

CENTRE FOR APPLIED RENEWABLE ENERGY

Project Overview

Background:

With the signing of the Kyoto Accord, the Government of Canada is now implementing a series of environmental policies aimed at reducing greenhouse gas emissions. In Ontario, this has brought about the decision to retire the Province's coal-fired electricity generation plants by 2009. In order to replace this loss in generation capacity, quotas are now being set to provide more of Ontario's energy needs from "green" renewable sources, including wind, bio-mass, photovoltaic and hydro.

To support this policy initiative, the Ontario Ministry of Energy has undertaken two Requests for Proposals for larger energy generation projects. As a consequence, large-scale wind farms are now in the process of being built and commissioned along the Lake Huron and Lake Erie shorelines. With that process underway, the Ministry of Energy has now announced Standard Offer Contracts as a mechanism for promoting the viability of smaller-scale renewable energy projects at the community level. As a result, numerous energy developments are being initiated throughout Midwestern Ontario including wind (Countryside Energy - Bervie), anaerobic digestion (Lynn Farms - Lucan) and bio-fuel crops such as switch grass (Nott Farms - Clinton).

In 2005, Industry Canada commissioned a study to determine the labour force impacts of growth in the renewable energy sector. Best estimates at this stage are for the creation of 13,000 - 16,000 new jobs in all aspects of renewable energy - highly skilled, well paying occupations in the development, management, installation and maintenance of renewable energy systems.

Given the natural advantages of this region of Ontario (access to wind, feedstock crops, animal waste, etc.), Huron County's labour market is poised to benefit from growth in the renewable energy sector. The Huron Business Development Corporation and its partners believe they can make a difference in moving the renewable energy sector forward in this part of Ontario.

The nature of the Job Creation Partnerships project that follows is to ensure that local individuals are able to transition into the labour force by taking advantage of the job growth that is already starting to occur. The proposed term of the project is September 18th, 2006 - September 17th, 2007.

Project Objectives:

- i. To enhance employment skills for re-entry into the labour force for 10-12 eligible individuals by providing employment experience and training in the renewable energy sector.
- ii. To ensure employers in the renewable energy sector have access to a skilled workforce with experience in all aspects of renewable energy.
- iii. To further develop the region's ability to benefit from long-term growth in the renewable energy sector as a source of employment for the local workforce.

Proposed Activities:

Based on our experience to date in Midwestern Ontario, the partners involved in this project have prioritized the following 10 key skills sets for employment growth in the renewable energy sector. Each of these skills sets will have one intern position (called Renewable Energy Leads) attached to them. All of the Renewable Energy Leads will be eligible for participation in JCP. In no specific order, these positions are as follows:

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| RE Lead #1. | technical analysis for identification of potential sites for <u>community hydro</u> generation along regional watersheds, primarily the Saugeen and Maitland watersheds; |
| RE Lead #2. | business feasibility analysis for development of <u>bio-fuel</u> generation from a variety of stock sources, including fibre crops (e.g. switch grass, soybeans) and restaurant waste; |
| RE Lead #3. | business feasibility analysis for development of <u>anaerobic digestion</u> facilities using human and livestock wastes as feedstock; |
| RE Lead #4. | technical analysis and installation skills for small, farmer-owned <u>wind turbines</u> , including wind assessment, grid access, turbine selection, installation (including permitting) and maintenance; |
| RE Lead #5. | <u>homeowner engagement</u> on applicable energy technologies for residential and farm use, including passive solar, photovoltaic cells and geo-thermal; |
| RE Lead #6. | public education related to <u>energy conservation</u> in homes and businesses, including energy audits and options for increased energy efficiency through upgrades and renovations; |

- RE Lead #7. leadership development and capacity building for community-owned renewable energy projects, including public engagement processes, organizational development and project planning & implementation;
- RE Lead #8. co-operative management as it applies to community-owned renewable energy, including membership relations and investment attraction;
- RE Lead #9. education linkages and program development in co-operation with educational institutions to provide formal and informal learning opportunities related to renewable energy in the community;
- RE Lead #10. strategic and operational planning for a permanent Centre for Applied Renewable Energy to focus on on-going demonstration, training and public education related to all aspects of renewable energy in Ontario;

Through the course of implementing the Centre for Applied Renewable Energy JCP project, the participants will gain the following employment skills:

- research methods, technical assessment and feasibility analysis;
- business assessment and planning;
- community development processes, including public relations and public engagement;
- communication and presentation skills, verbal and written;
- organizational skills, including meeting facilitation, board relations and project management;
- adult learning, workshop development and public education;
- conference organization including planning, media relations, promotions, facilitation and reporting;

These skills will be developed as the project progresses along the timeline outlined in the attached Work Plan.

