



Briefing Note on Proposed Dublin Waste to Energy (DWtE) Project & Notification under Section 138 Local Government Act 2001

Section 1 **Executive Summary**

Back in January 2014 when I last briefed Members on the DWtE project there were a number of obstacles to the project proceeding including unresolved complaints to the European Commission on both Procurement and State Aid grounds and the fact that the National Development Finance Agency (NDFA) had not issued a ‘value for money’ letter in respect of the project, which is a requirement for PPP projects in Ireland.

The various obstacles to the DWtE project have now been overcome. A decision must now be made on whether to proceed with the project or not. This decision is an executive decision for the Chief Executives of the four Dublin local authorities (DLAs). The project will proceed if the revised Project Agreement and related Agreements are signed by the four DLA Chief Executives and by Dublin Waste to Energy Ltd (DWTEL), the PPP partner.

The origins of the DWtE project can be traced back to 1996 when the four DLAs began the process of developing a new waste management strategy for the Dublin Region. I am very conscious of the fact that since the DWtE project was conceived there have been issues associated with the project and its management of legitimate concern to Members, including the size of the proposed facility, the site selection process, the extensive delays with the project, project governance issues and the scale of the costs incurred (i.e. €97.4m gross or €85.3m net to end July 2014).

Notwithstanding these issues the project is where it is today and a decision must now be made in relation to its future. Essentially there are two options as follows:

Option 1: Abandon the DWtE Project

Under this option, the DLAs would have to accept the loss of the expenditure that has already been incurred on the DWtE project (i.e. €97.4m gross or €85.3m net). In addition the DLAs would be liable for significant compensation payments to DWTEL in respect of the considerable costs they have incurred on the project. The current market value of the site has been estimated at €6m. Even after disposing of the site the overall net cost of Option 1 to the DLAs is likely to be in the region of over €100m when the need to compensate DWTEL has been taken into account. Assuming (for illustrative purposes) a

total net cost of €105m this would fall to be divided between the four local authorities, based on population shares as per Census 2011 as follows:

Local Authority	Share	Estimated Cost
Dublin City Council	41.3%	€43.4m
South Dublin County Council	20.9%	€21.9m
Fingal County Council	21.5%	€22.6m
Dún Laoghaire Rathdown County Council	<u>16.3%</u>	<u>€17.1m</u>
	100%	€105.0m

Dublin City Council's share of the net cost of the DWtE project to date (i.e. €35.2m to end July 2014) has been funded out of capital cash flow in the expectation that over time the expenditure incurred will be recouped from the financial return generated by the project. If the project does not proceed the total estimated cost to the City Council of €43.4m will have to be funded at the expense of other potential City Council capital projects (e.g. parks and recreation facilities, transportation projects, flood defence works etc.).

Option 2: Proceed with the DWtE project

If the project proceeds then under the revised Project Agreement the full cost of constructing the DWtE facility (estimated at circa €500m) will fall to DWTEL. The Project Agreement contains an Authority Contingent Obligation (ACO) clause under which the DLAs will provide partial revenue support for the first 15 years of operation of the DWtE plant in return for which they will share in the waste revenue stream, over a certain threshold, for 15 years. The DLAs will also share in the energy revenue stream for the 45 year life of the project above a certain threshold. (The revised Project Agreement is covered in more detail in Section 3).

This report deals primarily with the implications of both Options. The main conclusions reached in the report are as follows:

- The proposed DWtE facility has always been and remains entirely consistent with regional, national and EU waste management policy. Current national waste policy is strongly supportive of the provision of the facility. In addition to its importance in meeting waste management objectives for the new Eastern & Midlands waste region the DWtE project is crucial if the State is to meet landfill diversion targets, without being dependent on the export of municipal waste to overseas facilities. It is also essential if Ireland is to meet the objectives of self sufficiency and proximity, which are enshrined in the EU Waste Framework Directive.
- It is clear from the RPS report '*Dublin Waste to Energy Waste Market Assessment*', which has been circulated with this report, that there should be more than sufficient residual Municipal Solid Waste (rMSW) available for the DWtE facility to operate at its contracted capacity of 550,000 tonnes per annum (tpa) even after demanding EU mandatory recycling and landfill diversion targets are met. The RPS analysis also provides a degree of confidence that the gate fee that will be achieved by the DWtE facility will ensure the threshold waste revenue figure is realised with the result that the ACO mechanism will not operate. The DLAs will

thus receive a share of both the waste and energy revenue of the DWtE facility over the first 15 years of its operation and will share in the energy revenue over the remaining 30 years.

- The DWtE facility has the support of major operators in the waste industry.
- The DWtE project will generate significant employment (including 300 direct construction jobs and 100 direct jobs at the facility once it is operational). It will make a major contribution to economic activity and generate significant tax revenue during both the construction and operating phases. Aside from these economic benefits, the project will provide renewable energy and generate electricity sufficient to meet the equivalent needs of over 80,000 homes annually, thereby helping to achieve the country's renewable energy goals. The DWtE project will also finance a substantial Community Gain Fund - of over €10 million during the construction period and of up to €0.6m per annum during the operation phase.
- A cost benefit analysis of the two options facing the DLAs was undertaken by PwC. They estimated that the discounted value of the net return to the DLAs of selecting Option 2 (i.e. proceeding with the DWtE project) range between €155.3m and €30.2m depending on the assumptions used. (This financial return would be offset against the expenditure incurred to date on the project). The expected return under Option 2 compares with a certain loss associated with Option 1 (i.e. abandoning the DWtE project) of over €100m. (The PwC analysis does not take account of the benefits associated with either the Community Gain Fund or the payment of rates on the DWtE facility to the City Council.) PwC concluded their analysis as follows:

'The potential financial returns the Dublin Authorities can expect to realise are high and the estimated financial risks of entering the Project Agreement are low. Thus, it seems to be rational for the Dublin Authorities to proceed to complete the renegotiated Project Agreement.'

- The NDFA is the statutory agency charged with assessing the 'value for money' associated with PPP projects such as the DWtE project. Following a detailed assessment, the NDFA issued a 'value for money' letter in respect of the DWtE project on 4 September 2014. Finally, the European Commission in its determination of the State aid complaint confirmed that the DLAs participation in the DWtE project is on terms that would be acceptable to a private investor operating in a market economy.

