



# Member's Handbook

Information for potential, new and existing members

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# Introduction

This, LIFE (Local Initiative for Future Energy) Co-op's member handbook, is designed to educate members and those interested in our co-op about LIFE's current situation and to provide basic information on the renewable energy resources that LIFE is pursuing.

## About LIFE Co-op

### Our Mission

LIFE Co-op is a progressive local initiative built on environmental and quality of life principles. LIFE was formed to find ways to reduce our dependency on non-renewable energy resources. Our co-op is a for-profit business venture that is an attractive investment vehicle for members of the community.

### Our Vision

To foster community investment in sustainable resources to reduce our environmental footprint.

### Our Goals

- To install a wind turbine generating up to 2 MW of power within the Region of Waterloo and Wellington County, and use the experience gained from this installation for future wind installations.
- To develop a prototype biogas installation using the co-operative model, and use it for further biogas development and as a training site.
- To increase public awareness of renewable energy sources and to demonstrate the viability of a locally owned and operated wind park and biogas installations.
- Through wind and biogas, to provide a substantial portion of clean power to the power supply mix.

### Who We Are

Local Initiative for Future Energy Co-operative Inc. (LIFE) has a volunteer Board of Directors and its advisory council is made up of members of the local community who want to work together to bring renewable energy production to our community. LIFE has an office and information centre in Baden, Ontario.

## **LIFE's progress**

LIFE Co-op is registered as a legal co-operative entity, with established bylaws and policies and procedures, and has a growing membership (81 as of December 2008).

In August of 2008, we installed a 60m meteorological test tower just west of St. Agatha, Ontario to collect wind data for a minimum of one year; this is being audited by a third party. The data will be used to verify the ability of this site to economically power a wind turbine. Prior to this, we collected data at 30m and 40m at selected locations. This preliminary data and the first 2 quarterly reports of audited data helped firm our belief that we can operate a successful wind park in our area.

In 2008 the co-op completed a feasibility study investigating different models of biogas installations. This study showed that the optimum model involves smaller biogas installations on multiple farms with a central organization looking after the daily upkeep, maintenance and sourcing of off-farm waste to be fed into the digesters. The payback on this model is 5 years.

## **LIFE Membership**

### **Why Become a Member?**

Each member of the co-op purchases a membership which allows them a vote in how the co-op is run, as well as an opportunity to receive dividends from the co-op when they become available. The member may also choose to lend money to the co-op. By doing so, the member will receive interest payments on their investment and repayment of the principal. The money lent to the co-op will be invested in renewable energy programs, such as wind turbines, biogas and other alternative energy projects.

### **How to Become a Member**

We encourage you to join LIFE so that you can be a part of the solution to today's energy dilemma. To become a member of the LIFE team, please print and complete the Membership Application Form (available on our website: [www.lifecoop.ca](http://www.lifecoop.ca)) and mail it with your membership fee to:

#### **Local Initiative for Future Energy Co-operative Inc. (LIFE)**

125 Snyder's Road East, Unit A  
Baden, ON N3A 2V4

# Frequently Asked Questions

## What is Renewable Energy?

Renewable energy is energy that has been extracted from nature in a sustainable way that will perpetually be available for future use. Examples of this are wind, water and solar energy. Currently, LIFE is investigating 2 types of renewable energy, wind and biogas. Non-renewable energy is energy that is extracted from nature in a way that it will be depleted. Examples are coal, oil, gas and nuclear.

## Why Should we use Renewable Energy?

We will eventually run out of non-renewable energy, especially at our current consumption rates, which are increasing globally. As we learn more about the negative effects of our energy consumption, we will learn the reasons to not only use renewable energy, but to use it now.

We are all fully aware of acid rain and smog, two by-products of using fossil fuels (coal, oil and gas). We know of the devastation caused by nuclear reactor accidents at Chernobyl and the potential devastation at Three Mile Island. We are learning about the effects of carbon dioxide emissions and global warming and the predictions keep getting worse. We have seen photos of the devastation caused by tar sand extraction, yet we don't even understand the long term effects of this technology on the local environment, and won't fully understand these effects until we see them.

History has shown us over and over again that we do things first and then try to fix the problems later.

## What is Wind Energy?

Wind energy is any type of energy derived from the wind and it can power wind turbines as well as sail boats. LIFE is looking to generate electricity from the wind using modern wind turbines. The wind is used to spin a large turbine (usually with 3 blades); the turbine then transmits power through a gear box to spin a generator. Modern wind turbines are very powerful, efficient and quiet.

When power is generated at large central locations, like in our current system, transmission losses can be quite significant. Wind energy can be very beneficial since the energy production can be generated closer to the end users, reducing transmission losses.

## What is Biogas Energy?

Biogas consists mostly of methane with some carbon dioxide. Natural gas that is delivered to many homes is almost pure methane. Biogas is produced by anaerobic (without oxygen) bacteria as they break down almost any type of organic material. Typically, a biogas installation is located on a farm and supplied with manure and other farm and off-farm wastes.

The feedstock is put into the digester, which is sealed from the air and kept at an ideal temperature to maximize the action of the bacteria. The bacteria then break down the organic matter and produce the methane gas and carbon dioxide that make up biogas. What remains is an excellent fertilizer with almost no pathogens, weed seeds or odour that can be applied to a farmer's fields.

The biogas that is produced can be burned directly to heat a greenhouse or a building, or to heat water; it can be used to power an engine that drives an electric generator. The electricity can then be used on location or sold to the grid. The waste heat from the engine's cooling system and exhaust can also be used to provide heat to the digester, local buildings or to heat water.

