Project CZ1000033: **Nitrous Oxide Emission Reductions at Lovochemie**

Host Country: **Czech Republic** **Other parties:** **Denmark** **Expected ERUs in 2008–2012:** **~ 1,250,000 tCO_2e**

The project at Lovochemie in the Czech Republic aims to reduce the level of nitrous oxide (N_2O) emissions in the country's largest fertilizer manufacturer. The greenhouse gas N_2O is a by-product of the production of nitric acid – an essential component of fertilizer. The Lovochemie project comprises the installation of a new catalyst technology in the existing installation for the reduction of N_2O emissions.

Additional benefits: *Based on the JI project agreement, the project will use the additional funds from selling the resulting ERUs for green investments, which will lead to positive environmental impacts of operations at Lovochemie (e.g. rehabilitation of brown fields and optimization of the waste water treatment plant).*

Fertilizer plant, Czech Republic

Project PL1000057: **Łubna, Sosnowiec Łegajny Landfill Gas, Poland**

Host Country: **Poland** **Other parties:** **Denmark** **Expected ERUs in 2008–2012:** **618,996 tCO_2e**

The project activities take place in three locations in Poland and aim to extend the handling of landfill gas by re-establishing and extending the existing plants and pipe infrastructure. The surplus methane from the landfills will be burned in gas-engines, producing electrical power and heat for the nearby communities.

Additional benefits: *The project will result in the following activities: hygienic treatment of the landfill gas, reduction of smell at landfill sites as the methane is burned, production of clean electricity and optimization of collection of landfill gas.*

New methane gas works, Poland

Project RO1000020: **Sawdust 2000**

Host Country: **Romania** **Other parties:** **Denmark** **Expected ERUs in 2008–2012:** **~ 500,000 tCO_2e**

The main goal of this project is to improve the environmental conditions in five towns in central Romania through fuel-switching in the district heating systems. The project was born out of the observation of waste sawdust being dumped in forests in the area. The project puts this waste biomass to use, turning it into the fuel that powers five new boiler plants. The heat and hot water are then distributed to residents of the towns via a new network of pipes installed as part of the project. The sawdust substitutes for the natural gas, oil and coal that were previously used in the district heating systems.

Additional benefits: *The project reduces the environmental impact of dumping sawdust and surplus wood chips in the natural areas and it reduces the tariffs for heat and hot water paid by town residents.*

Sawdust collection, Romania

Project BG1000158: **Bulgarian Small Hydro Power Plant Portfolio**

Host Country: **Bulgaria** **Other parties:** **Netherlands** **Expected ERUs in 2008–2012:** **183,096 tCO_2e**

This project consists of three river-run micro-hydro power plants based in the southwest of Bulgaria. The plants have a total installed capacity of 6.46 MW, while the aggregated annual electrical output of the project is about 41.9 GWh. Small hydro power plants are important for the region as the technology is not widely used.

Additional benefits: *The new investment will generate employment in an economically depressed region.*

Hydropower plant, Bulgaria

Project BG1000172: **Sunflower and Rape Seed Bio-diesel Fuel Production and Use for Transportation in Bulgaria**

Host Country: **Bulgaria** **Other parties:** **Austria** **Expected ERUs in 2008–2012:** **677,216 tCO_2e**

This project produces bio-diesel derived from sunflower and rape crops to substitute for petroleum diesel. The bio-diesel will be distributed on the basis of contracts with independent buyers who are contractually obliged to use it only in Bulgaria. The bio-diesel plant, based in Slivo Pole, will have the capacity to produce 60,000 tonnes per year. The plant will contribute to the economic development of the area by creating new jobs and employing farmers to grow the oil seed crops.