The DWtE project has been on-going for some considerable time. A decision must now be made to proceed with the project or to abandon it. I believe on the basis of the data available to me, the analysis of various experts and the reassurance provided by the independent NDFA that a decision to proceed with the project at this stage represents both 'value for money' and by far the best Option for the DLAs.

Owen P Keegan
Chief Executive

5 September 2014

Section 2 Introduction

The purpose of this report is to brief Members of the Council on the factors to be taken into account in deciding whether to proceed with the DWtE project (Option 2, below) or to abandon it (Option 1, below). This report deals primarily with assessing the implications of Option 2 and especially the financial implications for the DLAs so that a valid comparison can be made with the estimated cost of Option 1.

The report is organised as follows:

- Section 1** Executive Summary
- Section 2:** Introduction
- Section 3:** Outlines the key provisions of the revised Project Agreement.
- Section 4:** Considers the DWtE project in the context of EU and National waste policy.
- Section 5:** Considers the outlook for the municipal solid waste market in Ireland.
- Section 6:** Outlines the economic benefits of the DWtE project.
- Section 7:** Presents the results of a Cost Benefit Analysis of the DWtE project.

- Appendix 1:** European Commission Press Release IP/14/529 dated 7 May 2014
- Appendix 2:** Outlines the development of the DWtE project and presents information on key aspects of the project.

The following reports are also being circulated with this report for the information of Members:

‘Dublin Waste to Energy Waste Market Assessment’ RPS, August 2014 and

‘Cost Benefit Analysis of the Dublin Waste to Energy Project’ PwC, August 2014

Members should regard this report as formal notification under Section 138 of the Local Government Act, 2001 that the project is to proceed, subject to a decision by the four DLA Chief Executives.

At the Council meeting on 6 January 2014, I advised Members that the DWtE project could not proceed until the following obstacles were overcome:

- (i) the complaint to the EU Commission on State aid grounds was resolved in favour of the City Council,

- (ii) the complaints to the EU Commission on Procurement grounds were resolved in favour of the City Council and
- (iii) the NDFA had assessed the project and issued a ‘value for money’ letter in respect of the project.

I also indicated that I would not sign the revised Project Agreement on behalf of Dublin City Council without first briefing Members and considering their views on the project.

The current position in relation to the various obstacles set out above is as follows:

State Aid Complaint

DG Competition of the European Commission issued a formal decision on the State aid complaint on 7 May 2014. The decision concluded as follows:

‘The European Commission has found that a series of measures by the Dublin local authorities to participate in the Waste-to-Energy project in Poolbeg, Dublin, are in line with the EU state aid rules.’

The basis for the Commission's decision was that the project will be carried out on terms that would be acceptable to a private investor operating in a market economy. (See copy of EU Commission Press Release relating to its decision in Appendix 1).

Public Procurement Complaints

The City Council has been advised by the European Commission that it is no longer pursuing any of the complaints which have been made against the DWtE project on public procurement grounds.

NDFA ‘value for money’ Letter

In line with the Department of Finance PPP Guidelines, Dublin City Council engaged with the NDFA to enable it to assess the ‘value for money’ associated with proceeding with the DWtE project.

The NDFA in its capacity as advisor on the ‘value for money’ associated with PPP projects issued a ‘value for money’ letter in respect of the proposed DWtE project on 4 September 2014.

Since the obstacles to the DWtE project have now been overcome a decision must now be made on whether to proceed with the project or not. This decision is an executive decision for the Chief Executives of the four Dublin local authorities (DLAs). The project will proceed if the revised Project Agreement and related Agreements are signed by the four DLA Chief Executives and by DWTEL, the PPP partner.

The origins of the DWtE project can be traced back to 1996 when the four DLAs began the process of developing a new waste management strategy for the Dublin Region. I am very conscious of the fact that since the DWtE project was conceived there have been issues associated with the project and its management of legitimate concern to Members, including the size of the proposed facility, the site selection process, the extensive delays with the project,

project governance issues and the scale of the costs incurred to date (i.e. €97.4m gross or €85.3m net after grant aid of €7.5m from the then Department of the Environment Heritage and Local Government and a payment of €4.5m from DWTEL are taken into account).

Notwithstanding these issues the project is where it is today and a decision must now be made in relation to its future. Essentially there are two options as follows:

Option 1: Abandon the DWtE Project

Under this option, the DLAs would have to accept the loss of the expenditure that has already been incurred on the DWtE project (i.e. €97.4m gross or €85.3m net). In addition the DLAs would be liable for significant compensation payments to DWTEL in respect of the considerable costs they have incurred on the project. The current market value of the site has been estimated at €6m. Even after disposing of the site the overall net cost of Option 1 to the DLAs is likely to be over €100m when the need to compensate DWTEL has been taken into account.

Assuming (for illustrative purposes) a total net cost of €105m this would fall to be divided between the four local authorities based on population shares as per Census 2011 as follows:

Local Authority	Share	Estimated Cost
Dublin City Council	41.3%	€43.4m
South Dublin County Council	20.9%	€21.9m
Fingal County Council	21.5%	€22.6m
Dún Laoghaire Rathdown County Council	<u>16.3%</u>	<u>€17.1m</u>
	100%	€105.0m

Dublin City Council’s share of the net cost of the DWtE project (i.e. €35.2m to end July 2014) has been funded out of capital cash flow in the expectation that over time the expenditure incurred will be recouped from the financial return generated by the project. If the project does not proceed the total estimated cost to the City Council of €43.4m will have to be funded at the expense of other potential City Council capital projects (e.g. parks and recreation facilities, transportation projects, flood defence works etc.).

Option 2 Proceed with the DWtE project

If the project proceeds then under the revised Project Agreement the full cost of constructing the DWtE facility (estimated at circa €500m) will fall to DWTEL. The Project Agreement contains an Authority Contingent Obligation (ACO) clause under which the DLAs will provide partial revenue support for the first 15 years of operation of the DWtE plant in return for which they will share in the waste revenue stream, over a certain threshold, for 15 years. The DLAs will also share in the energy revenue stream for the 45 year life of the project above a certain threshold. (The revised Project Agreement is covered in more detail in Section 3).

