

Covanta plant will generate electricity for 80,000 homes and heating for 50,000 homes

The Dublin waste-to-energy plant in Dublin Port will begin test operations on a phased basis in the coming weeks, and is expected to be fully operational by mid-year.

Built over the last three years by Covanta, a world leader in providing sustainable waste and energy solutions, the plant will process 600,000 tonnes of residual municipal waste each year, with the bulk of this material coming from the Dublin area.

The project is a public private partnership (PPP) between Covanta and Dublin City Council (acting on behalf of the four Dublin Local Authorities).

Up to now, the waste that will be treated in Poolbeg was either buried in landfill sites in counties around Dublin or, increasingly in recent years, was exported to waste-to-energy plants in Europe to generate electricity and district heating.

In 2016, Ireland exported close to 500,000 tonnes of residual municipal waste which is neither environmentally sustainable, nor economically sound.

Once fully operational, the Poolbeg plant will generate 60 Megawatt hours (MWh) of electricity for export to the national grid every year (equivalent to the amount of electricity used in 80,000 Irish homes). Another significant benefit is that it will offset the need to import 250,000 tonnes of fossil fuels, such as coal, each year to generate electricity.

The plant is also capable of producing district heating for up to 50,000 homes and, in the coming years, Covanta will be

working with DCC, planning to make this a reality. Certainly if the plans to build thousands of new homes at the nearby Glass Bottle site come to fruition, having this district heating capability readily available would be a major advantage.

Covanta contracted Hitachi Zosen Inova (HZI), the world's leader in the construction of waste-to-energy plants, to build the Poolbeg facility. HZI is the expert in this sector, and since 1933 it has built over 500 facilities worldwide, with 70 being constructed since 2000 (29 of them in Europe).

The plant will provide about 100 permanent direct and indirect jobs when it is fully operational.



Aerial shot of the Covanta plant, and John Daly, Managing Director, Covanta Energy Ireland Limited.

Allaying public concerns about the Dublin waste-to-energy plant

"I fully recognise that people living in Dublin, and in particular people living in the vicinity of the plant at Irishtown, Ringsend and Sandymount have concerns about the impact of the plant".

This frank statement comes from John Daly, Managing Director of Covanta Energy Ireland, who is anxious to assure people that they have nothing to fear. "Covanta is the world leader in turning waste into energy, and its record across the 42 plants it operates is outstanding. In the United States, for instance, it consistently better the emission levels permitted by the US EPA, and by a considerable margin".

John also points out that the Poolbeg plant has been subjected to the most rigorous planning and environmental licensing standards.

"The Irish EPA will be onsite here, undertaking constant monitoring, and regular data reports will be available to the public on our website. We will also have a public office here where people can drop in and see the data returns for the plant when it is up and running".

Stressing that Covanta is committed to operating "an open-door policy" with the local community, John also said that arrangements will be made for people who are interested to visit the plant. "The company has invested €500 million here, and it has been built by the leading company in this business, Zurich-based Hitachi Zosen Inova, which has delivered 250 similar plants within Europe, 29 alone have been constructed since 2000.

"The plant represents state-of-the-art engineering and environmental solutions for the treatment of residual municipal waste by turning it into electricity and – when the necessary distribution infrastructure is in place – also providing district heating. So I believe this is a win-win for everyone concerned with protecting and enhancing our environment and disposing of residual waste in a sustainable way", he adds.

John Daly says there will be no discernible noise from the plant, and no odours either. The only emission from the Poolbeg plant will be vapour from the stack.

This will start occurring from late March when commissioning commences. "The emissions from the stack are subject to stringent EU standards, and will be monitored by the EPA on an ongoing basis in accordance with our licence".

The total number of truck deliveries per day will be approximately 120. When averaged over 14 hours each day, Monday to Saturday, during which deliveries are permitted, this is less than nine trucks per hour.

"I genuinely believe there won't be any noticeable adverse impact from the truck movements, the vast majority of which will access the plant via the Port Tunnel. Indeed when you consider that we had an average of 400 workers coming to the site on a daily basis as well as building material deliveries during the construction period, I think this puts the matter in perspective."

