Luxembourg, 18/11/2014

Environmental and Social Data Sheet

Overview

Project Name:	EGP Powercrop Biomass Programme
Project Number:	*2013 0554*
Country:	*Italy*
Project Description:	*Construction and operation of 2 biomass plants in Russi (Emilia Romagna region) and Avezzano (Abruzzo region).*

EIA required: yes

Project included in Carbon Footprint Exercise[1]: yes

(details for projects included are provided in section: "EIB Carbon Footprint Exercise")

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

This operation concerns the construction and operation of two similar 30MWe wood based biomass power plants located in Italy on former sugar refinery sites. The promoter is a joint venture between a renewable energy utility and an industrial group with experience in the agribusiness sector.

Of the two plants, located respectively in Russi (Emilia Romagna region) and Avezzano (Abruzzo region), only the Russi one was ultimately financed. Financing of the Avezzano plant was abandoned in 2016.

Following the 2006 EU sugar market reform, which led to the shutdown of many sugar factories, sugar refinery owners were allowed to propose conversion plans for their sites, subject to some environmental restrictions. For the Russi site a reconversion into biomass power plants was approved by the relevant authorities. The Russi power plant will also include a 1MWe biogas plant based on the anaerobic digestion of corn silage and pig manure. The plant includes a small rooftop solar PV installation and grid connection to the HV network. The promoter is a joint venture between an international renewable energy utility and an industrial group.

The scheme has a thermal capacity below 300 MWth thereby falling under Annex II of the EIA Directive 2011/92/EC. It has been screened in by the environmental competent authority which required that a full EIA be carried out. The EIA was extensively discussed with the public and all relevant stakeholders. A number of mitigation measures have been agreed during the EIA process to reduce environmental impacts. The EIA has been approved by the relevant competent authorities. Russi has also received the construction permit and is currently under implementation. The main impacts will be related to atmospheric emissions (including nitrogen and sulfur oxides, ammonia, hydrogen chloride and particulate matter), liquid emissions, production of solid waste (in particular combustion ashes) and noise. Since the scheme has a thermal input capacity above 50 MWth the EU Directive on industrial emissions (2010/75/EU) applies and therefore best available technology (BAT) as defined in the corresponding BREF document for large combustion plants will be employed. Emissions of the above mentioned pollutants will therefore be reduced below the limits required by national and EU Law.

[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.

The Russi power plant is located next to a Natura 2000 SPA/SCI ("Bacini di Russi e Fiume Lamone" – IT4070022). and, for the project, Appropriate Assessment under Article 6(3)9 of the Habitats Directive was carried out and concluded that there are no significant effects. .

The forest biomass to energy plant will together require ~265,000 tonnes per annum (tpa) of wood chips (non-dried with moisture around 35%). The biogas plant needs a further 32,000 tpa of agricultural biomass, such as manure and maize silage. The forest biomass is sourced as wood chips locally within a 70-150 km radius around the plant. The local wood resource base is currently underutilized with no significant existing demand. The forest resources are estimated large enough for sustainably supplying chips for the plant. The country has domestic and regional sustainability regulations and standards for forestry management. Contractual clauses have been further included in the Finance Contract to ensure sustainability and traceability of biomass.

The project will generate positive environmental impacts through the generation of renewable energy, the displacement of GHG emissions from fossil fuel and the treatment of animal waste. There will also be positive social impacts through the creation of new employment compensating to some extent the loss of jobs that was caused by the closing down of the sugar factories and beetroot cultivations. In conclusion, considering the environmental impacts of the project, and the mitigation measures proposed the project is considered to be acceptable for Bank financing from an environmental perspective.

Environmental and Social Assessment

Environmental Assessment

Russi power plant

The Russi sugar refinery was shut down in November 2005 ahead of the EU sugar reform. In 2007 an agreement was reached between the local authorities and the promoter for the agro-industrial conversion of the sugar factory into a biomass-fed power plant. Supply chain agreements were signed with local agricultural associations. On the 15th of July 2008 the promoter submitted to the competent authority (the Emilia Romagna Region) its application for the "Autorizzazione Unica" (AU) which is the authorization for the construction and operation of the power plant including also the Environmental Impact Assessment. In March 2011 the project received the construction permit and the EIA approval through a Regional Decree (DGR 395/2011). This decision was appealed to the Regional Court (TAR Emilia Romagna) by WWF and a number of local committees because of the presumed visual impact caused by the project to two nearby monuments (Villa Romana and Palazzo Rasponi). The matter was discussed several times at the level of TAR Emilia Romagna and also of the State Council which issued a preliminary ruling in favour of the project in November 2012. This was followed by a final ruling in December 2013. The decision of the State Council is based on the fact that the visual impact on the two monuments is deemed not significant considering that the project area is an industrial area comprising of a sugar packaging factory and that the promoter has adopted a number of adequate measures (i.e. planting of trees next to the monuments) in the course of the EIA procedure so as to mitigate such visual impact.