Section 3 The Revised DWtE Project Agreement

The DWtE project is being developed under a Public Private Partnership (PPP) contract which covers the design, build, financing, operation and maintenance (DBFO&M) of a ‘waste to energy’ facility. It is standard practice in PPP agreements that the public agency shares the project risk and especially the project revenue risk during the initial years of the project in return for a share of project revenues above a certain level over the life of the project. The DWtE project is no different in this regard.

The facility is licensed and designed to process up to 600,000 tonnes per annum (tpa) of non-hazardous municipal and industrial waste. However, the contracted capacity for the facility is 550,000 (tpa). The original Project Agreement, which was signed in 2007, included a ‘put or pay’ clause under which the DLAs were required to source 320,000 tonnes of waste for the DWtE facility every year at an agreed price. If less than 320,000 tonnes of waste was provided by the DLAs, the full obligation would need to be paid nonetheless. At the time, the DLAs were still collecting waste and it was expected that the waste volumes collected would continue to increase for the foreseeable future. A scenario in which the requirements of the ‘put or pay’ clause could not be met was not envisaged.

Since 2007, circumstances in the Irish waste market have changed. Private operators entered the municipal waste collection market in late 2006. In December 2009, the High Court decided, in the ‘Panda’ case, that ownership of municipal waste is not vested in local authorities. Hence, local authorities do not have the power to direct municipal waste to a particular facility.

As competition increased, the DLAs eventually exited the waste collection market between June 2010 and January 2012. As a consequence they could no longer adhere to the ‘put or pay’ obligation in the original Project Agreement. Finally, the new national waste policy ‘*A Resource Opportunity - Waste Management Policy in Ireland*’, published in July 2012, provided for competition ‘in’ the waste market rather than competition ‘for’ the waste market. This further undermined local authority control of the waste market and of the associated waste.

As a consequence of these developments it was considered appropriate to renegotiate the Project Agreement with DWTEL and to replace the ‘put or pay’ clause with an ‘Authority Contingent Obligation’ (ACO) clause under which the DLAs will provide partial revenue support for the facility during the PPP period. Under the revised Project Agreement, the DWtE facility will be operated on a commercial basis and the DLAs will participate on commercial terms, expecting a rate of return that a private investor would seek.

The key provisions of the revised Project Agreement are as follows:

(i) *Funding the Construction of the DWtE Facility*

The DLAs are not responsible for financing the construction, commissioning or operation of the facility. This is the responsibility of the PPP contractor (DWTEL). The DWtE project will be funded on a project finance basis by a consortium of domestic and international banks in conjunction with equity investors. DWtE represents an investment in excess of €500m in Irish waste infrastructure.

(ii) Contract Duration

The duration of the Project Agreement is 45 years (excluding the 3 year construction period). The contract is split into three distinct phases as follows:

- Phase 1: is a 3 year construction phase,
- Phase 2: covers the first 15 years of operation (i.e. the PPP period) and
- Phase 3: covers the remaining 30 years of operation (i.e. the merchant period).

(iii) Authority Contingent Obligation (ACO)

In Phase 2, the DLAs are bound by an ACO mechanism to underpin the waste market revenue of the facility. Under the ACO the DLAs will provide partial (i.e. 58%) revenue support in respect of any revenue shortfall below a threshold waste revenue. The ACO only becomes effective if the operator fails to achieve the threshold waste revenue in any year during the PPP period. There is a cap on the maximum DLA exposure under the ACO.

(iv) DLA Revenue Streams

In return for the provision of the ACO, the DLAs will receive 54% of all DWtE waste revenue above the threshold waste revenue for the PPP period (i.e. 15 years). In addition they will receive 25% of energy revenue above an agreed threshold for the PPP period (i.e. 15 years) and 45% of energy revenue above the same threshold for the merchant period (i.e. 30 years).

Generally, electricity generated at the DWtE facility will be sold at the wholesale market price. However, for the first 13 years of operation (i.e. until 31 December 2030) the DWtE facility will benefit from a national renewable energy feed in tariff under the REFIT 3 Programme which will provide a guaranteed price per MWh for approximately 57% of the electricity produced at the facility. This means that if the wholesale price of electricity is below the REFIT 3 tariff, 57% of the electricity will be guaranteed the REFIT3 tariff by the State.

Actual returns to the DLAs will depend primarily on the development of the waste and electricity markets, although a significant element of the energy revenue is effectively guaranteed until 31 December 2030.

(v) Other Payment Flows and Conditions

The Project Agreement provides for other payment flows as follows:

- DWTEL is to pay the DLAs an annual contribution of €0.5m (indexed) from 4 years after the start of construction,
- the DLAs are liable for any expenditure in excess of €0.5m on site remediation. It is estimated that in a worst case scenario the site remediation cost to be borne by the DLAs will not exceed €0.8m,

- the DLAs also share the risk associated with legal/regulatory changes that impact on the DWtE project. The likelihood of this risk having an impact on the financial return of the DLAs is considered low,
- if the DWtE facility is refinanced the DLAs will share in the benefits of any such refinancing,
- if DWTEL returns exceeds a certain threshold the DLAs will benefit from a profit share arrangement, and
- DWTEL will finance a Community Gain Fund that will amount to over €10m during the construction period alone and up to €0.6m per annum during the operation phase.

(vi) Client's Representative (CR)

The DLAs must also fund a Client's Representative (CR) for the 3 year construction phase and the first year of operation of the project at a total estimated cost of €4m. The scope of the CR appointment will be to ensure that the facility is constructed to highest possible industry standards, in an efficient, effective and safe manner and in accordance with all statutory requirements, licences and consents.

Elements of the revised Project Agreement are commercially sensitive. However, a redacted copy can be made available for examination by Members in due course.

Section 4 The DWtE Project in the Context of EU and National Waste Management Policy

As part of its submission to the NDFA, Dublin City Council commissioned RPS to undertake a review of the waste market in Ireland. A copy of their report '***Dublin Waste to Energy, Waste Market Assessment***' is being circulated with this report. Section 2 of the RPS report deals with the evolution of Irish and EU waste policy.