Covanta has requested Dublin City Council to pull back the start of truck deliveries to the plant, from the permitted time of 8 a.m. to 6 a.m. John

explains the background to this: "Under the conditions of the plant's EPA licence, deliveries may be made from 8 a.m. to 10 p.m. from Monday to Saturday. This approval dates from 2007, at which time waste collections in the Dublin area were mainly undertaken by the Local Authorities and started at 8 a.m. In the interim, the Local Authorities have exited this business and waste collections now commence earlier each morning around the city. We are seeking approval to vary the waste delivery times to 6 a.m. - 9 p.m. from Monday to Friday, and for Saturday from 6 a.m. to 3 p.m.

"These alterations, especially the earlier 6 a.m. daily start, would flatten out the traffic movements to and from the plant during the morning rush hour period, and would have a positive impact relative to the original planned traffic movements".

Covanta: the world leader in converting waste to energy

Meet the team responsible for operating the Dublin plant.

In Dublin, the Covanta team is led by John Daly, Managing Director, who took up the post in April 2015. Prior to that, he worked with Bord na Mona, where he was Head of its Resource Recovery Unit since 2013 managing the commercial and domestic waste business across seven sites in the Republic.

Prior to that John held positions with Kingspan Environmental & Renewables as Divisional Operations Director, Onyx Ireland Ltd. (Veolia Group) as Managing Director. He has also served as Deputy Chairman of the Irish Waste Management Association.

The Business Manager, Kieran Mullins, has 18 years' experience in the waste industry. He has held several senior roles in the non-hazardous waste business within the Veolia Group and headed up their hazardous waste business in Ireland for the five years prior to joining

Covanta. Kieran has been a Director of the Irish Waste Management Association since 2005 and was Chairman from 2013 - 2016. He joined Covanta as Business Manager for the Dublin Waste to Energy project in September 2015.

The Operations Director at Poolbeg is Tom Eriksen, who has 30 years' experience with Covanta in the waste-to-energy industry and has managed four different plants for the company, the last being a 1.1 million tonnes per annum facility in Miami, Florida. Tom is quick to point out that Poolbeg is the most technically advanced facility he has seen and is indeed the Rolls Royce of plants. Most importantly for Dublin, he has been involved in the successful start-up of three other WtE plants in the United States but feels the team he has assembled here in Dublin is the most

highly educated and experienced staff ever recruited to startup and operate a WtE plant.

The Operations Manager is Donal Fanning who has twelve years' experience in the construction, commissioning, maintenance and management of power plants in Ireland and abroad, including coal, peat and biomass plants – but was living a kilometer from the plant in Ringsend! He also managed the Tynagh power plant in Galway prior to joining Covanta.

John Daly has no doubt about the quality of the management team he has assembled: "This is the most experienced team ever organised for the start-up of the best facility in the world. The majority of our employees are local and we are delighted that we have also been able to recruit several members of our workforce from the St. Andrews Resource Centre on Pearse Street".



→ John Daly - Managing Director, Covanta Energy Ireland Limited.



→ Kieran Mullins - Business Manager.



→ Tom Eriksen - Director of Operations.



→ Donal Fanning - Operations Manager.



Pictured with the Director of Operations, Tom Eriksen (centre) are (left to right): Stephen Byrne - Lead Mechanic, John Finnegan - Shift Supervisor, Conor Wallace - Lead I&E Technician, John Comey - Shift Supervisor, Tom Eriksen - Director of Operations, Donal Fanning - Operations Manager, Tadgh O'Connor - Shift Supervisor, Robert Andrews - Shift Supervisor, Stephen Murphy - Shift Supervisor.

The Block in the Bay!

With apologies to Otis Redding, we were wondering what nicknames might emerge over time to describe the Dublin waste-to-energy plant.

Dubliners have a knack of coming up with memorable alternative names for some of our most noted landmarks. Hence the Molly Malone statue (the Tart with a Cart); the Phil Lynott statue off Grafton Street (the Ace with the Bass); the two old ladies at the Ha'penny Bridge (The Hags with the Bags) or The Spire on O'Connell St. (The Stiletto in the Ghetto).

