

Environmental and Social Data Sheet

Overview

Project Name: Cardiff Energy from waste CHP plant

Project Number: 2013-0049

Country: United Kingdom

Project Description:

The project aims at the construction and operation of a waste incinerator plant in Cardiff, Wales, UK. The plant will have a nominal waste treatment capacity of 350000 ton/year of non-hazardous municipal solid waste (MSW) and commercial industrial waste (CIW). The project will have a thermal input capacity of 128 MWth, a net power generation capacity of 29.2 MWe.

EIA required: YES

Project included in Carbon Footprint Exercise¹: YES

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The key objective of the project is to improve the waste management system in Cardiff county and surroundings by reducing the amounts of untreated landfilled municipal waste, particularly biodegradable material in line with the EU Landfill Directive 1999/31/EC. The facility will be fully compliant with the revised Waste Framework Directive (2008/98/EC). The project is part of a wider regional waste management plan, designed to improve the Wales performance in waste reduction, segregated waste collection and share of municipal waste subject to recycling and recovery. The plan has been subject to a SEA. By implementing the project, the municipal waste management system of targeted regions will be gradually brought into compliance with EU standards in the sector and it will meet the Bank's policy on environmental issues. The project falls under Annex 1 of the EIA directive 2011/92/EC, and the Industrial Emissions (IE) Directive 2010/75 EU, and accordingly a full EIA has been carried out. The planning permit has been issued by Cardiff Council on June 9th 2010 while the Environmental Permit (IPPC permit) was issued by the environmental Agency on November 4th 2010. The project plant operates a dry flue gas treatment process which incorporates best available air emission abatement technology in line with the requirements of the IE Directive 2010/75/EC. The facility is not expected to have any significant adverse impacts on Natura 2000 sites. The nearest residential property is located about 600 m away. The project has been challenged by an informal organisation, the so-called "Cardiff Against the Incinerator". The High-Court of justice has dismissed all appeals against the plant in March 2014.

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO₂e/year absolute (gross) or 20,000 tons CO₂e/year relative (net) – both increases and savings.

Environmental and Social Assessment

Environmental Assessment

- The key objective of the project is to improve the waste management system in Cardiff County and surrounding areas by reducing the amounts of untreated landfilled municipal waste, particularly biodegradable material in line with the EU Landfill Directive 1999/31/EC.
- The facility will be fully compliant with the revised Waste Framework Directive (2008/98/EC) and with the relevant requirements of the relevant articles of the EU Industrial Emissions Directive 2010/75/EC operating a dry flue gas treatment process which incorporates best available air emission abatement technology .
- The project is part of a wider regional waste management plan, designed to improve the UK performance in minimised waste production, segregated waste collection and share of municipal waste subject to recovery, treatment and recycling.
- The project is fully in line with the main principles driving the solid waste sector such as Proximity Principle, Hierarchy Principle, Life Cycle Assessment.
- The residual environmental impacts will remain acceptable.
- A “Waste and Resources Assessment Tool for the Environment” (WRATE) model has been developed to assess among others the carbon footprint of the project. Different scenarios have been developed in the WRATE model; a baseline scenario (landfilling) and a second scenario (WtE facility). The model has assessed a wide range of environmental impacts. As a result, the absolute yearly GHG emissions of the project are estimated to be -12.8 kt/year of CO_{2eq} (i.e. a carbon saving). This compares to emissions of +38.6 kt/year of CO_{2eq} from the continued landfill disposal of the waste. Therefore, the emissions of the project relative to landfill disposal results in a net saving of 51.4 kt/year of CO_{2eq} for the year 2019/2020. These figures have been elaborated considering the worst case scenario (from a GHG life cycle analysis point of view) that the project would be operating in full condensation mode without any offtake of useful heat. If the heat offtake for district heating and/or industrial uses finally materialise as planned this would result in further substantial GHG saving potential associated to the Project when compared to the current practice.

EIB Carbon Footprint Exercise

The estimated absolute emissions from the project facility have been calculated to 194 kt of CO_{2e}/year, considering the emissions from the fossil share of the waste incineration plant inputs. The baseline emissions have been calculated to 166 kt of CO_{2e}/year, resulting in relative emissions of 28 kt of CO_{2e}/yr. The baseline was defined as a basic MBT facility with bio-stabilisation of all received waste and disposal of the residues. This baseline was selected to meet the EIB recommendations for a credible and legally compliant without the project alternative. The different baseline and boundary conditions used in these calculations explain the difference in results compared to that of the WRATE model reported above. Fossil CO₂ content in the RDF fraction resulting as by-product in the MBT process has not been included in the considerations as this fuel (or waste fraction) is valorised in external energy generation units.

Social Assessment, where applicable

The project has been challenged by an informal organisation, the so-called “Cardiff Against the Incinerator”. The High-Court of justice has dismissed all appeals against the plant in March 2014.

Public Consultation and Stakeholder Engagement, where required



Luxembourg, 16/09/2014

Public Consultation was part of the EIA procedure. By performing this task, Viridor has aimed to address local needs and views while delivering environmentally responsible waste management solutions through a dedicated website <http://www.viridor.co.uk/our-developments/cardiff-efw/>.

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