Luxembourg, 15 February 2017

Environmental and Social Data Sheet

Overview

Project Name:	*HYDRO AND WIND POWER IN STYRIA*
Project Number:	*2015-0825*
Country:	*Austria*
Project Description:	*The project comprises investment schemes in the production of electricity from renewable energy and distribution of electricity and gas in Styria, Austria. The electricity generation schemes together with their grid connection facilities include a 16.4 MW run-of-river hydropower plant (HPP) Murkraftwerk in the city of Graz and a 39 MW wind farm Handalm located in the nearby mountainous area of Deutschlandsberg at an altitude of 1,800m. The electricity distribution part covers an investment programme of extensions and refurbishments of the low, medium and high voltage electricity distribution grid in Styria, in order to maintain a high level of security of supply and enable the integration of distributed renewable energy generators. Investments in the gas distribution network consist primarily of works in the medium and low pressure grid networks, both refurbishing and expanding of pipeline networks in order to account for the increase of energy demand and new connections.*
EIA required:	yes for wind farm and HPP
Project included in Carbon Footprint Exercise[1]:	yes

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

Environmental and Social Assessment

Environmental Assessment

All project schemes of this operation fall under Annex II of the EIA Directive.

The wind farm and hydro power plant were screened in by the competent authority and a full EIA has been performed for both schemes, including their grid connection facilities, in line with national legislation. The promoter has provided a copy of the EIA studies, the Non-Technical Summaries and the environmental permits. According to provided documents, no significant risks are expected either from the wind farm or the hydro power plant. Based on technical thresholds in national legislation none of the planned electricity and gas network components of the project are considered to require an EIA. The electricity and heat distribution project schemes are small and scattered around Styria and the city of Graz. They apply standard technologies which are undertaken by an experienced promoter. The impacts that can be expected for the project schemes relate to visual impact (overhead lines), vegetation clearance, noise nuisance, and disturbance during construction that are mitigated according to established practices in the sector.

Overall and in the long-term the project is expected to have a positive impact on the environment. It will increase the production of electricity from renewable sources, partly alleviating energy imports and contributing to the reduction of emissions of greenhouse gases

[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.

and local air pollution. The project supports the Austria's and Styria's objective of increasing the share of indigenous, renewable energy sources in the electricity production. In addition, the project will contain the first large-scale wind farm developed in Styria and therefore will contribute to the creation of local employment.

Electricity and gas distribution network

The Austrian legislation delegates the federal states for the screening activity. None of the planned components of the project are considered to require an EIA and none of them is located in Natura 2000 or any other nature protection zones. Overall the environmental impacts are expected to be modest and mainly relate to noise, vibration, dust, and traffic disruption during the construction and electromagnetic fields (EMF) and noise disturbance during operation. The main impacts occur during construction, are temporary in nature, and are mitigated according to established practices in the sector. Likewise, by virtue of size, nature and location, it is not expected that these schemes will have a significant impact on sites of nature conservation.

The majority of the electricity distribution schemes will concern medium and low voltage activities, which are expected to have minimal impact. Other schemes address 110 kV voltage works that will mostly replace conductors and insulation chains, strengthen and replace pylons of existing overhead lines as well as power transformers and switchgears in existing substations.

The new investments in the extension and densification of the gas distribution network will allow customers to switch to gas-fired heating from other, more CO2-intensive alternatives. Refurbishment and replacement of ageing pipelines will also allow the promoter to reduce leakage in its distribution network.

Wind farm Handalm

The wind farm scheme is in compliance with the regional development plan of Styria and part of the SEA of the wider programme concerning the production of electricity from wind power in Styria (Sachprogramm Wind) in which new locations for the construction of wind farms are proposed within designated priority areas. The scheme is located at least 10 km away from existing Natura 2000 sites or other nature protection zones. The Promoter has also provided a confirmation from the competent authority that the scheme is outside any future Natura 2000 sites considered in Styria. There is an ongoing procedure of designation of Natura 2000 zone at the Koralm which is at distance of around 10-15 km from the wind farm.

