

Consultation on SEMC Dispatch Decision

Summary

Indaver Waste-to-Energy Facility

Ireland's first waste-to-energy facility in Co. Meath is due to begin generating 15MW electricity for export to the pool market from June 2011. The facility is designed to fulfil key waste and energy policy objectives at a European and national level including landfill diversion, compliance with the waste hierarchy and renewable energy production. At a total cost of €130 million, it is the largest ever investment in waste infrastructure in Ireland.

The Meath waste-to-energy plant currently holds an authorisation to construct from the CER and has been allocated REFIT support by DCENR. An application has been submitted to CER for a generating licence. Once this has been obtained, it will be necessary to go through the process of market accession and generator testing which may take over three months to complete.

Decision SEM/10/060 does not provide clarity on the dispatch position of waste-to-energy facilities. This impacts on the projected revenue of waste-to-energy, compromises the role of waste-to-energy facilities in meeting key waste targets and prevents them from accessing REFIT. Due to the lack of clarity, Indaver's generating licence cannot be progressed until there is a final outcome on this consultation process. This could have important repercussions for the project's timelines, considering that it will be necessary to progress the next stage (market accession) by February 2011 at the latest.

Summary of Response

Waste-to-energy not only contributes to energy policy objectives including renewable energy generation, energy security and competitiveness of energy supply (protecting consumers) but also and more crucially, is essential for meeting waste Directive targets and avoiding large fines from Europe. It is submitted that this SEM Committee decision cannot be made in isolation from such waste policy imperatives. In the past, a lack of joined up thinking has resulted in recommendations that are inconsistent with key European and Irish policies and that compromise the achievement of targets at the expense of the taxpayer.

It is our position that the Renewables Directive (2009/28/EC) is clear in acknowledging waste-to-energy facilities processing the biodegradable fraction of municipal solid waste (not constrained by a minimum proportion) as renewable energy sources and therefore, that they qualify for mandatory priority dispatch. Furthermore, waste-to-energy facilities operate according to technical and waste policy constraints imposed by Europe and should be continuously dispatched in line with the system operators' obligation to comply with EU and Irish Environmental Laws.

Overall, it appears that the process required to facilitate this position is relatively straightforward. Transposition of the Directive must provide for mandatory priority dispatch of waste-to-energy in line with definitions in the Directive and waste policy targets. Existing conditions in the Grid Code already support consideration of environmental law in dispatch.

However, direction is required from the SEM Committee on both of these matters. In our view this is within the remit and aligns with the legal duties and functions of the SEM Committee. It is imperative that this direction is provided within the timelines expressed above to prevent frustrating the start of operation of Ireland's first such facility from June 2011.

Previous Submission

In a previous submission to the SEM-09-073 Consultation Paper, Indaver described how waste-to-energy facilities are unlike other generating plant on the system, because:

- The primary function of waste-to-energy facilities is to treat residual waste in line with EU regulated technical constraints and waste policy objectives. As a result, they operate on a continuous basis (average 7,800 hours per year). Electricity is a valuable byproduct that is generated constantly as waste is being treated.
- Member States have a statutory obligation to divert waste away from landfill towards alternatives like waste-to-energy. This is set out in:
 - o The Landfill Directive (1999/31/EC), which sets challenging targets for the diversion of untreated municipal waste away from landfill. The first target year commenced in July 2010 and will require the urgent delivery of alternative waste treatment capacity including waste-to-energy – or face fines from Europe which could be up to €40 million per annum in addition to a lump sum.
 - o The Waste Framework Directive (2008/98/EC), which obliges Member States to prioritise recovery operations (waste-to-energy) ahead of disposal (landfill) in all waste policy and legislation. This Directive will be transposed in the Republic of Ireland in December 2010¹.
- Waste-to-energy also meets energy policy objectives including:
 - o Improving the sustainability of energy supply by producing renewable energy to a high level of energy efficiency and mitigating greenhouse gas emissions from waste.
 - o Improving the security of supply by using an indigenous fuel, enhancing fuel diversity, and displacing imported fossil fuels. The facilities also provide a source of constant and predictable electricity with a high availability due to the continuous nature of operation. This means that waste-to-energy plants effectively produce up to three times the renewable energy typically produced by intermittent renewable plants.
 - o Improving the competitiveness of supply. Waste is cost neutral or cost negative, and reduces the cost of energy imports. This will contribute to a lower average SMP and will reduce the exposure of the SMP to oil and gas markets.
 - o The Bioenergy Action Plan. It is noted that waste-to-energy will be the second largest contributor to bioenergy generation after wood biomass.
- Consumers benefit twofold; from both reduced energy prices and from the provision of efficient waste treatment services.