In that light-hearted spirit we would like to get your suggestions for appropriate nicknames for the Dublin waste-to-energy plant. Send your entries to Ursula (UMcGuinness@covanta.com), and the winning entry will receive a €500 holiday voucher.

The Dublin waste-to-energy plant as seen from Strand Road, Sandymount.



Fifty-five people from the local Unemployment Centre got jobs at the Covanta construction project

During the building of the Dublin waste-to-energy plant, Covanta was delighted to be able to provide jobs for 55 people from the local Eastside + Docklands Employment Service, and a number of these have now secured permanent employment at the facility.

The Managing Director of Covanta, John Daly, said the company had made every effort to optimise the number of employment opportunities for local people who were on the Live Register.

"While a lot of the construction jobs were very specialist, given the nature of the work involved, and the various sub-contractors also had their own employees to bring on site, we made every effort to ensure that, whenever possible, we gave priority to people from the local Unemployment Centre, and I want to

express my thanks to Jim Hargis, the Employment Services Co-ordinator at the Eastside+Docklands Employment Service".



Mr. Hargis said that by mid-January this year they had placed 55 people in a variety of positions, from administration to roofing to general operatives, with the vast majority of these coming from the Ringsend-Pearse Street area.

"We calculate that we filled just under 70% of the vacancies generated on the site".

He said they had met Covanta on a regular basis and lobbied each of the subcontractors in turn to provide job opportunities "Covanta attended each of these meetings to good effect. We also agreed with them that a number of the placements onto the site could be made permanent"

Mr. Hargis also said that the Eastside + Docklands Local Employment Service

was delighted with the outcome of its engagement with Covanta. "They have employed a good proportion of local labour on the site, and the relationships developed have improved our understanding of how we can make another scheme of this scale work.

"This project is by some degree the most successful audited local labour scheme that we are aware of, and we have recommended the adoption of this approach to other local labour schemes in Dublin and elsewhere", he added.

Covanta's Major Awards for its Environmental Record

As the world leader in waste-to-energy, Covanta's 42 facilities around the world have an excellent environmental track record, and the company is very proud of this. The facilities operate 24/7 and strive for outstanding environmental performance, continuous improvement and compliance 100 percent of the time.

Covanta's facilities consistently operate far better than permitted levels established by regulatory agencies to be fully protective of human health and the environment. The same very high standards will apply at Covanta's Dublin plant.

Here are some of the awards won in recent years:

Covanta Named One of Top 200 Clean Energy Companies Worldwide.



CLEAN200

Covanta received the 2014 Clean Air Excellence Award in the Clean Air Technology category from the U.S. EPA



Covanta and its partners in the Fishing for Energy program received the Coastal America Partnership Award.



Covanta has over 40 sites participating in the U.S. Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP).



Dublin facility is essential infrastructure for the capital and the country

The project is consistent with Regional, National and EU Waste Management Policies.

Ireland's capacity to deal with the treatment of residual municipal solid waste output is at crisis point. With only four landfill sites operational, and no new sites planned, there is a severe shortfall in available disposal capacity in the country.

As a result of the shortfall in disposal capacity, in 2015, 560,000 tonnes of Irish waste was exported to waste-to-energy plants in mainland

Europe, generating electricity, district heating and employment that was lost to this country. This is not a sustainable solution to treating Ireland's waste, either environmentally or economically.

Even if Ireland was to achieve the 50% recycling rate predicted for 2020, there would still remain a need to treat over 1.5 million tonnes of residual solid waste annually.

Dublin has been exporting waste to other counties for disposal over the past 20 years. This infrastructure will reduce Dublin's dependency on these arrangements and allow the capital to become more self-sufficient in managing its own waste. Over 75% of the waste supply that will be converted to energy at the plant will be generated from the four Dublin local authority areas.

Dublin waste-to-energy plant: How it works

There are two combustion lines in the plant each capable of converting 900 tonnes of residual waste to energy each day.