The chosen site is located in Alpine region at an average height of 1.800m above sea level. Given the location and the site characteristics, the project will demonstrate applicability on a larger scale of wind farms optimised for the special wind and site conditions in mountainous areas. It was therefore awarded funding from NER300 category: *onshore wind farms optimised for complex terrains (such as forested terrains or mountainous areas).* The scheme will significantly contribute to the promoter's production of renewable energy from wind in Styria in which the promoter currently has only one smaller wind farm in operation (around 6 MW). The Promoter has bought about 15 ha of land which is required for the wind turbines and crane utility space. In addition, servitude contracts required for grid connection, and to ensure the accessibility of the wind farm are signed.

The scheme had undergone a comprehensive environmental impact assessment during the authorisation process, as required by the law and received its environmental permit in April 2014. Biodiversity baseline field studies were carried out and a number of mitigation measures were implemented, such as the selection of the site outside of the main birds' breeding and migratory routes, height limitation and repositioning of some of the turbines, avoiding key habitats (both flora and fauna). The permit includes extensive requirements

concerning biodiversity protection, landscape conservation, health and safety, the aeronautical procedure, and the forestry.

During EIA process, several public objections were raised concerning landscape (land use natural scenery, recreation aspects, cultural assets etc) and wildlife protection aspects (birds, bugs, amphibians, bats, insects etc). All objections were handled within the environmental impact assessment procedure as well as afterwards through the Federal Court in Vienna who both confirmed the validity of the environmental permit issued by the competent authority. As a consequence, the authorities asked the promoter to provide various additional expertise concerning flora and fauna and requested extensive list of monitoring and mitigation measures concerning birds and bats protection. All comments have been analysed and commented by the local and national authority (Federal Court in Vienna) concluding positively on the project, with no significant negative impacts on the environment.

There is no SPA under Birds directive in the vicinity of the site. However, 75 breeding and migratory birds as well as 12 bat species were observed during baseline monitoring. Environmental permit specifies both construction and operation monitoring and mitigation measures for birds and bats. The construction schedule must respect breeding birds' seasons and constant supervision by the biodiversity expert is required during the construction phase. During operation, the promoter is obliged to monitor impacts on the birds and bats during 12 years in three years intervals. Mitigation measures during the operation of the windfarm include shutdown protocols under defined conditions for the birds and bats protection. Concerning birds' protection, the application of the birds' radar is additionally required within the shutdown protocol. This is apparently the first time that such requirement has been put in the environmental permit for a wind farm in Austria, mainly due to the location of the wind farm and the lack of sufficiently detailed data from the background studies on migratory birds in Alpine region of Styria. Due to limited experiences with operational birds' radar units, the fulfilment of this constraint will be discussed with the competent authority in detail before the start of the wind farm commercial operation. Corresponding contractual condition has been requested by the Bank. In addition, three years monitoring of birds and bats is requested for the evaluation of the shutdown algorithms.

For safety reasons in winter, the hiking trails through the wind farm will be marked in such a way that they remain outside the danger zones of the potential ice drops from the wind farm. In addition, warning lights and billboards are required, which underscore the fact that one is entering the wind farm zone. Automatic warning system will be installed ensuring that when the ice or frost is detected at the wind turbine all warning lights are switched on.

<u>Hydro power plant Murkraftwerk:</u>
The scheme is part of the river Mur hydroelectric cascade, upstream from recently built hydroelectric plants Gössendorf and Kalsdorf. Currently, a total of 21 run-of river hydroelectric plants are operational on the river. The water bodies of the Mur river affected by the project are currently designated as heavily modified. The scheme is included inside the national and regional energy and water management plans for the Mur river.