## Why a Co-operative?

According to a study published by the Québec Ministry of Industry and Commerce in 2001, the long term survival of co-ops is almost twice that of investor-owned companies. As well, the democratic structure of a co-op was appealing to the founders of LIFE Co-op.

## LIFE Co-op and the Seven Principles

Co-operatives around the world generally operate according to the same core principles and values. How do the seven Co-op principles relate to Local Initiative for Future Energy?

### **Principle #1: *Voluntary and Open Membership***

Membership is open to anyone interested in renewable energy who supports our mission statement "Fostering community investments in sustainable resources to reduce our environmental footprint". Members must be willing to accept the responsibilities of membership as outlined in the membership application form.

### **Principle #2: *Democratic Member Control***

Like all co-operatives, LIFE exercises the one-member, one-vote principle of governance. Members nominate and elect the board of directors at the annual general meeting.

### **Principle #3: *Members' Economic Participation***

The low membership fee allows everybody to participate in the co-operative either through

general interest and support, by becoming a committee member, through their business related to sustainable energy, or by being an investor.

**Principle #4: *Autonomy and Independence***

The renewable energy sector has large capital requirements and co-ops may enter into agreements with other companies or organizations in order to help them finance projects. Agreements are created using terms that ensure democratic control by the coop's members and maintains the co-op's autonomy.

**Principle #5: *Education, Training and Information***

Members of the co-op are able to attend conferences and information sessions that help educate and update them on issues and processes. LIFE Co-op has become an active network for like-minded individuals.

**Principle #6: *Co-operation among Co-operatives***

LIFE shares resources, experiences and other sustainable development information with similar cooperatives.

**Principle #7: *Concern for Community***

LIFE has a concern for the community and its future. LIFE is designed to help members of the local community create alternative energy projects.

## **How Does it Work?**

LIFE Co-op gives you the opportunity to become a power producer and have your share of electricity produced from a sustainable source. When you invest in the co-op, you also receive dividends. This investment supports the co-op in building projects that harvest such renewable energy resources as wind and waste and feed it to the local grid. Your support allows LIFE to build projects.

## **Will This Affect My Hydro Bill?**

No, unless the project is located on your property. You may have a biogas project located on your property if you are a farmer. Commercial sized projects are connected to the grid and the power is sold under the Ontario government's Standard Offer Contract.

## **What Are The Benefits of Being a Member?**

As projects develop, co-op members receive offering statements/prospectus explaining the financial details of each project and are invited to invest. There is moderate payback and LIFE Co-op is only pursuing projects that will give a positive financial payback. The renewable energy industry is one of the fastest growing industries globally.

## When Are the Projects Going to be Running?

**Wind:** Five years including three year delivery time for turbines due to high demand. LIFE Co-op is currently entering its second year of the project development, and is negotiating a potential partnership with an Ontario based wind turbine manufacturer. A \$40,000 grant from the Community Power Fund is supporting the current Feasibility study stage.

**Biogas:** Up and running within one year from the time of site approval. LIFE Co-op is currently contacting local farms with interest in this project. A business plan will be available shortly.

## Do I Need to Volunteer?

No. However, LIFE Co-op will send, periodically in the newsletter, opportunities that arise to be able to join a committee and contribute your skills to a project.

## Get Involved!

### Property Owner Opportunities

Harvesting the wind can be quite profitable if your property is suitably located. Initial development costs and many resources can be shared when partnering with LIFE Co-op. There are a number of different ownership models that make it feasible for landowners to turn wind into a stable, long term income. We invite property owners to come forward and have their land included in our wind Feasibility Study.

### Livestock Operations

**“Powerful waste.”** The goal of the co-op’s biogas study is to develop an ownership model and train a management team that will allow livestock farmers to operate successful biogas installations. These installations would generate methane gas as a power source for gas motors to produce electricity and heat. We invite farmers to have their farm included in the study.

### Volunteer Opportunities

LIFE Co-op is built on volunteers sharing their skills and knowledge, be it by serving as a director on the board, by joining one of the working groups during a specific project, by assisting our staff in some of the tasks in the day to day operation, or representing LIFE Co-op at events and meetings. We are fortunate to have experts from different areas among our members.

## Investment Opportunities

Each project will offer its own investment opportunity as it is developed. A calculator is being prepared that will allow you to match your investment with your electricity needs. In general, a \$7,000 investment in a large wind turbine project will produce the share of electricity needed by an average household.

However, the electricity cannot be fed directly to your home. It must first be sold to the distribution grid and shareholders of the Co-op will receive annual dividends for it. For more information, see information on the Ontario Power Authority's Standard Offer Program at <http://www.powerauthority.on.ca/sop/>

The results of our initial calculations indicate that the new feed in tariffs as proposed in the Green Energy Act will give our projects a payback of 5 to 8 years on a 20 year contract.

[www.greenenergyact.ca](http://www.greenenergyact.ca)

## Biogas Opportunities

The benefits of biogas generation as an energy source are manifold. The skill set of the operator monitoring the day to day operation determines the success. The benefits to the farmer are extra income, home grown energy in the form of gas or electricity, and heat. The benefits to the community and the environment include groundwater protection and reduced odour from manure.

Methane gas, one of the worst greenhouse gases, is captured instead of being released into the atmosphere. Waste material from food processing is turned into compost and returned to the fields instead of overburdening landfills. Biogas installations provide employment opportunities in the rural area.

Contact LIFE Co-op if you wish to join the biogas team and to have your farm considered as a potential production site.

## Contact Information

### **Local Initiative for Future Energy Co-operative Inc. (LIFE)**

125 Snyder's Road East, Unit A  
Baden, ON N3A 2V4

1-888-571-7009 x 543

Email: [life.info@yahoo.ca](mailto:life.info@yahoo.ca)