 500$  kW): 15c per kWh
  - ii. AD CHP ( $>500$  kW) : 13c per kWh
  - iii. AD (non CHP) ( $\leq 500$  kW): 11c per kWh
  - iv. AD (non CHP) ( $> 500$  kW): 10c per kWh
  - v. Biomass CHP ( $\leq 1500$  kW): 14c per kWh
  - vi. Biomass CHP ( $> 1500$  kW): 12c per kWh

vii. Biomass Combustion (co-firing):

- using energy crops: 9.5c/kWh
- using all other biomass: 8.5c/kWh

26. The Irish authorities have provided detailed calculations of the costs incurred by the RES-E generators. A synthesis of these calculations, showing that the proposed technology prices correspond to the specific technology generation costs, is presented in table 1 below.

**Table 1 – Levelised Costs**

| Technology                                   | Capex<br>€/KWh <sub>e</sub> | Opex<br>€/kWh <sub>e</sub> | Fuel<br>€/Kwh <sub>e</sub> | Heat<br>€/kWh <sub>e</sub> | Other<br>Revenue<br>€/kWh <sub>e</sub> | Levelised<br>Cost<br>€/KWh <sub>e</sub> |
|--|-----------------------------|----------------------------|----------------------------|----------------------------|--|---|
| <b>AD CHP &lt; 500</b>                       | €0.14                       | €0.11                      | -€0.05                     | -€0.02                     | -€0.03                                 | €0.15                                   |
| <b>AD &lt; 500</b>                           | €0.13                       | €0.10                      | -€0.09                     | €0.00                      | -€0.03                                 | €0.11                                   |
| <b>AD CHP &gt; 500</b>                       | €0.12                       | €0.25                      | -€0.18                     | -€0.06                     | €0.00                                  | €0.13                                   |
| <b>AD &gt; 500</b>                           | €0.11                       | €0.16                      | -€0.17                     | €0.00                      | €0.00                                  | €0.10                                   |
| <b>Biomass CHP &lt; 1500</b>                 | €0.07                       | €0.03                      | €0.16                      | -€0.12                     | €0.00                                  | €0.14                                   |
| <b>Biomass CHP &gt; 1500</b>                 | €0.05                       | €0.02                      | €0.11                      | -€0.06                     | €0.00                                  | €0.12                                   |
| <b>Biomass combustion<br/>(Residues)</b>     | €0.004                      | €0.01                      | €0.07                      | €0.00                      | €0.00                                  | €0.085                                  |
| <b>Biomass combustion<br/>(Energy Crops)</b> | €0.004                      | €0.01                      | €0.08                      | €0.00                      | €0.00                                  | €0.095                                  |

Source: Irish authorities

27. A discount rate of 12% is used in the calculations, which the Irish authorities indicated to be appropriate for renewable energy technologies. The Irish authorities provided detailed information on biomass feedstock prices. They also confirmed that no support will be offered under the notified measure after the 15 year period of the REFIT contract, and that 15 years is the depreciation period allowed for all capital assets under the scheme, be they the result of additional investment at existing plant<sup>13</sup> or as the result of construction of new facilities.
28. The participant suppliers are required to purchase all the RES-E produced by the generators with whom they have concluded contracts, at the PPA prices, regardless of their commercial concerns about the alternative open market price at any particular time. The supplier also assumes the market interaction role between the individual generator and the pool market and incurs additional costs: renewable resources can be intermittent and actual generation and dispatch cannot follow the pattern of load demand. A fixed balancing payment of 0.99 eurocent/kWh

<sup>13</sup> The Irish authorities explained that for the three eligible peat plants, the facilities at the plants, ranging from transport, storage and handling facilities, are designed to operate for a single, uniform homogenous product – dried milled peat. The large scale combustion of biomass poses a number of different challenges, as biomass is heterogeneous, comes in different consistency (particle size), moisture content, calorific value and chemical properties, imposing additional capital investments, such as creating extra amount of storage, investments concerning the required processing of material on site (particularly for energy crops but also in terms of removing any foreign objects from the material), revising feed systems to cope with different material (at present the plants are limited to approximately 10% capacity without such works).

purchased under the PPA was established in respect of the additional costs incurred in acting as market intermediary and in dealing with intermittency costs<sup>14</sup>.

