

# Energy Efficiency

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PEI Office of Energy Efficiency

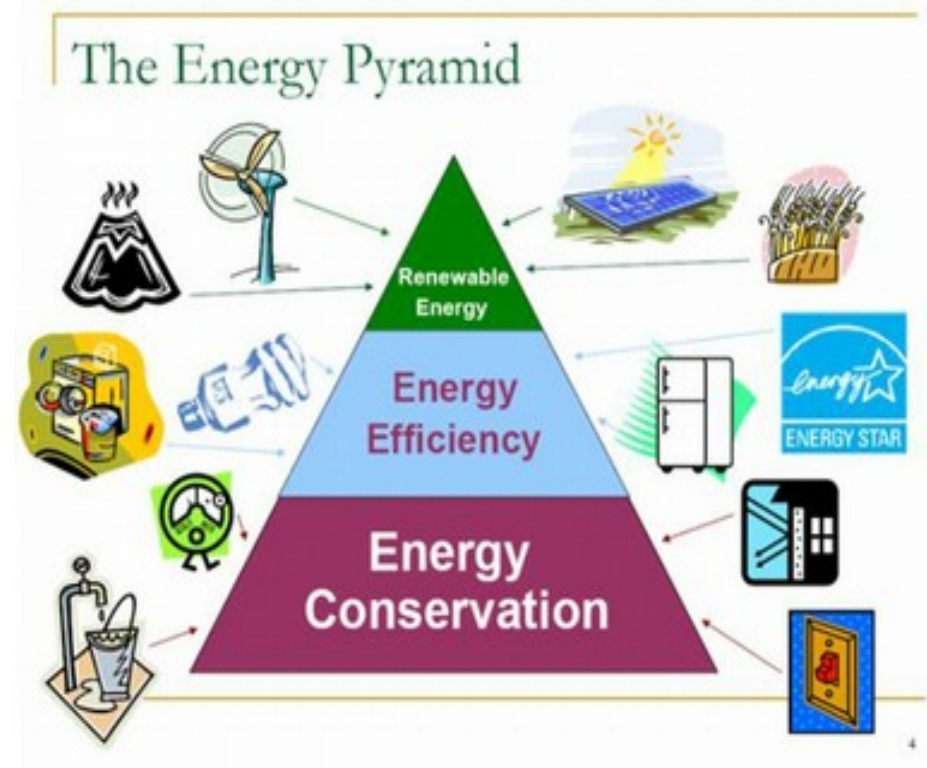
Farm Energy Conference

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# Energy Conservation and Energy Efficiency

- The conservation of energy is the first step and involves changing our behaviors, using less energy and eliminating waste.
- Energy efficiency refers to programs, initiatives, products technologies and systems with the goal: to reduce the amount of energy required to perform the same job or better than conventional means.



# Energy Conservation

- Low-cost, no –cost solutions.
- Eliminate waste.
- Look at operations for potential.
- Ask the silly questions.
  - What is that?
  - Why do I do it this way?
  - Why do I do it at all?
  - Is there a better way?
- Sometimes we need another set of eyes to look at our operations.



# Energy Efficiency

- Once the waste is eliminated then we look at ways to improve on what we are doing now.
- We use:
  - New technology.
  - Integrated systems.
  - New equipment.
  - New or updated processes.
- Ensure equipment is properly sized.
- Need expertise to sift through the options.



# Alternative and/or Renewable Energy Production

- The last piece of the puzzle.
- Most expensive.
- By doing this last ensures you don't overbuy systems.
- Reduce the size of systems.
- Reduce the cost of systems.
- May not even be needed!