In terms of ground level concentration of pollution the province of Ravenna already suffers from high concentrations of pollutants (PM10 in particular). The simulations made by the promoter to estimate the impact of the plant, which were explicitly required by the competent authority in the course of the EIA process, showed however that the contribution of Russi to ground level pollution will be minimal.

The site is located close to a Natura 2000 site: the "Bacini di Russi e Fiume Lamone" SCI/SPA (IT 4070022). This protected area extends over 132ha out of which ~40% consist of either water flowing (the Lamone River) or ponds (the basins of the former sugar refinery and the ponds of Villa Romana). The area also includes six habitats of Community interest (including a priority one) concerning around 18% of the total territory and 13 birds of Community interest. Following the decommissioning of the previously existing sugar factory the area occupied by the water basins will be reclaimed and reconverted to its previous conditions. Prior to the development of the biomass project, the Ministry of Environment had denied its permit for the reduction of the perimeter of the Natura 2000 site, with note n.23386 of 08/10/2008 . Appropriate Assessments (AA) in line with Art. 6(3) were carried out for the respective Natura 2000 sites and concluded that there are no likely significant effects. The AA formed part of the various approvals obtained in the context of the above mentioned "Autorizzazione Unica" procedure.

A number of mitigation measures were finally defined by the EIA to reduce environmental impacts. These measures included the putting in place of an Environmental Management System (EMS)

complying with ISO 14001:2004, carrying out a continuous monitoring of gaseous emissions, the definition of a procedure for the management of the combustion residues that are destined to be sent to the compost plant, the preparation of a feasibility study on the possibility to use a SNCR system for the further abatement of the NOx emissions and the planting of trees next to Palazzo San Giacomo to minimize the visual impact of the boiler building. An air-cooled condenser system is also being used as opposed to a water-cooled one in order to limit water usage from the Lamone River. The EIA also defined a number of compensation measures under the form of the realization of or the economic contribution to a number of municipality projects.

EIB Carbon Footprint Exercise

The project is expected to displace around 94 tonnes of CO2 equivalent per year. The baseline emissions are calculated assuming that the electricity system in Italy can be considered in equilibrium (not high growth) and that RE generation from biomass is firm. Therefore it is assumed that the displaced emission will be 50% based on the emission factor of the operating fossil fuel plants (580t CO2/GWh) and 50% based on that of the new builds (CCGT: 354tCO2/GWh). The resulting emission factor that was therefore considered is 467 t CO2/GWh. For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost'.

Public Consultation and Stakeholder Engagement

The EIA documentation submitted by the promoter to the Emilia Romagna Region for the Russi biomass plant was made available to all interested parties for 45 days between the 27th of August and the 13th of October 2008 in the pertinent offices of the Region and of the provinces and municipalities of Ravenna and Russi. Additional documentation received from the promoter, either on a voluntary basis or solicited by the authority, was also deposited and made available to the public in the same offices during two other 45 days periods in 2009 and in 2010. During these three periods of time and also later more than 700 observations were received. Additional comments related to the power line connection were received in 2011. All such comments were taken into account one way or the other by the promoter and the competent authority in its decision. All the documentation concerning such discussions forms part of the AU documentation package. Besides the consultation with the public and in compliance with national law, the Region also summoned the so called "Conferenza dei Servizi" (CDS) in the quality of competent authority to opine on the EIA and the AU documentation. The CDS is formed by the representatives of various entities such as the Region, the river basin authority, the archaeological and architectural authorities, various municipalities, the air force, health and environmental authorities etc. The CDS took service on the 15th of September 2008 and ended its works at its final meeting on the 28th of February 2011. During such final meeting the CDS provided its approval to the project (the AU) subject to the mitigation and compensation measures defined in the Environmental Impact Study being implemented along with a number of other conditions.