The RPS analysis clearly demonstrates that since the DWtE project was conceived in the late 1990s it has remained entirely consistent with regional, national and EU waste management policy. In addition to its importance in meeting regional waste management objectives its provision is crucial if the State is to meet landfill diversion targets, without being dependent on the export of municipal waste to overseas facilities.

It is worth noting that under the Waste Framework Directive WtE is defined as a recovery activity.. Under the National Development Plan 2007 to 2013 - '***Transforming Ireland a Better Quality of Life for All***' thermal treatment with energy recovery was identified as the '*preferred option for dealing with residual waste after achieving ambitious targets in respect of waste prevention, recycling and recovery*'.

In July 2012, the Department of Environment Community and Local Government published a new national waste policy '*A Resource Opportunity - Waste Management Policy in Ireland*', which is firmly grounded in the EU waste policy, in particular the Waste Framework Directive (2008/98/EC) and the Landfill Directive (1999/31/EC). Of particular relevance are the following objectives of national policy:

- to maximise the resource value in waste,
- to consolidate waste management regions from 10 to 3,
- to ensure sufficient waste management infrastructure is available within the State to manage municipal waste and
- to eliminate the use of landfill by 2020.

The focus of the policy is on the development of waste as a resource in line with the waste hierarchy which prioritises prevention, reuse and recycling followed by recovery and final disposal.

In line with national policy, 3 new waste management regions have been established. The Dublin waste management region has been abolished and Dublin is now part of a substantially larger region (i.e. the Eastern & Midlands region). The Eastern & Midlands waste region covers Dublin, Kildare, Meath, Wicklow, Louth, Laois, Offaly, Westmeath and Longford.

The proposed DWtE facility has always been and remains entirely consistent with regional, national and EU waste management policy. Current national waste policy is strongly supportive of the provision of the facility. In addition to its importance in meeting waste management objectives for the new Eastern & Midlands waste region the DWtE project is crucial if the State is to meet landfill diversion targets, without being dependent on the export of municipal waste to overseas facilities. It is also essential if Ireland is to meet the objectives of self sufficiency and proximity which are enshrined in the Waste Framework Directive.

Section 5 Projections for Municipal Solid Waste in Ireland and the DWtE Gate Fee

The DWtE facility is licensed and designed to process up to 600,000 tonnes per annum (tpa) of non-hazardous municipal and industrial waste. The contracted capacity for the facility is 550,000 (tpa). It is critical to the success of the DWtE project and to the financial return for the DLAs that the facility will be able to attract 550,000 tonnes of waste per annum at or above an appropriate gate fee without compromising Ireland's capacity to meet demanding EU mandatory recycling targets.

As part of its submission to the NDFA, Dublin City Council commissioned RPS to undertake a review of the waste market in Ireland. A copy of their report '*Dublin Waste to Energy, Waste Market Assessment*' is being circulated with this report. RPS relied on forecasts of municipal solid waste prepared using the ESRI's ISus model and published by the EPA.

The conclusions of RPS's analysis of the Irish waste market are reproduced below:

*'This report concludes there is **sufficient capacity within the waste market to accommodate the contractual capacity of the Dublin WtE facility.** Even with the addition of the Dublin WtE capacity into the market, a deficit in available alternatives to landfill will remain. This assessment indicates the resultant deficit will ensure that additional capacity will be available for new market entries for alternative treatment capacity. The lack of domestic alternatives to landfill and the increasing landfill levy continue to increase the level of exports, which has now become the price setting waste treatment option. The **Dublin WtE facility gate fee will need to compete with the export market** (which will only remain viable until domestic alternatives are provided) while excess capacity exists in mainland Europe.'*

The tables on the next page, taken from the RPS report, present RPS's estimates of residual municipal solid waste (rMSW) arising in 2020 and 2030 and its likely treatment/disposal, after achievement of 50% and 70% recycling rates and assuming that the growth rate in MSW is at half the level predicted by the ESRI/EPA.

The projections show that in 2020 even with the 550,000 tonnes of residual MSW being handled by the DWtE facility, 220,000 tonnes being handled by Indaver's WtE facility, 32,000 tonnes being biologically treated and 121,000 tonnes being incinerated in cement kilns there will still be 485,000 tonnes of waste requiring treatment/disposal. In the absence of additional facilities being provided in Ireland this waste will probably have to be exported for treatment abroad. The projections for 2030 show 50,000 tonnes of rMSW requiring treatment/disposal.

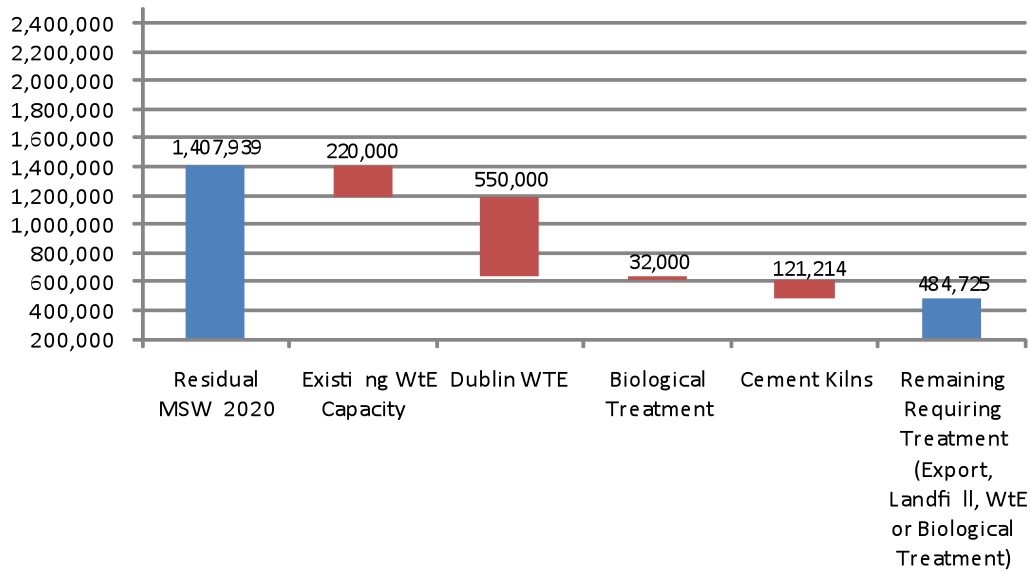
An analysis of the price of rMSW disposal options is included in the RPS report. It is clear from this analysis that the reference gate fee required to ensure the DWtE threshold waste revenue figure is achieved, assuming the facility operates at a capacity of 550,000 (tpa), will be very competitive with the current and expected cost of disposal to landfill and should be competitive with the cost of various waste export options especially as the cost of exporting waste for incineration abroad is expected to increase when current overcapacity is reduced with the recovery in the European economy.

