

19 INTERACTIONS

In accordance with the requirements of EC Directive 85/337/EC (as amended) and Environmental Protection Agency (EPA) "Guidelines on the Information to be contained in Environmental Impact Statements" and "Advice Notes on Current Practice in the Preparation of Environmental Impact Statements", published in 2002 and 2003 respectively, an assessment of the interactions between various environmental factors was completed as part of this environmental impact assessment. An assessment of interactions between the following environmental media was completed:

- human beings,
- flora and fauna,
- soils and groundwater,
- surface water,
- air,
- noise,
- climate,
- material assets, and
- the landscape

Table 19.1 presents a matrix of interactions likely to occur from the proposed development (highlighted in green). The level of interaction between the various media will vary greatly but the table allows the interactions to be identified and detailed where necessary. If the development does not have the potential to impact or affect the interaction then that interaction is not highlighted in Table 19.1.

The interaction matrix is based on the potential interrelationships of the environmental media primarily during the operation phase of the proposed amended development. Interactions relating to the minor construction works proposed are also considered. Details of individual interactions are presented in Table 19.2.

Table 19.1 Interactions between Environmental Media

	Human Beings	Air	Noise	Landscape	Flora & Fauna	Surface Water	Soils & Groundwater	Climate	Material Assets
Human Beings									
Air									
Noise									
Landscape									
Flora & Fauna									
Surface Water									
Soils & Groundwater									
Climate									
Material Assets									

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Table 19.2 Discussion of Interactions

Media	Interaction	Discussion
Air	Human Beings	<p>Though this application entails only minor construction works these works have the potential to cause a short term impact on air quality primarily generation of dust and the movement of construction traffic. Mitigation measures to prevent such impacts are outlined in Section 19.</p> <p>The amendments detailed in this application entail no significant changes to air emissions as previously modelled. Modelling confirmed that the most stringent ambient air quality standards will not be exceeded. (See Section 7 for additional information relating to air emissions). Similarly, it is considered that the operation of the facility will have no additional impact on human health.</p>
	Flora & Fauna	<p>Dust (relating to minor construction works) and potential air emissions from the process have the potential to affect local flora and fauna. As outlined above in relation to air emissions from the amended facility there will be no significant changes. Detailed air dispersion modelling has shown that the most stringent ambient air quality standards relating to ecology (Council Directive 2000/76/EC) will not be exceeded; therefore no impact on flora and fauna is predicted. (See Section 12 for further information relating to flora and fauna).</p>
	Surface Water	<p>Dust emissions from the facility could affect surrounding watercourses. As the facility is now operated within the limits of Council Directive 2000/76/EC air quality standards, EPA licence W0167-02 and a site specific environmental management plan, no impact on surface water is predicted.</p>

Media	Interaction	Discussion
Air	Soils & Groundwater	<p>A number of Air Quality assessments have been completed for the development of the facility. In 2007, a dioxin uptake study was completed which modelled PCDD/F (dioxin and furan) soil intake using background concentrations in soil and air. This assessment modelled the impact of deposition rates on soil concentrations of dioxins and furans over 30 year operating life of facility. It was concluded that the proposed facility will have no significant impact on dioxin and furan intake for even the theoretical MARI (Maximum at Risk Individual) and that, with respect to intake, the facility will have no impact on human health (See Section 6 for further information regarding dioxins and human health). The proposed amendments result in no change to this conclusion.</p> <p>As the facility is now operated within the limits of Council Directive 2000/76/EC air quality standards, EPA licence W0167-02 and a site specific environmental management plan no impact on soils or groundwater is predicted.</p>
	Material Assets	<p>Considerable research has been undertaken to study the impact of air emissions from waste-to-energy facilities on food produce. As part of the EPAs oversight of the operation of the facility annual surveys are conducted on neighbouring agricultural lands.</p> <p>To date, there is no evidence to suggest that waste-to-energy facilities operating within the stringent emission limits set down in EC Directive 2000/76 on the Incineration of Waste impact on food produce. These stringent emission limits and the World Health Organisation Guidelines have been developed to prevent any impact on public health or the environment, including agriculture. The facility will operate well within these standards will ensure that there will be no negative impacts on agricultural practices.</p>