29. The technology prices will be adjusted by way of indexation annually (with the annual increase in the consumer price index in Ireland). On the contrary, the balancing payment will remain fixed over the support period.
30. The REFIT payment depends also on the market payment, as only the difference between the total costs (technology cost + balancing cost) and the market payment is covered by aid.
31. The Irish authorities explained that the wholesale electricity prices vary considerably from trading period to trading period (as can be seen from the data presented in table 2 below). The Irish Single Electricity Market (SEM) consists of a gross mandatory pool market, with the pool price calculated at half hourly intervals, into which all electricity must be sold, and from which all wholesale electricity for consumption must be purchased. There are two basic income flows (energy price and capacity price) which the electricity generators are paid. The wholesale bid price of the electricity is calculated every half hour. The capacity payment is a fixed revenue system of payment for participants offering generation capacity in the SEM. table 2 below shows the average monthly energy price (SEM price) and the average monthly capacity payment for the 12 month period to September 2009. The figures show that the average annual overall market payment for the 12 month period was 60.99 EUR/MWh.

**Table 2 – Average Monthly Market Payments Oct 2008 to Sept 2009 (in EUR)**

|                         | Average monthly SEM price | Average monthly capacity payment | Overall average - market payment |
|-------------------------|---------------------------|----------------------------------|----------------------------------|
| Oct 08                  | 82.45                     | 10.12                            | 92.57                            |
| Nov 08                  | 72.03                     | 10.70                            | 82.73                            |
| Dec 08                  | 63.60                     | 10.70                            | 74.30                            |
| Jan 09                  | 63.74                     | 10.27                            | 74.01                            |
| Feb 09                  | 55.83                     | 11.04                            | 66.87                            |
| Mar 09                  | 38.89                     | 8.94                             | 47.83                            |
| Apr 09                  | 40.74                     | 8.06                             | 48.80                            |
| May 09                  | 38.29                     | 7.78                             | 46.07                            |
| June 09                 | 44.85                     | 7.64                             | 52.49                            |
| July 09                 | 38.50                     | 8.87                             | 47.37                            |
| Aug 09                  | 42.58                     | 7.83                             | 50.41                            |
| Sept 09                 | 40.14                     | 8.40                             | 48.54                            |
| <i>12 month average</i> | <i>51.80</i>              | <i>9.19</i>                      | <b>60.99</b>                     |

Source: Irish authorities

32. The Irish authorities underlined that in the absence of a support measure, the suppliers would have no incentive to enter into the type of long term (15 year) fixed price contracts with renewable energy generators that these generators require to invest and operate such plants.
33. If, in respect of any year, the market payment is less than the REFIT technology price for the category to which the electricity belongs plus the balancing payment,

<sup>14</sup> In the original scheme, the balancing payment was 15% of the base reference price.

the supplier shall be paid the difference between the two for every kWh purchased under the PPA (as it would be the case for a market price as the one indicated in table 2, of 60,99 EUR/MWh). If, in respect of any year, the market payment is equal to or greater than the REFIT technology price for the category to which the electricity belongs plus the balancing payment, then no REFIT payment shall be made.

## 2.6. Cumulation

34. The aid to be granted under the notified measure cannot be cumulated with other forms of aid, for covering the same eligible expenses. However, the notified measure will coexist and interact with several other forms of aid, such as tax reliefs and investment aid. However, the costs presented by the Irish authorities are net of tax reliefs and in the case of cumulation with investment aid, such investment aid was deducted from the investment costs for the purpose of determining the operating aid.
35. The Irish authorities explained that all technologies can avail of Section 486B of the Tax Consolidation Act (TCA) 1997 which allows an investor to claim the lesser of 50% of all capital expenditure (excluding lands) or €9.525 million for a single project. Investment by a company or group under this scheme is capped at €12.7 million per annum. The costs presented in table 1 above were calculated net of this tax relief.