It has been claimed that private waste operators who dominate the waste market are opposed to the development of the DWtE facility. This is not the case. Letters of support for the DWtE project have been received from the largest waste operators in the Dublin region.

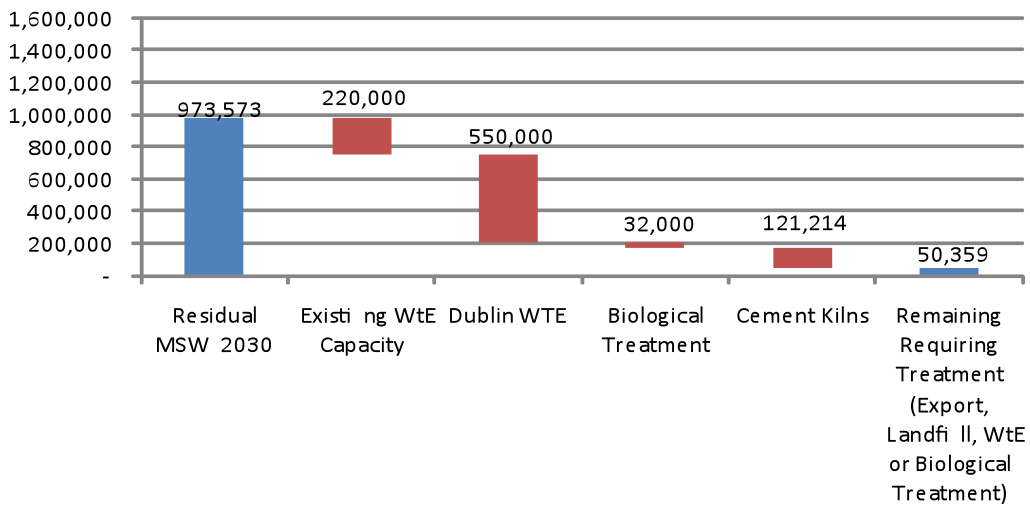
It is clear from the RPS analysis that there will be more than sufficient rMSW available for the DWtE facility to operate at its contracted capacity of 550,000 tonnes per annum, even after demanding EU mandatory recycling targets are met and without taking any account of the industrial waste. (The DWtE facility is also licensed to take up to 100,000 tonnes of non hazardous industrial waste annually).

The RPS analysis also provides a high degree of confidence that the gate fee that will be achieved by the DWtE facility will be above the reference gate fee required to ensure the threshold waste revenue figure is achieved thus ensuring that the ACO mechanism will not come into operation and the DLAs will receive a share of the waste revenue of the DWtE facility during the 15 year PPP period.

MSW Treatment Capacity 2020
(50% Recycling Rate and 50% Reduction in ESRI growth Rates)



MSW Treatment Capacity 2030
(70% Recycling Rate and 50% Reduction in ESRI growth Rates)



Section 6 The Economic Benefits of the Project

PMCA Economic Consultants were commissioned by Covanta to examine the economic benefits of the DWtE project. In summary they estimated that the three-year construction phase of the DWtE project will generate the following significant economic benefits:

- 300 jobs resulting directly from the construction of the new facility and 330 additional indirect jobs;
- a contribution to economic activity totalling approximately €500m, consisting of €300m in induced economic activity in addition to approximately €200m direct investment (net of imports) and
- a total exchequer contribution of €40m from income tax, PRSI, VAT and local authority rates.

They estimated that the operational phase of the project will yield the following economic benefits:

- 182 jobs, comprising 100 direct jobs in the plant's waste remediation and energy/heat generation functions (constant jobs over the lifetime of the project) and 82 indirect jobs,
- total economic activity of over €41m per annum, arising from direct economic activity of €21m and
- a total exchequer contribution of over €16m per annum, from direct revenue to central and local government of approximately €8m.

Aside from the economic benefits set out above, the project will provide renewable energy. The 60MW turbine electric power output, which DWtE will feed into the electricity grid, is sufficient to power the equivalent need of over 80,000 homes thereby helping to achieve the country's renewable energy goals. The DWtE facility has also been designed with technology and infrastructure to generate thermal capacity of 90MW, which could provide enough heat to meet the equivalent needs of over 50,000 homes if a district heating system is provided at some future stage.

The DWtE project will finance a substantial Community Gain Fund amounting to over €10m during the construction period alone and up to €0.6m per annum during the operation phase. DWTEL have also indicated that they will seek to maximise the use of local labour on the project.

Finally, DWtE will be an important and high profile project in terms of foreign direct investment into Ireland as a result of its €500m investment cost.

Section 7 Cost Benefit Analysis of the DWtE Project

PwC was commissioned to undertake a cost benefit analysis of the options facing the DLAs in relation to the DWtE project (i.e. to abandon the project - Option 1 - or to proceed with the project - Option 2). The conclusion reached by PwC in relation to Option 2 is set out below:

‘The second option is to go ahead with the Project Agreement, which could offer significant returns to the Dublin Authorities. The high potential to realise positive returns is driven by the fact that there is no initial capital outlay by the Dublin Authorities and actual obligations (cash outflows) only occur in case of significant deterioration of waste market circumstances.

What the actual returns to the Dublin Authorities will be depends mainly on three drivers: the gate fee, the waste volume and the electricity market price. The table below shows what returns would be in nine (9) different scenarios. The scenarios are covering low, medium and higher gate fee as well as low, medium and high electricity price assumptions; waste volumes are assumed to be constant at 550,000 tpa, as there is sufficient waste available (according to independent market consultants) in the market for the plant to operate at effective capacity.