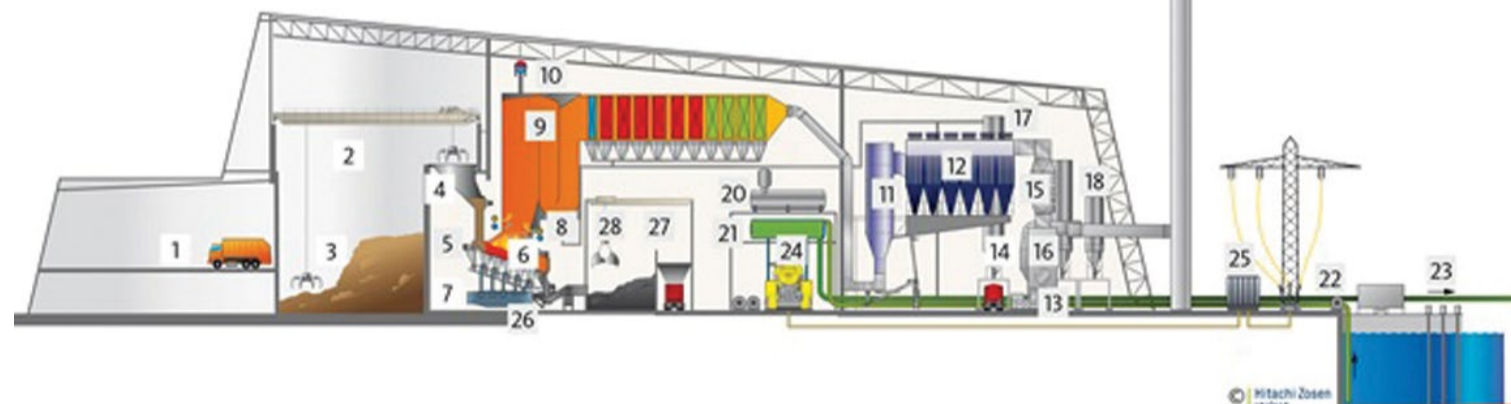
With the plant operating on a 24/7 basis, a total of 600,000 tonnes of municipal solid waste will be processed each year. The facility will generate nearly 100 jobs – 60 full-time jobs and 35-40 full-time contractor/service support roles.

The conversion of the waste will generate 60 MW of electricity which will be exported into Ireland's national grid – enough to power 80,000 homes. To generate this volume of electricity would otherwise require the importation of 250,000 tonnes of fossil fuels, such as coal.

The Dublin waste-to-energy plant also has the capability of generating 90MW of district heating (enough heat for 50,000 homes) and the company will be working with Dublin City Council in exploring the potential for piping this resource to homes in the vicinity of the plant.

The plant will not use potable (drinking) water, and instead will use all the surface water and rain water from the site, as well as grey (waste) water from the neighboring Dublin waste water treatment plant. Cooling water for the plant will

be taken from the Liffey in a loop which does not allow the water to come into contact with anything else, and returns the water to the river while ensuring no marine life is impacted.



Waste Delivery and Storage	Combustion and Boiler	Flue Gas Treatment	Energy Recovery	Residue Handling and Treatment
1 Tipping hall	4 Feed hopper	11 SemiDry reactor	20 Feed water tank	26 Bottom ash extractor
2 Waste bunker	5 Ram feeder	12 Fabric filter	21 Water cooled condenser	27 Bottom ash bunker
3 Waste crane	6 Hitachi Zosen Inova grate	13 Induced draft fan	22 Cooling water pump	28 Bottom ash crane
	7 Primary air	14 Silencer	23 Fish screen and return system/water intake filter	
	8 Secondary air	15 Flue gas heat exchanger	24 Turbine	
	9 Four-pass boiler	16 Wet scrubber	25 Transformer	
	10 Boiler drum	17 Residue silo		
		18 Additive silos		
		19 Stack		

€4.8 million allocated for a wide range of community projects in Irishtown, Ringsend and Sandymount in 2016

To date, Covanta has paid over €9 million out of a total of €10.4 million into a Community Gain Fund, which was established by Dublin City Council in accordance with the planning conditions for the Dublin waste-to-energy plant.