**Table 3 – Cost Calculation for Unit qualifying for CHP grant, 486B tax relief and grants from the Department of Agriculture**

|                       | Site details   | Unit   | Value |
|-----------------------|--|--------|-------|
| A                     | CHP Rated electrical capacity                        | kW     | [...] |
| B                     | Rated thermal output                                 | kW     | [...] |
|                       | Net Electrical Efficiency                            | %      | [...] |
|                       | Net Thermal Efficiency                               | %      | [...] |
| C                     | Load Factor  | %      | [...] |
| $D = A * 8,760 * C$   | Annual Electricity Exported                          | kWh/y  | [...] |
| $E = B * 8,760 * C$   | Annual Useful Heat                                   | kWh/y  | [...] |
|                       | Economic Parameters                                  |        |       |
| F                     | Discount Rate  | %      | [...] |
| G                     | Economic Life  | years  | [...] |
| H                     | Capital Costs  | €      | [...] |
| I                     | <i>CHP grant</i>                                     | €      | [...] |
| J                     | <i>Dept. of Agriculture grant</i>                    | €      | [...] |
| K                     | <i>Section 486B Tax Relief (net of other grants)</i> | €      | [...] |
| L                     | Total Investment Aid                                 | €      | [...] |
| $M = H - (I + J + K)$ | <i>Capital Costs less investment aid</i>             | €      | [...] |
| N                     | Annual Fixed Cost                                    | €      | [...] |
| O                     | Annual Variable Cost                                 | €      | [...] |
| P                     | Offset Costs, of which                               | €/year | [...] |
| P1                    | Digestate Revenue (@ 5 €/tonne)                      | €/year | [...] |
| P2                    | Displaced Heat Load (@ 0.06 €/kWh)                   | €/year | [...] |
| R                     | Feedstock Cost                                       | €/year | [...] |

|            |   |                |              |
|------------|---|----------------|--------------|
| <b>S*</b>  | <b>Levelised Cost Net of Investment Aid</b> | <b>€/kWh/y</b> | <b>[...]</b> |
| <b>T</b>   | <b>REFIT AD&lt;500kW</b>                    | <b>€/kWh/y</b> | <b>0.15</b>  |
| <b>S-T</b> | <b>Difference</b>                           | <b>€/kWh/y</b> | <b>[...]</b> |

\* The levelised cost net of investment aid is calculated by dividing the annual fixed and variable costs, offset costs and feedstock costs by the annual electricity exported plus the annualised capital cost less investment aid (H1). The latter (H1) is calculated by the following formula:

$$H1 = \left( M \cdot \frac{F(1+F)^D}{(1+F)^D - 1} \right) / D$$

Source: Irish authorities

36. A single project qualified for investment aid under the now suspended CHP grant scheme (N47 2007). This unit also benefitted from a waste treatment development grant from the Department of Agriculture. The Irish authorities provided a detailed calculation showing that the cumulation of aid does not lead to overcompensation in this case, as the levelised cost net of investment aid (and 486B tax relief) is still higher than the corresponding REFIT technology price. A synthesis of this calculation is presented in table 3 above.
37. In so far as the peat plants are concerned, the notified measure will also coexist and interact with a Peat PSO (N6A/2001), designed to subsidise electricity generation from peat in Ireland. All three existing peat plants eligible for support under the notified scheme benefit from that peat PSO. However, there will be no cumulation between the two supports schemes, as they will not refer to the same eligible costs. The Irish authorities confirmed that the notified measure will only support the part of electricity produced by biomass (covering exclusively the costs related to biomass), and that once the notified scheme is in place, no costs related to biomass will be eligible for support under the Peat PSO.
38. The three peat plants eligible for support under the notified scheme have priority dispatch to the grid, and receive the wholesale market price plus capacity payments ('market revenues') for electricity exported. At the close of every Public Service Obligation (PSO) period, the companies are entitled to receive payments under the Peat PSO mechanism to ensure that relevant allowed costs<sup>15</sup> are recovered. In PSO periods where the market revenues have been sufficient to ensure that the relevant allowed incurred costs were recovered, there is no need for a PSO subvention, and monies are paid back to the PSO levy where appropriate.
39. The REFIT system will have to operate in parallel with the well established Peat PSO system for a substantial period of time<sup>16</sup>, assuming the peat plants apply to join REFIT. The Irish authorities explained that the Peat PSO will continue as before, but all costs associated with the use of biomass will be specifically excluded from the process.
40. The Commission for Energy Regulation (CER) will implement a methodology allowing it to clearly identify the material origins of all electricity generated (peat or biomass, and if biomass, energy crop or other form of biomass). The Irish