Media	Interactions	Discussion
<p>Noise</p>	<p>Human Beings</p>	<p>During the very minor construction works proposed by this application, sensitive receptors located in close proximity to the development could experience a slight increase in noise. Mitigation measures presented in Chapter 8 will ensure these impacts are minimised.</p> <p>Results of the noise assessment (presented in Chapter 8) indicate that noise from traffic on the regional road passing the site is significantly more than those related to facility operation. All noise emissions from the facility are maintained within EPA regulatory requirements of 55dB and 45dB L_{Aeq} respectively in accordance with the facility licence. Mitigation measures to prevent exceedances of noise emissions are presented in chapter 8).</p> <p>Local residents and other members of the local community continue to have the opportunity to raise any specific issues, concerns or complaints through the Community Liaison Committee which meets regularly.</p>
	<p>Flora & Fauna</p>	<p>Noise emissions associated with the very minor construction works proposed have the potential to impact on birds or other fauna using the site. Previous bird surveys for the construction of the main building concluded that noise associated with the proposed facility during both construction and operation, will not have any adverse impact on any countryside birds found in this area. It is considered that minor construction works will also have no adverse impact.</p>

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Media	Interaction	Discussion
Landscape		The proposed development comprises minor amendments to an existing industrial development located in a landscape already visually dominated by the industrial complex at Irish Cement, which consists of an array of tall silos and associated industrial sheds.
	Human Beings	A Landscaping Plan for the existing facility has now been implemented in the form of berming and planting. Though these trees, shrubs and berms are still maturing, they are already softening the visual impact of the facility amongst the surrounding landscape and this will improve with time.

Media	Interaction	Discussion
Surface Water	Human Beings	Mitigation measures outlined in Section 11 will ensure that there will be no significant impact on surface water quality or quantity within the vicinity of the proposed development. The proposed development does not entail alteration to the existing drainage network, therefore there will be no potential for flooding of adjacent lands.
	Soils & Groundwater	Though only a limited amount of construction works are required, run-off during these works has the potential to affect the surrounding watercourses if not managed properly. Mitigation measures outlined in Sections 11 and 19 will ensure that run off during the construction period will be controlled.
	Material Assets	The Nanny is an important amenity to the locality in terms of fishing etc. Mitigation measures outlined in Sections 11 and 18 will ensure that the proposed facility does not impact on its water quality.

Media	Interaction	Discussion
Soils & Groundwater	Human Beings	Dust from short term construction works has the potential to give rise to nuisance. Mitigation measures proposed in Section 19 will insure such nuisance does not occur.

Media	Interaction	Discussion
Climate	Material Assets	<p>The contribution of the Waste-to-Energy Facility to total greenhouse gas emissions in Ireland is equivalent to only 0.09% of the Kyoto target for Ireland in 2012, when energy recovery is taken into account.</p> <p>During the incineration of waste at the facility the thermal energy generated by the burning of waste will be recovered and will give an electrical output of about 16.56MW with a net electrical output from the plant for export to the national grid will be 14.49MW. Thus, the export of power will give a direct benefit in terms of greenhouse gas emissions which would have been released in the production of the same power from power stations.</p> <p>The Waste-to-Energy facility will also recover and recycle ferrous materials during the incineration process. The recycling of metals will require less energy than processes using virgin inputs and thus lead to a direct saving in energy and thus GHG emissions. See Chapter 5, 7 and 15 for further information on the process description, air emissions and climate respectively).</p>

Media	Interaction	Discussion
Material Assets	Human Beings	<p>As the facility is now constructed and in operation, it is considered that the impact of the proposed amendments to the facility on property prices will be minimal. There are many similar incinerators operating in Europe many are located in cities, suburbs and other areas close to the main source of waste generation.</p> <p>Due to the strict emissions controls and regulatory compliance that the plant will be working under, no significant negative impacts to adjacent agricultural lands are expected. The potential impacts of this development to agriculture is addressed in relation to soils and discussed in greater detail in Sections 6 and 18.</p>

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