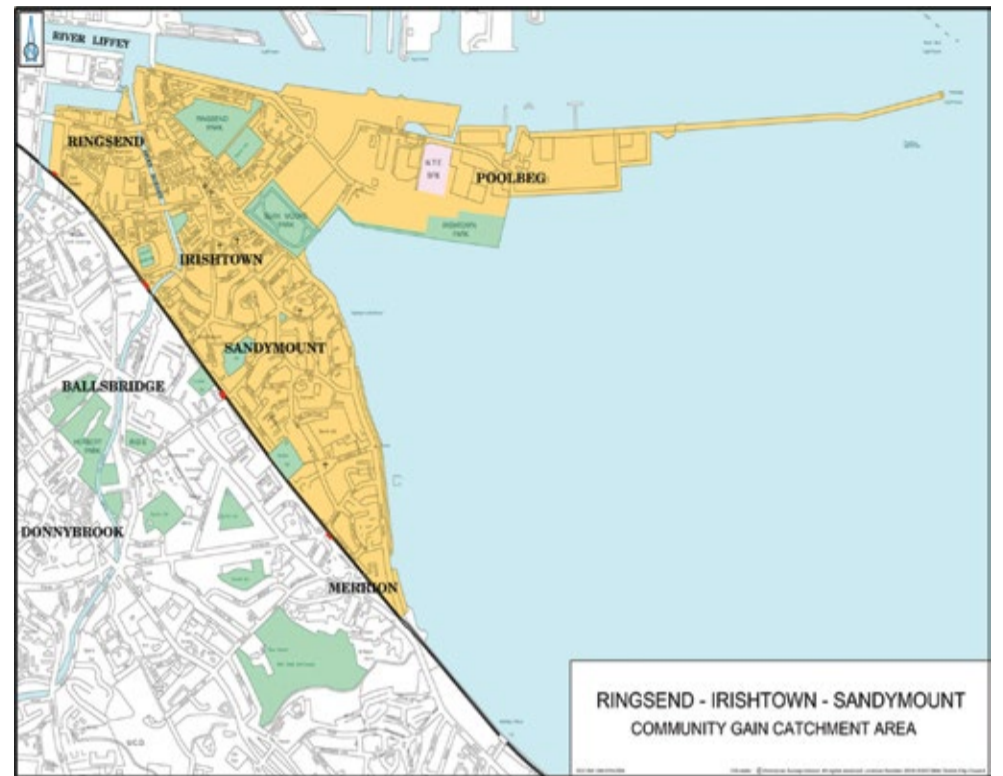
The money comes from a capital contribution by Covanta. In addition, there will be ongoing annual contribution of c.€600,000 from the company based on the annual throughput of waste at the plant in future years.

The aim of the fund is to provide financial assistance to community based clubs/groups, voluntary organisations, schools/colleges and businesses for the development of community, educational, recreational, environmental and local heritage projects and works which will be of benefit to the communities in Irishtown, Ringsend and Sandymount catchment area, as indicated on the map and coloured yellow.

It is administered by a Community Gain Liaison Committee, which includes representatives of Dublin City Council, Covanta and local community personnel. In December 2016, the Committee announced approval in principle for grants totaling €4.8 million for the 32 organisations listed below. These organisations have been informed of the amount approved and advised of the specific conditions that must be met in order to access the grant in each case.

The Dublin Waste to Energy Community Gain Projects Grant Scheme 2017 will be open for applications from the 1st March 2017 to Noon on the 30th April 2017. Full details, catchment area map and application forms are available at <http://dublinwastetoenergy.ie/cglc>

The Managing Director of Covanta Dublin, John Daly, who is a member of the Fund Committee said: "Covanta is delighted to be able to assist such a wide range of worthy community projects which are helping people throughout the Poolbeg Peninsula. You only have look at the various activities of these organisations to see what vibrant communities there are in Irishtown, Ringsend and Sandymount, and I hope this financial support will enable them to work even more effectively and efficiently".