Additional benefits: *Growing the oilseed plants for the bio-diesel will also revive the cultivation of traditional vegetables, which had been planted in the area in the past.*

Bio-diesel works, Bulgaria

Project RU2000022: **Installation of CCGT-400 at Shaturskaya TPP, OGK-4, Moscow area, Russia**

Host Country: **Russian Federation** **Other parties:** **Germany** **Expected ERUs in 2008–2012:** **1,128,924 tCO_2e**

Looking to use the "best available technology" to decrease specific CO_2 emissions, this project installs a combined cycle gas turbine (CCGT) at the Shaturskaya Thermal Power Plant in the Moscow area. This is a highly energy efficient and environmentally sound means of power generation. Electricity produced by the new CCGT unit replaces electricity that was generated using less efficient technology. Less fuel is used to generate the same amount of electricity, thereby lowering CO_2 emissions.

Additional benefits: *The project will replace electricity which otherwise would have been generated by the existing old power plants with higher levels of emissions.*

Thermal power plant, Russia

Project UA2000015: **CMM Utilisation on the Coal Mine Shcheglovskaya-Glubokaya of the State Holding Joint-Stock Company GOAO Shakhtoupravlenye Donbass**

Host Country: **Ukraine** **Other parties:** **Netherlands** **Expected ERUs in 2008–2012:** **852,826 tCO_2e**

The Donbass region of Ukraine is home to most of the country's mining, metallurgy and chemical industries. The CMM utilization project uses coal mine methane (CMM) for heat and power generation. A suction system in the reactivated Shcheglovskaya-Glubokaya coal mine gathers the CMM and channels it into several boilers and power generators, that have been converted to run on the gas. These boilers and generators power heating, electricity and ventilation for the mine, while any remaining CMM is burned off using flares.

Additional benefits: *As the CMM is converted to CO_2 via the process, this reduces the global warming potential of the gas by 87 percent.*

Flare and boiler house, Ukraine

Project LT2000002: **Rudaiciai Wind Power Park Project**

Host Country: **Lithuania** **Other parties:** **Netherlands** **Expected ERUs in 2008–2012:** **231,157 tCO_2e**

This project installed 15 wind turbines in western Lithuania. The turbines are expected to generate about 78 GW of electricity per year, which is fed into the electricity grid, replacing the equivalent power from fossil fuels. The objective of the project is to promote the use of wind power in the country, which has set a goal of 7% of its energy needs coming from renewable sources.

Additional benefits: *Use of the ERUs generated by this project will help to demonstrate sustainability of green energy.*

Windpower in Lithuania, photo by Vidmantas Kniuksta

Project FR1000134: **Substitution de Combustibles Fossiles par des Énergies Renouvelables**

Host Country: **France** **Other parties:** **Germany** **Expected ERUs in 2008–2012:** **384,901 tCO_2e**

Using biomass in addition to fossil fuels has allowed alfalfa farmers in the Marne Valley to decrease their carbon footprint in this project. Around 15 plants that used to dehydrate alfalfa with dryers run on coal now use a mixture of crushed wood and coal for power. Some of the plants have converted entirely to crushed wood. The modifications were begun in 2008/9 and are expected to prevent the release of nearly 400,000 tonnes of CO_2 into the atmosphere during the project's lifespan. The sale of carbon credits will allow for more farmers to use biomass to power their dryers.

Additional benefits: *The project has a direct impact on reducing pollution of soil and groundwater. It also contributes to the maintenance of bodiversity.*

Alfalfa dehydration plant, France

Project RO1000081: **Geothermal Energy in Oradea-area II and Beius**

Host Country: **Romania** **Other parties:** **Denmark** **Expected ERUs in 2008–2012:** **119,267 tCO_2e**

Tapping into the area's abundant supply of geothermal energy, this project provides a stable supply of heat to residents in the cities of Oradea and Beius in Romania. A new district heating component was developed, while an underused geothermal heat/water system already in existence was refurbished. Geothermal energy substitutes for the combustion of natural gas, oil, and lignite in the cities, helping to reduce net CO_2 emissions into the atmosphere. At total of 190,000 tonnes of $C0_2$ is expected to be reduced during the lifespan of this project.

Additional benefits: *The geothermal energy is being used for both space heating and the heating of potable water.*

Geothermal distribution point, Romania