Returns are discounted to net current values based on the cost of capital to the Dublin Authorities, which is currently 5.4%. The table indicates that net returns to the Dublin Authorities over the 45 year operating period are likely to be significant. In the most pessimistic scenario, the net current value of returns would be €30.2mln; in the most optimistic scenario it would be €155.3mln. In the most realistic / midpoint scenario, the expected returns would be €92.3mln. So, overall, it seems rational to go ahead with the revised Project Agreement.

Table – Net value of returns to the Dublin Authorities over the 45-year project at a discount rate of 5.4% (in € mln)

	Electricity market price (per MWh)		
Gate Fee:	Optimistic (€71.2 + 1% real increase)	Standard (€71.2 flat)	Pessimistic (€71.2 + 1% real decrease)
Optimistic: €110/ton	€155.3 mln	€138.3 mln	€123.8 mln
Midpoint: €95/ton	€109.3 mln	€92.3 mln	€77.8 mln
Pessimistic: €80/ton	€61.7 mln	€44.7 mln	€30.2 mln ¹

Further to assessing returns in a selection of nine potential market scenarios, the Dublin Authorities also had a risk assessment carried out. This risk assessment is based on a simulation of 10,000 potential market scenarios, taking into account all potential market circumstances that might be expected. The results of this risk assessment suggest that the probability that the returns to the Dublin Authorities are positive is high (98% - 99%). It

¹ Note: the funding banks have examined a further downside energy case (produced by Baringa, market experts). This Baringa low case is based on very low global energy prices for the next 20 years. The combined Baringa Low Case and €80/t Gate Fee still produces a positive return of €1.2m.

should be noted the risks are higher in the first 15 years of operations as that is the period when the Dublin Authorities are exposed to the waste market.

The potential financial returns the Dublin Authorities can expect to realise are high and the estimated financial risks of entering the revised Project Agreement are low. Thus, it seems to be rational for the Dublin Authorities to proceed to complete the renegotiated Project Agreement.'

It should be noted that the PwC analysis does not take account of the benefits associated with either the Community Gain Fund or the payment of rates on the DWtE facility to the City Council.

The discounted value of the net return to the DLAs of selecting Option 2 (i.e. proceeding with the DWtE project) range between €155.3m and €30.2m. This financial return will be offset against the expenditure incurred to date on the project. The financial return under Option 2 compares with a certain loss associated with Option 1 (i.e. abandoning the DWtE project) of about €105m.

Appendix 1 European Commission State Aid Complaint Decision Press Release IP/14/529 of 7 May 2014



EUROPEAN COMMISSION

PRESS RELEASE

Brussels, 7 May 2014

State aid: Commission approves measures for Waste-to-Energy project in Dublin, Ireland

The European Commission has found that a series of measures by the Dublin local authorities to participate in the Waste-to-Energy project in Poolbeg, Dublin, are in line with the EU state aid rules. Since the project will be carried out on market terms, it does not involve any state aid within the meaning of the EU rules.

Following a public tender, the Dublin local authorities entered into negotiations with Dublin Waste to Energy Limited (DWTEL) concerning the construction, maintenance and operation of a large-scale Waste-to-Energy plant located on the Poolbeg peninsula in Dublin. The facility will be a combined heat and power system (CHP) that uses municipal solid waste as fuel to generate electricity for the general public. It is meant to process approximately 550 000 tonnes per annum of waste.

The Dublin authorities will participate in the project through a series of measures, such as a waste revenue guarantee, a waste and electricity revenue sharing mechanism and a profit sharing schedule.

The Commission's investigation demonstrated that the project will be carried out on terms that a private investor operating in a market economy would have accepted. Indeed, the Dublin local authorities see in the project a business opportunity with a fair return on investment. The project therefore involves no state aid as defined by Article 107 of the Treaty on the Functioning of the European Union (TFEU).

Background

Public interventions in companies that carry out economic activities can be considered free of state aid within the meaning of the EU rules when they are made on terms that a private player operating under market conditions would have accepted (the so-called "market economy investor principle" – MEIP).

The non-confidential version of the decision will be made available under the case number [SA.36591](#) in the State Aid Register on the [competition](#) website once any confidentiality issues have been resolved. New publications of state aid decisions on the internet and in the Official Journal are listed in the State Aid Weekly e-News.

Contacts :

[Antoine Colombani](#) (+32 2 297 45 13, [@ECspokesAntoine](#))

[Yizhou Ren](#) (+32 2 299 48 89)

For the public: **Europe Direct** by phone **00 800 6 7 8 9 10 11** or by [e-mail](#)

Background

In 1996, the four Dublin local authorities began the process of developing a new waste management strategy for the Dublin Region. The project required a thorough technical environmental and economic appraisal of waste management practice in Dublin together with a review of internationally available technologies and waste management policies elsewhere.

After a wide ranging public consultation process the new Waste Strategy was published in January 1998. It advocated an integrated approach to waste management in accordance with best international practice. A policy of '*maximum realistic recycling and minimum landfill*' was recommended. The mechanism recommended for dealing with the residual waste left over following recycling and biological treatment was thermal treatment of up to 750,000 tonnes per annum (reduced to 600,000 tonnes per annum in the subsequent PPP contract).

A site selection study for the thermal treatment facility recommended Poolbeg as the optimal site but PPP applicants were invited to propose alternative sites, if such were under their control in areas with appropriate zoning. The technology choice and eventual size of the plant was to be determined by as part of the PPP procurement process.

In March 2001, Dublin City Council appointed a consortium to act as Client's Representative (CR) for the DWtE project. From 2001 to 2003 base data for the project was collated. The data was then subject to an independent review by the International Solid Waste Association. Over the same period a procurement strategy and associated contract documentation were developed. These were subsequently approved by Dublin City Council and the then Department of the Environment, Heritage and Local Government.

The PPP Procurement Process

The DWtE Project was developed as a Public Private Partnership (PPP) using the appropriate EU procurement procedures and in accordance with the Capital Appraisal and Public Private Partnership (PPP) Guidelines issued by the Department of Finance. The public tender competition was conducted by the CR on behalf of Dublin City Council to award a contract for the design, build, financing, operation and maintenance of a thermal treatment facility.