Partner Organizations:

The following organizations are prepared to work with the HBDC in the interests of further developing the region's renewable energy sector as a source of employment and ensuring the effective delivery of the Centre for Applied Renewable Energy JCP project.

- Avon Maitland District School Board
Will provide staff support to assist in examination of opportunities for education programming related to renewable energy; The outcome of this partnership will be a renewable energy demonstration site at a high school in the region. This demonstration site will also be used to complement a new educational program in renewable energies that can be offered to local students. In-kind resources of \$15,000 have been committed to this project by the Avon Maitland District School Board, for new program development.

- Countryside Energy Co-operative Inc.
Will provide staff and board support in creating learning opportunities related to co-operative management in the renewable energy sector; The outcome of this partnership will be the mentoring of 1 Renewable Energy Lead in the creation of learning materials based on Countryside's experiences in developing an energy co-operative. This includes in-kind contributions to a value of \$48,000 which represents the actual costs incurred by Countryside Energy for development of a co-operative organization, co-operative board policies and procedures, and investment vehicles such as a share offering statement.

- Huron County Planning & Development Committee
Will provide oversight and liaise with municipal, farm and environmental groups throughout Huron County to assist to examine the potential for renewable energy use at home and on the farm; The outcome of this partnership will be the development of templates for individual sustainability plans incorporating different approaches to renewable energy use in the home or farm;

- Huron County Water Protection Steering Committee
Will provide oversight for 1 Renewable Energy Lead to liaise with municipal, farm and environmental groups throughout Huron County to assist in examination of anaerobic digestion as a potential energy source; The outcome of this partnership will be the creation of a short list of demonstration sites for anaerobic digestion throughout Huron and Perth Counties as well as a template for other regions to examine the feasibility of similar systems in their community. Includes in-kind contributions of consultant time valued at \$5,000;

- Ontario Sustainable Energy Association
Will provide mentoring and workshop materials related to community engagement processes and leadership development for renewable energy; The outcome of this partnership will be the development and delivery of a series of workshops for community leaders interested in renewable energy. This is an enhancement of the *Community Leaders' Guide to Renewable Energy* produced by OSEA and represents an in-kind contribution of \$36,000 towards the project.

- Saugeen Economic Development Corporation
Will provide oversight for 1 Renewable Energy Leader and liaise with community groups throughout Bruce and Grey Counties to assist in identification of suitable sites for energy generation from hydroelectric sources.

EXPECTED RESULTS AND MEASUREMENT OF SUCCESS:

- 10 Renewable Energy Lead positions will be created and managed under the guidance of a project co-ordinator;

- Given turnover, 12 eligible participants will receive training and work experience through the Centre for Applied Renewable Energy JCP project from September 18th, 2006 to September 17th, 2007;

- Nine participants, or 75% will obtain employment in the community within 3 months of the project completion;

- The following information resources will be created and made available for use by organizations within the community:
 - inventory of potential sites for small hydro-electric installations;
 - business plans and templates for renewable energy enterprises based on bio-fuels and anaerobic digestion processes;
 - shortlist of demonstration sites for anaerobic digestion facilities;
 - information materials for home and business owners related to energy conservation and renewable energy from solar and geothermal sources;
 - development of a renewable energy component to be included in home and farm sustainability plans;

- community leader workshop materials and learning resources (incl. co-operative development) related to all aspects of renewable energy;
 - a strategic and operational plan for a proposed permanent Centre for Applied Renewable Energy;
- Learning materials, including workbooks and workshops will be tested in the field in the following manner:
- 12 farmer consultations involving wind, bio-fuel and anaerobic digestion will take place;
 - 12 homeowner consultations will take place involving energy conservation methods combined with photovoltaic, passive solar and geothermal sources of home energy;
 - 3 workshops will be held for Community Leaders in Renewable Energy with a target participation of 60 individuals at those workshops.
- Once finalized, these learning materials will be unveiled at a regional conference organized by the JCP participants and scheduled for September 2007. The target for attendance at that conference is 150 people.
- As part of the conference evaluation, 75% of respondents will indicate that the materials and presentations provided in workshops will be useful to them in applying renewable energy in their communities.