Following an EIA process, the competent authorities granted the relevant 1st instance permit in 2012. The permit was appealed by third parties. Following further detailed assessment by the Austrian environmental tribunal (Umweltsenat), the appeal was dismissed by the Umweltsenat in 2013 and the Federal Environmental Court in Austria in 2014, on the grounds that the project was the best alternative from economic, technical and environmental perspective. The Umweltsenat assessed whether conditions for granting an exemption to the project were in accordance with the relevant legislation in Austria (§ 104a para. 2 WRG be 1959) and in line with Article 4.7 of WFD. This assessment concluded that a) all practicable steps to mitigate the adverse impacts on the status of surface water or groundwater had been taken, b) the promoter had committed to a comprehensive ecological monitoring plan and c)

confirmed the public interest in the implementation of the project and the project objectives (RE production, reduction in CO2 emissions etc.) cannot be achieved by other means. In addition, the Umweltsenat confirmed that potential alternatives (which were also assessed) to the project would either not comply with state-of-the-art technology or would impose disproportionally high cost to the project and subsequently to the public without significantly reducing the residual environmental impacts. The procedure followed appears to be compliant with Article 4.7 of the Water Framework Directive.

The project is located in an urban area, far from protected areas, with no negative impact on any Natura 2000 site. Still, as the project area has some biodiversity and recreational value, the project design includes a large set of landscaping and environmental measures to improve the local biodiversity (fish-otter, reptiles and amphibians, fish and birds) as well as the recreational and landscape value of the area. Impact on migrating fish is mitigated through the construction of fish corridors, with specified seasonal flow rates and subject to a monitoring programme. Protective and rehabilitation measures will be implemented for creeks, streams and sources in the project area. Corridors for game and hunting grounds will be maintained during the works and a network of pedestrian and cycling paths will be established. Finally, the works and operations will be subject to environmental supervision. During construction, monitoring includes forestry, wild fauna, water, agriculture, biodiversity and waste with half yearly reporting. During operations, monitoring will include groundwater monitoring, habitat monitoring, fish-otter and forestry monitoring and a forest improvement project.

Potential negative impacts include noise, dust and traffic during construction, the removal of a stretch of the riparian forest for the construction of an embankment along the river (to be compensated through reforestation in the longer term), impact on local hydrology and hydrogeology and impact on local biodiversity, with limited residual negative and potentially even positive effects in the long term both for terrestrial and aquatic species.

In general, the procedures followed by the promoter are in line with EU and national legislation and the project's impact on the environment is considered acceptable.

EIB Carbon Footprint Exercise

The direct greenhouse gas emission of the wind farm and the hydro power plant are negligible. In accordance with the Bank's Carbon Footprint methodology it is calculated that the total relative effect of these two project components is a net reduction in CO2 emissions by 87 kt CO2e/yr. This calculation assumes that 75% of generated electricity replaces power generation in existing fossil fuel based power plants whilst 25% replaces power generation in new gas-fired combined cycle power plants. For network investments, greenhouse gas savings are attributed to reductions in losses of electricity and natural gas networks. Additionally, for CO2 emissions resulting from new gas customer connections, the alternative assumes consumption of alternative fuels (assumed 50/50 LPG and fuel oil) instead of gas. Overall the entire project (generation plus networks) will result in relative emissions of minus 101 kt CO2-e/a (i.e. savings of 101 kt CO2-e/a).

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 wind farm and hydro power plant schemes have been the subject of extensive public consultation and stakeholder engagement, which is documented in the environmental permits. During the EIA process, both at the local and the national level, comments have been introduced by the stakeholders, including local NGOs. In addition to the public

authorisation process (EIAs) several information meetings with the local communities of Graz, Gressenberg, Trahütten and Osterwitz were held.

Other Environmental and Social Aspects

The promoter is accredited to meet the standards ISO 14001 and OSHAS 18001. Site visits demonstrated the appropriate implementation of health, safety, security and environmental standards. Capacity and management structures of the promoter to address environmental and social impacts are considered to be sufficient to ensure the sustainability of the operation.

Conclusions and Recommendations

The following undertaking is proposed concerning scheme wind farm Handalm:

- Official clarification or interpretation issued by the competent authority related to the mandatory application of the birds radar systems during the wind farm operation, must be provided to the Bank prior to the start of the commercial operation. In addition, the promoter will submit to the Bank regular annual reports of the monitoring of birds and bats during the first three years of operation (as requested for the evaluation of the shutdown algorithms) and the official acceptance approval (operation permit) as soon as available.

Based on the information available and subject to the proposed loan condition, the project is acceptable for Bank financing.

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