In July 2002, the City Council commenced the procurement process and set strict and detailed criteria with respect to financial strength, relevant technology, operations experience and organisation strength to be met by applicants to pre-qualify. It was made clear that all proven technologies would be considered. The preferred site for the facility was the Poolbeg peninsula, but applicants were invited to propose alternative sites, if such were under their control in areas with appropriate zoning. The Invitation to Negotiate was issued to the selected bidders on 4 November 2003. At that time further due diligence was carried out to validate the amount of waste to be diverted from landfill. This informed the put-or-pay element of the Project Agreement. (The put-or-pay aspect of the Project Agreement set an obligation on the Dublin local authorities to deliver - or arrange delivery - of 320,000 tonnes of waste per annum to the Poolbeg facility or pay an amount equal to that which would have been received by the economic operator had such 320,000 tonnes of waste per annum been processed.)

A Project Board was established and first convened in January 2004. The Project Board was comprised of representatives from Dublin City Council, the DoEHLG, the National Development Finance Agency (NDFA) and the CR.

Three bids were received on 16 April 2004. In April 2005 agreement in principle was reached with the PPP Company. In June 2005, the procurement report was finalised and issued to the DoEHLG, NDFA and the Dublin local authorities. In addition the project was subject to financial assessment by the NDFA which confirmed in 2005 (and again in 2007 following a financial restructuring by the preferred bidder), that the project represented ‘value for money’. The project documents were submitted for approval to the DoEHLG and NDFA around June 2005. In September 2005, a letter issued by the Assistant Secretary, Environment Division of the DoEHLG confirmed that the Department, following a detailed technical review, had no objection to Dublin City Council proceeding to enter into contractual arrangements based on the documents received. The Project Agreement between the PPP Company and the Dublin local authorities was signed on 4 September 2007.

Planning Consent, EPA Licensing and CER Approval

The project required planning consent, a waste licence and relevant approvals from the Commission for Energy Regulation (CER). Planning permission was granted by An Bord Pleanála in November 2007. The Environmental Protection Agency (EPA) subsequently granted a Waste Licence for the facility in December 2008. The licences from the CER were granted in September 2009.

These consents allowed the facility to accept up to 600,000 tonne per annum of non-hazardous municipal and industrial wastes. The consents were underpinned by EU, national and regional waste policy as clearly set out in the legally adopted Waste Management Plan for the Dublin Region 2005 - 2010.

A Project Board meeting was held on 14 May 2007, at which Dublin City Council requested approval to proceed to finalise the Project Agreement with the PPP Co. The Project Board decided that approval to award the contract for the project would be given in accordance with the original sanction. The Project Agreement was executed on 4 September 2007.

Delays to the DWtE Project: Legal Challenge to Variation to the Dublin Region Waste Management Plan 2005 to 2010

A variation to the Waste Management Plan 2005 – 2010, adopted by Dublin City Council on 3 March 2008 and considered an important step towards realising the project by ensuring that the local authorities would retain control of municipal waste, was challenged in the High Court by two private waste operators, Panda Waste and Greenstar. In a judgment delivered on 21 December 2009 (the “*Panda Waste*” judgement), the High Court prohibited the variation on the grounds that it was anti competitive.

The *Panda Waste* judgment effectively prohibited the Dublin local authorities from adopting a tendering system of competition ‘for’ rather than ‘in’ the local waste collection markets. Not only did the judgement seriously limit the ability of the Dublin local authorities to effectively regulate local waste collection markets it also raised serious doubts regarding the legality of the

Dublin local authorities seeking to direct waste collection firms to use a particular waste disposal or waste recovery method or facility for waste collected within the Dublin area.

In light of this judgement and the increasing penetration of private firms in the Dublin household waste market the Dublin local authorities could not be certain to deliver or arrange delivery of 320,000 tonnes of waste per annum to the planned Poolbeg facility. As a consequence the ‘*put or pay*’ guarantee in the Project Agreement had to be revisited.

Delays to the DWtE Project: Complaint to the Competition Authority

In February 2010, a complaint was made to the Competition Authority by the Irish Waste Management Association alleging that the PPP Contract was anti competitive. In July 2010, the Competition Authority notified Dublin City Council that there was no breach of Irish competition law

Delays to the DWtE Project: Failure to Secure Foreshore Licences

The project encountered further delay in obtaining necessary foreshore licences to facilitate construction. An application for these foreshore licences was lodged by Dublin City Council to the Minister for the Environment, Heritage and Local Government in August 2008. However, by January 2010 the licences still had not been granted. As a result, the relevant sites had to be acquired by compulsory purchase order, a process that took until November 2010.

Delays to the DWtE Project: EU Complaints

The Project was the subject of complaints to the European Commission which alleged infringements of both State Aid and public procurement requirements. Following discussions with the Commission, the Authority has received a communication from it to the effect that it is no longer pursuing any of the complaints which have been made to it to date on public procurement grounds. The Authority also had interactions with the Commission in relation to various complaints relating to possible unlawful State aid. The Commission has determined that the project does not involve State aid.

Expenditure on the DWtE Project

The total spend to 31 July 2014 on the DWtE project was €97.436m. The breakdown of this expenditure is shown in the table:

COST ELEMENT	AMOUNT €m
Client Representative Contract	€30.579
Consultancy (include. reports on site selection, EIS, Planning)	€1.351
Site Acquisition	€52.278
Legal fees (not associated with site acquisition)	€1.857
Public Relations etc. (includes local office and staffing)	€4.338
Statutory fees	€0.186
Site Management, security and monitoring Costs	€4.217
Other (Inc DCC Project Engineer & other Staff costs)	€2.630
Total	€97.436

A breakdown of the €52.278m land acquisition costs is given below:

COST ELEMENT	AMOUNT €m
Dublin Port Company	€8.500
Westway Terminals/Hibernian Molasses (incl. replacement site cost & building of replacement facility)	€31.004
Clearways / Hammond Lane	€8.952
Legal & Professional fees for all parties, stamp duty, financial valuations/advices	€2.979
CPO costs & Professional fees/reports/attendance at Oral Hearings, experts reports etc	€0.843
Total	€52.278

An amount of €4.537m was refunded to Dublin City Council by Dublin Waste to Energy Limited (the PPP Co.) in relation to site planning, EIS etc. costs upon signing of the contract. A grant of €7.5m was received towards the cost of the project from DoEHLG.