¹ Draft *Waste Management(Waste Framework Directive) Regulations 2010* have now been published and are available from www.environ.ie for consultation with a view to transpose the Directive by 12 December 2010

- Waste-to-energy facilities qualify for - and have been allocated by DCENR - REFIT support. It is noted however that the priority dispatch status should not be confused with the issue of incentives for renewable fuel sources.
- Waste-to-energy facilities must meet a minimum energy efficiency criteria (R1) in line with the Waste Framework Directive and as required by operating licences.
- Waste-to-energy facilities process waste in which the biomass component is inseparable from the fossil fuel derived component
- Due to operational conditions imposed by the Waste Incineration Directive, waste-to-energy plant shutdown is more onerous than for conventional generating units.

These aspects are elaborated in more detail in previous submissions from Indaver and Dublin Waste-to-Energy and in a submission to this consultation from arc21.

In summary it was suggested that, in light of these contributions towards waste and energy policy and having regard to operational requirements, waste-to-energy should qualify for priority dispatch and must run status.

Proposed Decision

The SEMC published a proposed decision (SEM/10/060) in September 2010 regarding the principles of dispatch and the design of the market schedule. The main decisions impacting on waste-to-energy facilities were that:

- Renewable generators afforded priority dispatch under mandatory EU requirements will be given priority over facilities assigned priority dispatch by the discretion of the Member State (e.g. peat, CHP). The hierarchy of re-dispatch given by the SEMC does not include a category for waste-to-energy facilities or any form of biomass.
- Insofar as waste-to-energy was being viewed as “hybrid”, there is “considerable legal uncertainty” over the status of hybrid plant for priority dispatch purposes, though this may become clearer when the 2009 Directive is transposed.
- There is a need to consider the interaction between the SEM and government support schemes, notably REFIT. The Committee reiterated concerns regarding market power issues in relation to appointing intermediaries.
- The question of “must-run” in dispatch is a technical matter and is best addressed in the context of Grid Code requirements.

These decisions oblige waste-to-energy developers to operate the facilities as price making generators, which detracts from the primary purpose of treating waste. They also leave no avenue for waste-to-energy facilities to access REFIT - even though REFIT support has been confirmed by the DCENR.

It is noted that this decision also puts waste-to-energy at a disadvantage in comparison with landfill because waste-to-energy operators cannot access REFIT and because landfill gas units are typically not curtailed because they are not dispatchable. This goes against the waste hierarchy and therefore, the Waste Framework Directive.

It is accepted that the primary responsibility for meeting targets rests with the relevant government departments. However, we support the IWEA view that it is vital that the actions of the regulators do not frustrate these initiatives and therefore we submit that the SEM Committee has a role in ensuring that waste-to-energy can meet the waste and energy policy objectives set out above.

Response to Decision

Priority Dispatch

The current decision does not provide any clarity on the dispatch position of waste-to-energy facilities.

In our view, there is clear direction within Directive 2009/28/EC (the “Renewables Directive”) that energy generated from waste-to-energy facilities should qualify for mandatory priority dispatch. The Directive states that Member States:

“shall also provide for either priority access or guaranteed access to the grid system of electricity produced from renewable energy sources”.

where “energy from renewable sources” includes biomass, or “the biodegradable fraction of products, waste and residues”, which includes “the biodegradable fraction of industrial and municipal waste”.

Other international, EU and Irish authorities also clearly define energy from waste-to-energy plants as a renewable resource, including:

- The Intergovernmental Panel for Climate Change, which stated in its Fourth Assessment Report² that “*Post-consumer waste is a significant renewable energy resource whose energy value can be exploited through thermal processes (incineration and industrial co-combustion), landfill gas utilization and the use of anaerobic digester biogas*”.
- The EC waste policy paper *Thematic Strategy on Waste Prevention and Recycling*³ which seeks to place greater emphasis on energy recovery from waste to help the EU “*meet its targets under the Directive on the promotion of electricity produced from renewable energy sources*”. Further information on the potential contribution of waste-to-energy to the EU renewable energy targets is attached.
- Ireland’s Bioenergy Action Plan which in relation to waste seeks to “*... maximise the recovery of useful materials and energy from residual waste, and accordingly suggests thermal treatment with energy recovery as the preferred option ...*” and the recently published SEAI *Bioenergy Roadmap* which seeks to “*promote and facilitate energy recovery from non-reusable; non-recyclable biodegradable waste*”

² Rogner, H.– H., D.Zhou, R. Bradley. P. Crabbe, O. Edenhofer, B. Hare (Australia), L. Kuijpers, M. Yamaguchi, 2007: Introduction. In *Climate Change 2007: Mitigation*. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, UK

³ EC Publication, *Taking Sustainable use of Resources Forward : A Thematic Strategy on the Prevention and Recycling of Waste*, 2005, available at <http://ec.europa.eu/>

In our view, these clearly demonstrate that waste-to-energy produces electricity from renewable energy sources and therefore qualifies for mandatory priority dispatch in line with the Renewables Directive.

The concept of “hybrid” does not exist in the waste sector since waste is recognised as a heterogeneous and variable resource. There is no reference to “hybrid” in defining biowaste treatment as renewable in the Renewables Directive. Finally, there is no consideration in waste legislation, or in the Renewables Directive, of a minimum percentage of biowaste that is needed to qualify residual waste as a renewable energy resource.