<sup>15</sup> The relevant allowed costs include the capital cost of building the peat stations themselves, along with capital costs, fuel costs, payroll, operation and maintenance, centralised service and overheads, carbon credits (under the ETS) plus the real, allowed return on investment. The Irish authorities have explained that currently one of the plants (Edenderry) has been permitted to include as appropriate the additional costs associated with using biomass, but only until such a time as REFIT comes into effect.

<sup>16</sup> REFIT III will coexist with the Peat PSO for Edenderry until 22 December 2015, and until 8 December 2019 and 26 January 2020 respectively for the two ESB owned plants.

authorities have also provided an example in order to illustrate how the methodology works.

41. In respect of the Peat PSO, the allowed costs would include all the cost of any peat consumed in the PSO period, all existing capital requirements, together with the corresponding percentage of the overhead and administrative costs of operating the plant where appropriate (costs that cannot be definitively ascribed to either peat or to biomass generation). The CER would specifically exclude any ‘biomass only’ costs, such as any capital works completed to facilitate biomass combustion, the cost of biomass fuel, or any staff that work solely on the biomass operation. The Peat PSO will then be calculated for the year in question. In order to ensure that REFIT is dealt with correctly, the CER will have to audit the plant records on biomass combustion to determine if the breakdown suggested by the plant operator in respect of general biomass/energy crops can be supported, before the support under the REFIT scheme can be calculated.

## **2.7. Third party submission**

42. On 20 July 2011 the Commission received a complaint concerning the notified measure. The complainant, expressed concerns about one element of the notification (the contested element), namely the REFIT rate of 8.5 eurocents per kilowatt hour proposed for co-firing biomass (other than energy crops) in existing peat fired electricity generation stations.
43. In the view of the complainant, the support proposed under the notified scheme for co-firing peat with biomass is sub-optimal from both an economic and a sustainability perspective as it might channel substantial volumes of virgin wood fibre (VWF) from the forest resource to an inefficient co-firing end use. The complainant fears that the contested element might negatively impact on:
  - the successful development of a highly efficient CHP and heat led biomass energy sector in Ireland,
  - the viability of the existing value added, export oriented panel products industry of Ireland, and
  - the viability of the sawmill, horticultural bark and animal bedding industries.
44. The complainant considers that the contested element is not the least restrictive measure available to achieve the environmental objectives set out by the Irish authorities. In its view the contested element would cause a lot of harm in terms of environmental effects (by indirectly supporting the use of peat) and on the related markets mentioned above, while the positive effects would not counterbalance such harm. Furthermore, the complainant submits that the contested element should be considered as inconsistent with Article 11 and Article 191 of TFEU.
45. In the view of the complainant:
  - the contested element is inconsistent with the Community Guidelines on State Aid for Environmental Protection, as it indirectly supports peat fired electricity,
  - a higher level of environmental protection would be achieved in its absence,
  - the contested element is not an appropriate instrument (as CO<sub>2</sub> taxes and/or levies would be more appropriate), is not necessary to deliver the desired behavioural changes (as some peat fired stations already use biomass for co-firing) is not proportional (especially if the future costs of CO<sub>2</sub> emissions are considered) and will cause significant distortions of trade in VWF, to the detriment of the panel board industry.