List of Successful Grant Applicants

APPLICANT ORGANISATION NAME	PROJECT TITLE	SUMMARY OF PROPOSED PROJECT
ESB Swimming Club	ESB Swimming Club Capital Equipment	Purchase of Lane Lines, Storage Wheel, Diving Blocks and Dry Land Exercise Machines
Havelock Square Residents Association	The Havelock Square Tree Renovation Project	Removal and Replacement of Trees with Mature Trees of Similar Variety
Irishtown Football Club	Irishtown FC Our Future In your Hands	Purchasing of Equipment for the Club
Marian College	Phase 1: Full Size Sports Hall with a Gymnasium, Phase 2: Attachment of Sports Hall to Pool	Construction Works Associated with Phase 1 and Phase 2 of the Project
4th Port Dodder Sea Scout Group	Heating System	Installation of Gas Supply, Gas Boiler, Water Cylinder and Radiators
Ringsend Community Services Forum	Community Training	Community Training Initiatives
Football Association of Ireland	Equipment and Coaching Programme	Purchasing Equipment for Community Use & Kick Start Coaching Course
Cambridge Boys FC	Club Refurbishment	Associated Club Refurbishment Works
Catholic Men and Women's Society St. Patrick's Branch, Ringsend	Heating System Upgrade	Replacement of Heating System and New Boiler
St. Patrick's Boys National School Ringsend	Ringsend Boys School Play Area Re-Surfacing	Installation of Highly Elastic Surface on School Play Area
Monkstown Football Club	Covanta Monkstown FC and Pembroke CC Community Gain Improvement Project	Refurbishment of Changing Rooms Facilities and Upgrade of Recreational Facilities
Railway Union Sports Club	Refurbishment and Redevelopment Projects	Modernisation and General Improvement of Club Facilities
Clanna Gael Fontenoy GAA Club	Vision for the Strategic Development of Sports and Community Services at Sean Moore Park and Ringsend Park	Upgrading and Refurbishment of Club Facilities
St. Patrick's Rowing Club	Racing Boat for Club	Construction of New Racing Skiff Boat with Trailer and Oars
Enable Ireland	Hydrotherapy/Swimming Pool Refurbishment	Modernisation and Expansion of Facilities
1st Port of Dublin Sea Scouts	Sea Scouting at 1st Port - Our Second Century	Building programme to Include Upgrade of Facilities, Boating Programme and Camping Programme to Include Purchase of Essential Equipment

APPLICANT ORGANISATION NAME	PROJECT TITLE	SUMMARY OF PROPOSED PROJECT
City of Dublin YMCA	Fitness Facility Refurbishment	Purchase of Gym Equipment
Stella Maris Rowing Club	Refurbishment and Redevelopment Projects and Upgrading of Equipment	Club House Expansion, Repairs to Boathouse, Provision of a New Racing Skiff Boat and Upgrade to Current Training Equipment
YMCA Cricket Club	Upgrade of Facilities for YMCA Cricket Club and Provision of Equipment	Upgrading of Facilities and Purchase of New Equipment
St. Patrick's CYFC	St. Patrick's CYFC Upgrading of Equipment	Purchase of Equipment for the Club
Watersedge Drama	Annual Production of Play, This Year: 'The Tenements' Set in 1916	Annual Production in the Community Centre, Ringsend
Bath Avenue and District Residents Association	Bath Avenue and District Residents Association Projects	Provision of Street Planters
Lansdowne Lawn Tennis Club	Green Light	Upgrade Floodlight System to LED System
Shelbourne Premier Racing Pigeon Club	Club House Refurbishment	Associated Club House Refurbishment Works
Susan Hudson School of Irish Dancing	Susan Hudson School of Irish Dancing Costume Upgrade	Purchase of Costumes for Children
Ringsend Girl Guides Unit	Ringsend Girl Guide Unit Projects	Purchase of Equipment for the Unit
St. Matthew's National School	Sports Hall Extension and Refurbishment	Associated Extension and Refurbishment Works
Ringsend College	School "Segregation" and Refurbishment Project	Associated Renovation Works
Ringsend and Irishtown Community Centre Ltd.	RICC Creating a Community Centre of Excellence	Complete Upgrade of Current Centre
Ringsend Active Retirement Association	Ringsend Active Retirement Association Equipment Upgrade	Purchase of Equipment
Ringsend and District Response to Drugs	Renovation and Rewiring of the Existing Building and Upgrade of Bus	Renovation of Building and Purchase of Bus
Iris Charles Centre for Older People	Roof Replacement	Works Associated with Replacement of Roof