While waste contains a mix of renewable and non-renewable residues, the two residue types are inseparable and the relative proportions of each can vary seasonally and annually, influenced by events (e.g. Christmas), consumption patterns and waste policy. Therefore, waste-to-energy facilities are not in a position to control or manipulate for commercial purposes the fraction of renewable energy sources contained in the waste received.

Specifying a minimum percentage of renewable output that qualifies for priority dispatch would create perverse incentives in the waste market. This is because increased recycling of biowaste like food waste or cardboard/paper reduces the renewable “potential” of the remaining waste and compromises the dispatch status of waste-to-energy treating this waste. However, the EU Waste Framework Directive and Irish statutory instruments set targets and obligations to the waste sector to increase recycling of these waste streams. This would create a situation in which policy from the waste and energy sectors pull in opposite directions.

It is recognised that there is potential for gaming with a criteria for priority dispatch that considers any generation from renewable sources. Some conventional generating plant could substitute a small portion (e.g. 1%) of non-renewable sources for renewable sources of fuel in order to produce electricity from “renewable energy sources”. This was also referred to in the SEM committee decision. However, since the substitution rate can be controlled by conventional plant for commercial purposes, it differs significantly from waste-to-energy facilities.

As noted above, waste-to-energy facilities do not have commercial control over the percentage input of renewable fuel. Nor should it be encouraged to surpass a fixed percentage of renewable fuel given that, as noted above, this could create perverse and contradictory effects. For these reasons it is submitted that waste-to-energy should not be classified as “hybrid” or set a % renewable output target, but should be classified as mandatory priority dispatch as a residual waste treatment facility.

Meeting Waste Treatment Objectives

As noted in our previous submission, the particular policy objectives and operational requirements of waste-to-energy mean that it must run continuously and should therefore be continuously dispatched. The inability to operate waste-to-energy facilities directly impacts on waste treatment (since the untreated waste must be diverted to landfill), which in turn affects the ability of the State to meet waste targets set out in EU Directives.

The SEM Committee decision found that “must-run” status is a matter for consideration within the context of the Grid Code.

It is our view that there is sufficient impetus within the Grid Code for the System Operator to have regard to environmental law as described below:

Condition 32 Environment

1. The Licensee shall comply with all applicable European Union and Irish Environmental Laws whether in force at the date hereof or in the future and also with any direction given to it from time to time by the Commission in pursuance to the Commission’s duty under Section 9(5)(a) of the Act to take account of the protection of the environment.
2. The Licensee shall, not later than such date as the Commission may specify and in consultation with the Commission, prepare and from time to time modify a written policy setting out the manner in which the Licensee proposes to comply with its duties and obligations under all applicable European Union and Irish Environmental Laws and any direction issued to it under this Condition.
3. The Licensee shall report annually to the Commission on its environmental performance in such form and at such times as the Commission may specify.
4. For the purposes of this Licence, "Environmental Laws" means those laws which are from time to time in force whose purpose is the protection of the environment including the protection of human health, flora, fauna and the eco-systems on which they depend, and for the avoidance of doubt shall include but shall not be limited to the Environment Protection Act, 1992, the Waste Management Act, 1996 and all relevant legislation relating to the assessment of environmental impacts, and the protection of air, land and water.

By this definition, Environmental Law includes the Landfill Directive and the Waste Framework Directive, both of which require that waste is diverted to recovery operations like waste-to-energy and away from landfill. It is noted that consideration of environmental constraints within the dispatch regime for waste-to-energy is similar in concept to the dispatch requirements of hydro electric plant which must respond to particular weather conditions.

It is therefore submitted that the System Operator should be directed by the SEM Committee to continuously dispatch waste-to-energy in order to comply with waste policy and legislation.

As noted in the Covanta and arc21 submissions, the total potential installed capacity of waste-to-energy facilities is unlikely to exceed 150 – 200MW⁴ within the all-island market. This is dictated by the small scale of the waste market and fixed recycling targets set out in the Waste Framework Directive that would divert waste away from energy recovery. Therefore any impact of ensuring that waste policy objectives are met through continuous dispatch of waste-to-energy is likely to be limited.

⁴ Approximately equivalent to 1,500,000tpa capacity

Use of Intermediaries

Without priority dispatch, it is not currently possible to access REFIT because price makers can not avail of intermediaries in the market. The SEM Committee cites market power as an issue and reason for maintaining this position, though it does recognise a need to consider the interaction between the SEM and REFIT.

We support the position of IWEA in that restrictions around price makers appointing intermediaries should be removed. This is a practical requirement of the REFIT support system structure and allows Renewable Generators to protect themselves from negative prices (which have been seen recently) should they wish to do so.

There are many circumstances in which the potential for market dominance is limited; for example, where the intermediary only services a limited number of generators or is owned by the same company as the generator. Therefore, there are numerous arrangements for which the SEM Committee could limit the potential for market dominance but still allow for access to intermediaries for price makers.