46. The Irish authorities rejected the allegations made by the complainant by letter dated 18 August 2011.
47. The Irish authorities provided as part of the notification a forecast<sup>17</sup> done by COFORD<sup>18</sup> indicating that wood supply is likely to increase from 3.9 million m<sup>3</sup> in 2011 to 4.4 million m<sup>3</sup> by 2020 and further to 7.1 million m<sup>3</sup> by 2028. Most of the increase will be generated by private growers. The Irish authorities explained that there is no substantial market for this additional material, as the boardmill sector is unlikely to have surplus capacity to absorb it. According to the Irish authorities, the only sector mentioned by the complainant that uses small sized material is animal bedding, and only for a relatively small market of 25,000 m<sup>3</sup>/year (in addition, there are various substitutes for it, such as straw, that are far more widely used). Furthermore, early thinning is likely to accelerate production of sawmill-sized material. The Irish authorities submit that currently there is no single large-scale energy-based outlet for thinnings in Ireland and that increasing the co-firing market would have a positive impact on private-sector plantation accessibility, quality and profitability.
48. The Irish authorities explained that one of the existing peat plants (the Edenderry peat plant owned by Bord na Móna) has been experimenting with the co-firing of biomass material for the past 3 years. Still the price currently offered by Bord na Móna is about 10€/m<sup>3</sup> lower than the delivered-in prices for pulpwood for board manufacture in the region. The Irish authorities underline that the peat plants cannot afford high value VWF, such as sawlog.
49. Therefore, in the view of the Irish authorities the support proposed for co-firing is unlikely to have a significant effect on existing sawmilling, panel board, horticultural bark and animal bedding industries. Under the notified scheme the peat plants will be forced to rely on residues and other low value material in order to co-fire biomass, while they will build supply chains for this material, providing spin off benefits for the forestry sector, as well as supporting the development of an energy crop sector, which will be critical in meeting Ireland's longer term energy policy targets.
50. The Irish authorities further explained that there is a very significant amount of material available that is cheaper than virgin fibre (or sawmill residue), and which has no use at present. The support for co-firing is necessary to provide a defined end use for forest residues, thus assisting the early development of a biomass sector in Ireland. As concerns the energy crops, the Irish authorities submit that indigenous biomass resources are insufficient to deliver the 2020 targets under the 2009 Renewable Energy Directive<sup>19</sup>. Even when significant imports are expected, still significant volumes of energy crops will be required in order to meet renewable heat targets. The Irish authorities expect that the peat plants will use as primary materials for co-firing mainly waste from the saw mill sector, forestry thinnings, some imported material, and some volumes of energy crops in the short term, while over time they expect energy crops to become a major part of the biomass used.

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<sup>17</sup> *All Ireland Roundwood Production Forecast 2011-2028.*

<sup>18</sup> The Council for Forest Research and Development (COFORD), which is part of the Department of Agriculture, Fisheries and Food.

<sup>19</sup> As also indicated in the National Renewable Energy Action Plan.

51. In so far as environmental effects are concerned, the Irish authorities explained that peat generating stations are covered by the Emissions Trading Scheme (ETS), and will, from 2013, be purchasing all of their carbon credits. However, in Ireland the existing PSO mechanisms allow peat generators to pass the costs of purchasing carbon credits back to the consumer through the Peat PSO<sup>20</sup>. Therefore as long as they remain within the Peat PSO the peat generators have no incentive to reduce their emissions. The support proposed under the notified measure will have a direct and immediate incentive effect in reducing emissions from peat, with each tonne of peat displaced reducing emissions by 0.86t CO<sub>2</sub>. This will remain the case until each plant drops out of the Peat PSO at the end of the PSO period (end 2015 in the case of Edenderry, and end 2019 and January 2020 respectively in the case of the two plants owned by the ESB). The Irish authorities estimate that if all three existing peat plants were to co-fire at the full amount allowed by the notified scheme, it would result in an annual emissions reduction of nearly 775,000 tonnes of CO<sub>2</sub>.
52. The Irish authorities indicated that so far, Bord na Móna's Edenderry plant has been conducting trials with progressively larger volumes of biomass material for a number of years, with the volume in 2010 approaching 9% of overall fuel consumed (therefore to date, the plant fires primarily peat (for more than 90%). The two other plants, both owned by ESB, are at an earlier stage, but both have conducted small scale initial trials with a number of different materials. The Irish authorities explained that until now, only biomass combusted in one of the three peat stations (Edenderry) has been covered by the Peat PSO until early 2012, and only under strict conditions<sup>21</sup>. This decision was taken to provide a cost recovery mechanism for that plant in respect of the initial testing phase. Once the notified scheme is in place, the Peat PSO will no longer be usable for biomass cost recovery, and the plant will have to apply for support under the notified scheme if it wishes to receive any support for biomass combustion.
53. Finally, the Irish authorities explained that the support proposed under the notified measure is not likely to be sufficient to keep any of the existing peat plants open post the end of the PSO period. Other factors (such as the cost of the carbon credits and the electricity price) will have a much greater influence on this.

