RENEWABLE ENERGY PROJECTS

The Climate Change and Emissions Management (CCMEC) Corporation announced June 16 that it is funding five renewable energy projects, totalling more than $37.5 million. The following summary of renewable energy projects funded by the CCEMC includes descriptive information provided by project proponents:

Organization: Enerkem Inc.
CCEMC Funding: $1.8 million
Project: Reduction of GHG Emissions through Greening Biofuel Production and CO2 Utilization: From Pilot Plant to Commercialization
Location: Edmonton

Enerkem is a developer of community-based advanced biorefineries, founded on its proprietary thermochemical technology, developed in-house since 2000. Enerkem's technology converts residual materials, such as non-recyclable municipal solid waste, into clean transportation fuels and advanced chemicals. Enerkem is a private company, headquartered in Montreal, Canada, and employs over 70 people. The company currently operates a pilot facility and a commercial-scale plant in Quebec. Enerkem is also developing two commercial projects, one in Edmonton, Alberta and the other in Mississippi.

Through this project, Enerkem and its partners will use waste, such wood and straw, to produce clean biofuels, and will also incorporate carbon dioxide directly in the process, demonstrating the potential for greenhouse gas reductions in biofuels production. Developing and testing the optimized gasification process for enhanced GHG reductions, with lower carbon dioxide intensity, will prove the market potential for its use in biorefineries. Tests will be conducted at the Advanced Energy Research Facility in Edmonton. The facility is a joint effort between Enerkem, City of Edmonton, and Alberta Innovates. Once the technologies are demonstrated they will be implemented at Enerkem's commercial waste-to-biofuels facility.

Organization: City of Medicine Hat
CCEMC Funding: $3 million
Project: Medicine Hat Concentrating Solar Thermal Power Project
Location: Medicine Hat

In 1906, Medicine Hat was incorporated as a city. Today, City Council is responsible for developing and evaluating the policies and programs of the municipality and delegating the responsibility for carrying out those policies to Administration. Council's vision for the community is to be a vibrant city with residents, businesses and visitors seeking to make Medicine Hat their "community of choice." Located in southeastern Alberta, the community is thriving with more than 60,000 residents who benefit from more than 100 years of public ownership of natural gas and electric utilities. The City of Medicine Hat employs approximately 1200 people and offers a wealth of services, amenities, and facilities. Medicine Hat has natural gas assets which enable the city to explore alternative energy sources like wind power, solar heating, and a water aquifer to heat and cool homes.

Concentrating solar thermal technology can produce heat, power, and chemicals, using energy from the sun while avoiding burning fossil fuel and its cost and air emissions. Solar thermal technology uses reflecting surfaces to focus sunlight for heat generation. These systems can be combined with fossil fuel processes, yielding hybrid energy systems with lower fuel use and air emissions. The purpose of this project is to install such a hybrid energy system at the City of Medicine Hat power plant to evaluate the technology's potential in Alberta.

Organization: ECB Enviro North America Inc.
CCEMC Funding: $8.2 million
Project: Lethbridge Biogas, Biogas Cogeneration Project
Location: Lethbridge, Alberta

ECB Enviro North America Inc. is a privately owned Alberta corporation formed in 2001 to design, build and operate biogas cogeneration facilities. ECB has developed the Lethbridge Biogas project from 2001 to present, both in-house and through engineering/consulting companies located in Canada and Europe.

Lethbridge Biogas will be a full scale biogas cogeneration project fueled by organics comprised of agricultural manures and food processing wastes. Situated in the County of Lethbridge Rave Industrial Park, Lethbridge Biogas has more than the required amounts of organic "fuel" available within 15 km. Generating electrical and thermal energy through the anaerobic digestion of organics reduces greenhouse gases significantly. Odors are reduced by up to 75 per cent using an innovative biological air treatment system. This facility will be the first to incorporate patented thermal hydrolysis technology approved by the Canadian Food Inspection Agency for the destruction of prions that cause BSE in cattle.

Organization: Plasco Alberta Inc.
CCEMC Funding: $10 million
Project: Plasco Alberta Renewable Energy and Waste Conversion Project
Location : Horn Hill Transfer Station, Red Deer County

Plasco Energy Group Inc. (Plasco) is a world-leading, environmentally focused waste conversion and energy generation company based in Ottawa, Canada. Plasco employs a patented process using plasma arc technology for the conversion of municipal solid waste (MSW) into green power and other valuable products. This unique technology offers a solution for responsible waste management and environmental protection and creates valuable products from a feedstock otherwise considered problematic.

Plasco Alberta will build, own, and operate a Plasco Waste Conversion and Renewable Energy Facility in partnership with Red Deer County - where the site will be located. The facility will receive, process, and convert MSW delivered by the Central Waste Management Commission (CWMC), a municipal commission that is led by Red Deer County and includes eight other communities in Central Alberta. The facility will deliver renewable baseload power to the local distribution network and reduce greenhouse gases.

Organization: Enmax Corporation
CCEMC Funding: $14.5 million
Project: Home generation
Location: Alberta

ENMAX Corporation is a vertically integrated utility that provides electricity, natural gas, renewable energy, and value-added services to its customers. ENMAX, and its predecessors, has provided Albertans with electricity for over 100 years and currently has more than 640,000 customer sites throughout Alberta. It is a wholly owned subsidiary of The City of Calgary, headquartered in Calgary. Its core operations include electricity generation, transmission, and distribution, as well as the sale of electricity, natural gas, and renewable energy products to residential and commercial customers in Alberta. The Corporation takes an integrated approach to risk management and actively manages price and commodity risks inherent in its business.

ENMAX will deliver 9000 turnkey home generation solutions to residential consumers across Alberta resulting in significant emissions reductions.