The Design Capacity of DWtE Facility

In July 2014, the Commission adopted a new waste policy package entitled ‘*Towards a circular economy: A zero waste programme for Europe*’. The Commission’s zero waste programme places a ban on the landfilling of all recyclable and biodegradable waste by 2025. The Commission has also set mandatory target recycling rates for Member States – 50% by 2020 and 70% by 2030. Meeting these goals will require an increase in recycling rates and in the capacity of final treatment plants at European level in order to process residual waste streams.

An analysis of the waste market in Ireland undertaken by RPS on behalf of Dublin City Council has shown that there will be sufficient waste volumes within the market to support the development of the DWtE facility at its contracted capacity while at the same time meeting European Commission mandatory recycling and landfill diversion targets.

It is also important to point out that the capacity of the DWtE facility was the subject of independent statutory reviews by both An Bord Pleanála and the Environmental Protection Agency (EPA) respectively. Planning permission was granted by An Bord Pleanála on 19 November 2007. The Environmental Protection Agency subsequently granted a Waste Licence for the facility in December 2008.

The DWtE Technology

The Project will utilize state of the art ‘*conventional thermal technology*’, which is currently the most proven technology available for WtE facilities. It will incorporate advanced equipment, components and systems to provide superior performance from an environmental, efficiency and reliability perspective.

The process will consist of delivery of municipal solid waste to the facility by truck, where it will be deposited in a storage bunker, from which it will be fed into one of two thermal units. The thermal units will consist of moving grates, high efficiency boilers, air pollution control

equipment and other associated auxiliary equipment and services required for efficient and environment-friendly conversion of waste energy to electrical power.

The project is anticipated to process approximately 600,000 tonnes per year of waste, thereby reducing dependence on landfill, and the steam generated by this process will drive a turbine generator producing electricity that will be delivered to the local electricity distribution system. The turbine electric power output is approximately 60MW, enough to power the equivalent needs of 80,000 homes.

The plant has also been designed with technology and infrastructure to generate thermal capacity of 90MW, an environmentally efficient source of heating, for future district heating for nearby residential and commercial buildings. This would provide enough heat for the equivalent needs of over 50,000 homes.

Residues from the process will be transferred to an offsite processing plant for recovery of metals and production of aggregate material, which may be used for various construction applications or to secure the voids of depleted salt mines.

Air pollution control equipment will be provided that will allow improved performance over the emission requirements of the EPA licence. Additionally, the facility includes a “polishing” wet 2-stage scrubber. This solution implements the very essence of BAT capable of going well below the present EU requirements. This system allows an added measure of redundancy in the air pollution control system. The plant will also be equipped with an advanced continuous emissions monitoring system which will continuously display and report the various environmental parameters required by the EPA licence.

Cooling of steam in the main condenser and bypass condenser will be accomplished using water from the nearby River Liffey. Such seawater-cooled condensing system offers increased electrical efficiency over ordinary air-cooled condensing systems.

The facility design incorporates components and an approach which will produce levels of energy efficiency that are among the highest in the industry. High pressure, superheated steam generated in the two boilers will be supplied via the main steam header to the turbine generator, where electricity will be produced for distribution to the electrical grid and for in house use. In addition, variable frequency drives and high efficiency motors will be utilized to reduce in-plant power consumption demands where appropriate.

The mass burn technology which the DWtE facility will rely on is considered the optimal technology choice for a number of reasons including the following:

- it is a safe, tried and tested technology,

- it is suitable for large scale facilities,

- it can meet stringent environmental standards and

- it is commercially and technically well established and proven throughout the world in dealing with rMSW - a diverse and challenging fuel source.

The technology has been developed over several years with a focus on making the process more efficient and improving environmental performance. The 28% net electrical efficiency that will be achieved by the DWtE facility is at the top end of performance compared to WtE plants elsewhere.

As part of the development of waste management strategy a detailed assessment of the potential of Mechanical Biological Treatment (MBT) was carried out. This found that MBT did not offer any significant advantages and would prove less sustainable. It is worth noting that the remaining fraction under MBT ends up in a WtE facility or in landfill. Alternative thermal treatment technologies were also considered including gasification and pyrolysis. These were considered to be emerging technologies which have not been operated at the scale required by the region. They are also costly to operate relative to WtE. This is still the position.

Bio ethanol technology which is being promoted for Dublin was also considered. However, while the concept has been proven in scientific trials, there are no commercial scale reference plants built or operating anywhere. There is a vast difference between a scientific concept and a fully-fledged commercial undertaking. In commercialising the concept of bio ethanol there are a significant number of obstacles to be overcome including fuel preparation, energy input required, ethanol output and the production of residuals. Individually, any of these can produce significant negative impacts on the economics and blunt the commercialization of the technology. Any investment at this stage would be extremely risky and it is highly doubtful that any commercial funder would fund a project of this type until it is commercially proven.

Covanta

Once constructed the shareholder of DWTEL will be Covanta Energy Corporation. Covanta is a public company listed on the New York Stock Exchange and the largest operator of waste to energy facilities in the world. The company has more than 25 years of operations and maintenance experience and currently operates over 40 WTE facilities in the Americas, Asia and Europe, processing in excess of 20 million tonnes of residual municipal, commercial and industrial waste each year to generate clean, renewable energy.

The operation of 40 WTE facilities worldwide equates to nearly one million boiler operating hours per annum. Their compliance record as measured by continuous emission monitoring equipment is among the best in the industry and exceeds 99.9%, with a corporate goal of continuous improvement that includes 100% compliance with all environmental standards and stack emission limits. Their facilities also routinely operate substantially below permitted levels yielding aggregate emission levels, which are below the environmental standards. Most importantly, no human health issues have ever arisen from Covanta's operation of WTE facilities.

The Suitability of the Poolbeg Site

The siting of the facility was the subject of independent statutory reviews by both An Bord Pleanála and the Environmental Protection Agency (EPA) respectively. Planning permission was granted by An Bord Pleanála on 19 November 2007. The Environmental Protection Agency subsequently granted a Waste Licence for the facility in December 2008.