## **2.8. Other information**

54. Only plants with a renewable capacity not exceeding 50 MW are eligible under the notified scheme.
55. The Irish authorities confirm that they will comply with the annual reporting and monitoring obligations as laid down in Sections 7.1 and 7.3 of the Environmental aid guidelines.

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<sup>20</sup> As set out in State Aid Case N 6/A/2001.

<sup>21</sup> The two other plants, which are subject to 'take or pay' contracts for peat, have been excluded from this measure, but it should be noted that they have also been excluded from the Biomass REFIT until such a time as the provisions of these contracts are removed in respect of those volumes of material relating to co-firing.

### **3. ASSESSMENT**

#### **3.1. State aid within the meaning of Article 107(1) TFEU**

56. State aid is defined in Article 107(1) TFEU as any aid granted by a Member State or through State resources in any form whatsoever, which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods in so far as it affects trade between Member States.
57. The notified scheme is financed through a fund collected from all subscribers to the electricity network. This same fund has been found to constitute State resources in previous State aid decisions taken by the Commission. The scheme affects the electricity trade, which can take place between Member States, and distorts the competition between RES-E and electricity from traditional energy sources, in conformity with its objectives.
58. In so far as the selectivity of the notified measure is concerned, the Commission notes that the compensation paid to suppliers is indirectly benefiting the producers of RES-E, who are thereby able to sell their electricity at a price that the suppliers would not have paid without the compensation.
59. Concerning the direct recipients of the notified compensation, i.e. the suppliers entering PPAs, the Commission notes that the selected RES-E generators are free to enter PPAs with any supplier and are thus in a position to negotiate the best possible PPA prices. It can therefore be presumed that the PPA prices will reflect the market conditions, taking into account factors like the commercial risk of entering 15 year contracts to purchase all the electricity of a given RES-E generator, the development of prices on electricity from traditional sources and the estimated value of being able to sell electricity under a green label. However, the price will also reflect the suppliers' entitlement to the State financed REFIT compensation, and the contracts could turn out to be more advantageous than foreseen at the time when they were concluded. The Commission concludes that the notified compensation could confer an advantage on those suppliers who enter PPAs, and thus involve State aid within the meaning of Article 107(1) TFEU to those operators as well.
60. The Commission therefore concludes that the notified measure constitutes State aid within the meaning of Article 107(1) TFEU.

#### **3.2. Lawfulness of the aid**

61. By notifying the aid measure before its implementation, the Irish authorities fulfilled their obligation according to Article 107(3) of the TFEU.

#### **3.3. Compatibility of the aid**

62. The Commission has assessed the compatibility of the notified scheme according to Article 107(3)(c) TFEU and in the light of the 2008 Community Guidelines on State Aid for Environmental Protection currently applicable (hereinafter referred to as "the Environmental aid guidelines")<sup>22</sup>.

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<sup>22</sup> OJ C 82 of 1.4.2008, p. 1.

63. Given the fact that the notified measure concerns operating aid for energy produced from renewable energy sources (namely biomass) and high efficiency co-generation, based on the difference between RES-E production costs and the market price, the compatibility conditions laid down in Section 3.1.6.2 (operating aid for renewable energy sources) and 3.1.7.2 (operating aid for high efficiency cogeneration) of the Environmental aid guidelines apply.
64. First, the Commission notes that the Irish authorities have confirmed that the aid is only granted to renewable energy sources as defined in point 70(5) of the Environmental aid guidelines.
65. Secondly, the Irish authorities confirmed both that the cogeneration REFIT level is granted only to high efficiency co-generation as defined in point 70(11) of the Environmental aid guidelines and that only new co-generation plants are eligible for the aid.
66. In accordance with points 107 and 109 of the Environmental aid guidelines, the aid is granted in order to compensate for the difference between the costs of producing energy from renewable energy sources and the market price of the energy concerned.
67. Point 109 of the Environmental aid guidelines lays down three conditions for the compatibility of operating aid<sup>23</sup> (absence of overcompensation, deduction of investment aid, biomass characteristics), which are examined below.
68. As required by point 109(a) (absence of overcompensation), the Irish authorities demonstrated, as explained in Section 2.5. above, that the REFIT mechanism is designed in such a way as to compensate only the difference between the production costs of energy from the renewable energy sources concerned and the market price.
69. As required by point 109(b) of the Environmental aid guidelines the Irish authorities submitted a detailed calculation example for determining the production costs in cases where investment aid was also granted (summarised in table 3 above), demonstrating that the production costs are higher than the corresponding proposed technology price on which basis the operating aid is determined.

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<sup>23</sup> Point (109) Option 1:

a) Member States may grant operating aid to compensate for the difference between the cost of producing energy from renewable sources, including depreciation of extra investments for environmental protection, and the market price of the form of energy concerned. Operating aid may then be granted until the plant has been fully depreciated according to normal accounting rules. Any further energy produced by the plant will not qualify for any assistance. However, the aid may also cover a normal return on capital.

b) Where aid is granted in accordance with point (a) any investment aid granted to the undertaking in question in respect of the new plant must be deducted from production costs when determining the amount of operating aid. When notifying aid schemes to the Commission, Member States must state the precise support mechanisms and in particular the methods of calculating the amount of aid.

c) Unlike most other renewable sources of energy, biomass requires relatively low investment costs, but higher operating costs. The Commission will, therefore, be amenable to operating aid for the production of renewable energy from biomass exceeding the amount of investment where Member States can show that the aggregate costs borne by the undertakings after plant depreciation are still higher than the market prices of the energy.

70. The Irish authorities submitted detailed production cost calculations including a breakdown of the different cost categories which are summarised in table 1. It was also explained that whenever the market price is higher than the technology plus balancing costs, no payments will be made under the scheme. The Commission notes that the proposed technology prices are not higher than the costs incurred by the RES-E generators (net of any tax relief and investment aid).
71. For the co-firing plants, the Irish authorities confirmed that only the part of electricity generated from biomass will be eligible for support under the notified measure. They submitted a calculation example illustrating that all existing capital costs and all environmental costs and carbon taxes will be covered by the Peat PSO. The REFIT compensation covers the additional capital costs necessary for allowing co-firing of biomass plus the operating costs related to the use of biomass. For the operating costs, where it is possible to have a clear separation of costs between peat and biomass (e.g. fuel costs, part of the payroll costs), such a separation was performed. For the rest of the operating costs (for which such a clear separation was not possible) a proportional allocation was carried out.
72. The aid is granted for 15 years, which corresponds to the depreciation period allowed for all capital assets under the scheme, be they the result of the additional investment required for existing peat plants or the result of the construction of new facilities. Finally, the Commission considers that the rate of return retained by the Irish authorities corresponds to a reasonable return on capital, the reports submitted by the Irish authorities supporting this view.
73. With respect to the absence of overcompensation in time, the Commission notes that the REFIT mechanism is designed in such a way that the level of support is based on the evolution of the market price. Furthermore, the duration of the notified measure is only until 31 December 2015, which limits the risk that technology development may reduce the investment costs of future projects below the guaranteed level of support.
74. In light of the foregoing considerations, the Commission finds that the notified measure is in line with the condition of absence of overcompensation.
75. In addition, in line with the condition regarding the limitation of Commission authorisation, the duration of the notified measure does not exceed 10 years.
76. The Irish authorities confirmed the respect of annual reporting and monitoring provisions of the Environmental aid guidelines as laid down in Sections 7.1 and 7.3.
77. As regards the incentive effect of the aid to be granted, the Commission notes that the calculations provided by the Irish authorities show that the production costs of RES-E are higher than the market price for electricity. Hence, without the notified aid, there would be an insufficient incentive to undertake or carry on generation of RES-E from biomass, as that activity would be unlikely to be economically viable.
78. The Commission accepts the arguments provided by the Irish authorities in explaining that in the absence of aid, the existing peat plants would not have an incentive to use biomass for co-firing with peat, especially since all their costs related to using peat are being covered by the existing Peat PSO (as described in Section 2.6. above).

79. Accordingly, the Commission comes to the conclusion that the notified scheme complies with the Environmental guidelines and is therefore compatible with the internal market in accordance with Article 107(3)(c) TFEU.

#### **4. COMPLAINT SUBMITTED TO THE COMMISSION WITH RESPECT TO THE NOTIFIED MEASURE**

80. In so far as the complaint is concerned, (see Section 2.7) first, the Commission refers to the fact that the aid scheme in question is a measure to be introduced by the Irish authorities pursuant to the RES Directive 2009/28/EC<sup>24</sup>, according to which the Member States have the right to decide which measures to use and to which extent they support energy from renewable energy sources in order to reach the mandatory national overall targets laid down in the directive. The Commission would also like to point out in this context that State aid within the meaning of Article 107(3) TFEU is by their definition a selective measure designed to promote certain economic activities based on the exercise of a Member State's discretionary powers according to its policy priorities.

81. The Commission notes that support is granted to a range of different technologies which have a significant environmental effect, including co-firing biomass with peat also due to the way the Peat PSO is functioning in Ireland<sup>25</sup>.

82. Furthermore, the Irish authorities provided evidence demonstrating that forest residues will be available in sufficient quantities, so that there is no significant negative impact of the notified measure on other industries using virgin wood fibre from the forest resource (like the panel products industry, the sawmill, horticultural bark and animal bedding industries). In this context, it is recalled that in Section 1.4 of the Environmental aid guidelines, and as further detailed in chapter 3 of those guidelines, the Commission has identified a series of measures in respect of which it considers a priori that State aid will address a market failure hampering environmental protection or improve on the level of environmental protection and inter alia sets out a series of conditions and parameters, which are intended to ensure that State aid actually has an incentive effect, is proportionate and has a limited negative impact on competition and trade.

83. The notified measure is assessed on the basis of the relevant criteria of chapter 3 of the Environmental aid guidelines above (see Section 3.3). In particular, the Commission assessed the calculations provided by the Irish authorities demonstrating that the aid is limited to the extra production costs generated by the use of biomass as compared to the market price.

84. Considering the above, the Commission finds that the arguments put forward in the complaint do not alter the conclusion expressed in point 77 above that the notified scheme complies with the Environmental aid guidelines and is therefore compatible with the internal market in accordance with Article 107(3)(c) TFEU.

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<sup>24</sup> See Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, cited above.

<sup>25</sup> Concerning the allegation that the proposed support for co-firing biomass with peat is likely to indirectly support the use of peat, it is recalled that peat plants can cover all their costs related to the use of peat through the peat PSO (until 2015 for one plant and until 2019 and 2020 respectively for the other 2 plants).

## 5. DECISION

85. The Commission finds that the aid scheme "Biomass electricity generation" is compatible with the internal market in accordance with Article 107(3)(c) TFEU and has therefore decided not to raise objections to the notified measure.
86. The Commission reminds the Irish authorities that, in accordance with Article 108(3) TFEU, plans to refinance, alter or change this scheme have to be notified to the Commission pursuant to provisions of Commission Regulation (EC) No 794/2004 implementing Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 [*now 108*] of the EC Treaty<sup>26</sup>.
87. If this letter contains confidential information, which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site:  
[http://ec.europa.eu/eu\\_law/state\\_aids/state\\_aids\\_texts\\_en.htm](http://ec.europa.eu/eu_law/state_aids/state_aids_texts_en.htm)

Your request should be sent by registered letter or fax to:

European Commission  
Directorate-General for Competition  
State Aid Greffe  
B-1049 Brussels  
Fax No: 32 2 296 12 42

Yours faithfully,  
For the Commission

Dacian CIOLOȘ  
Member of the Commission

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<sup>26</sup> OJ L 140 of 30.4. 2004, p.1.