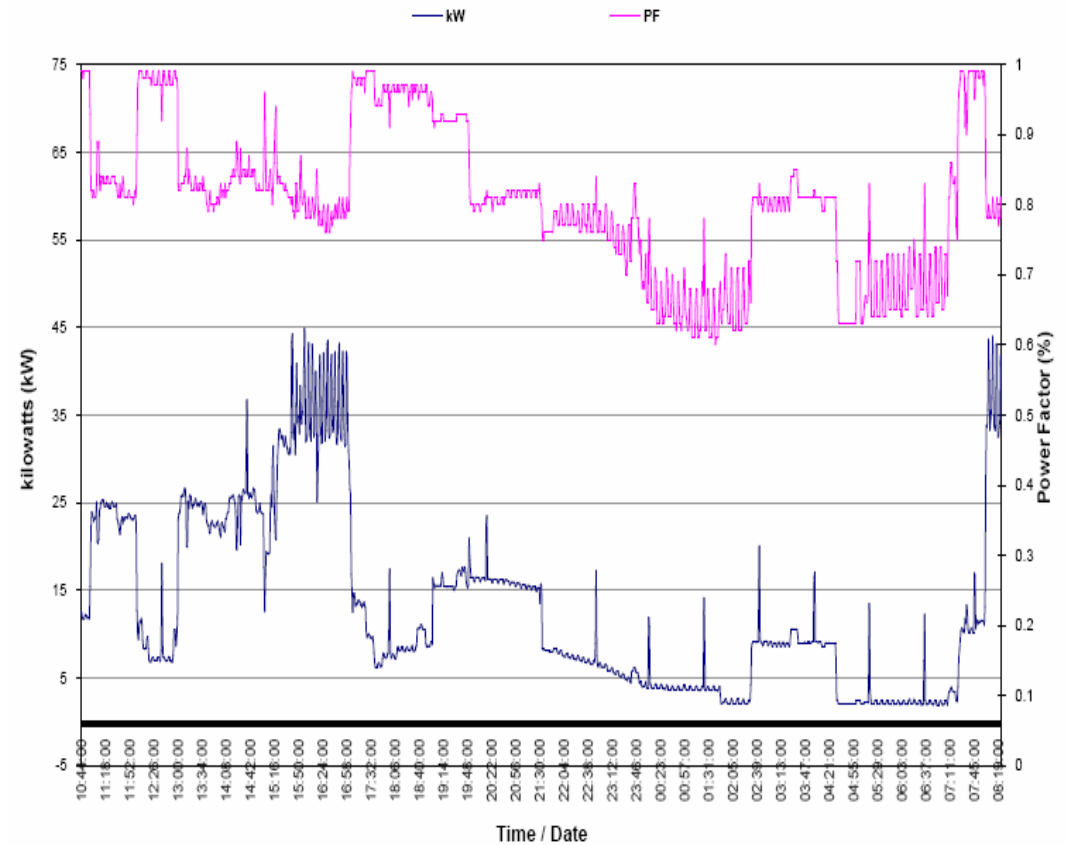
# The Energy Audit

- Must be unbiased.
  - A competent energy audit company will not try to sell you anything.
  - They will provide advice based on the consumption patterns and the needs of your operation.
- Provide a basis for any future changes.
- Will review, analyze and accurately model your current energy consumption.
  - If you don't know how you are using your energy you will never understand how making changes will affect your energy consumption.



# The Energy Audit

- Demand Profile
- Electrical fingerprint.
- Monitors demand, energy and power factor over time.
- Helps to:
  - Understand where you use electricity.
  - Focuses your efforts
  - Establishes a basis for savings calculations.



# The Energy Audit

- The Load Inventory
- An inventory of all electrical consuming equipment, their size, operating hours, and quantity.
- Helps to:
  - Understand what is using your electricity.
  - How much each one uses.
  - Prioritize where to make changes.
- Compared to bills to determine accuracy.

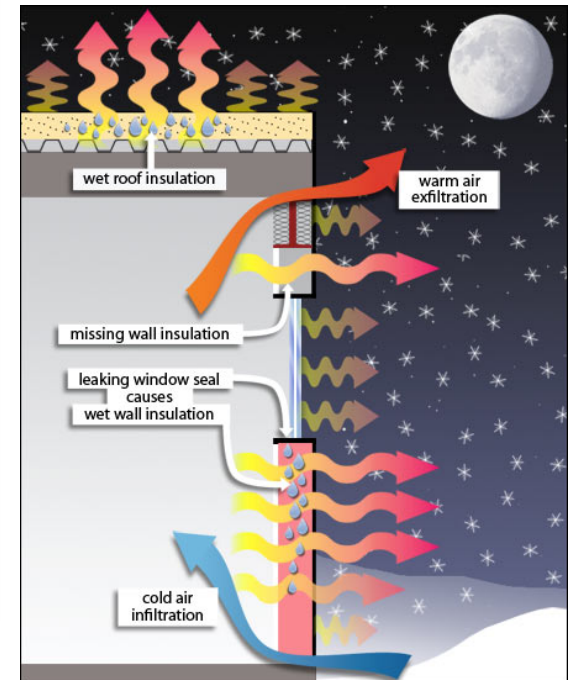
Load Inventory of Motors for ABC										
<a href="#">View Summary</a>										
Subtotals for Motors										
47,247 kWh      28 kW (Peak)										
Motor Description	Qty	HP	Load	Eff%	Unit kW	Total kW	Hours (Month)	Total kWh	Diversity Factor	Peak kW Demand
Vent Fans System 1	1	75	100%	90%	62.2	62.2	760	47,247	0.45	28.0

Load Inventory of Lighting for ABC Manufacturing Facility										
<a href="#">View Summary</a>										
Sub-Totals for Lighting										
5,640 kWh      4 kW (Peak)										
Load Description	Qty	Unit kW	Total kW	Hours (Month)	Total kWh	Diversity Factor	Peak kW Demand			
Office Areas Fluorescent Lighting (4T)	200	0.047	9.4	900	5,640	0.45	4.2			

# The Energy Audit

- Also looks at:
  - Compressed air.
  - Thermal inventory.
  - Envelope heat loss.





# The Energy Audit

- A crucial tool in determining what impacts proposed changes will have.
- An accurate economic analysis (payback) of proposed energy improvements **is not** achievable unless an energy audit is done first and is done properly.



# Office of Energy Efficiency

- The Office of Energy Efficiency has been established to assist Islanders in reducing their energy consumption and minimizing the environmental footprint of our daily activities.
- The Office of Energy Efficiency provides Islanders with one-stop-shopping for provincial and federal energy programs and services.

# Office of Energy Efficiency

- Commercial Programs (pending funding decision):
  - **Commercial Sector and Institutional Building Program for Energy Incentives (CSI-PEI)**
    - Provides up to \$3000 for an energy audit.
    - Provides up to \$25,000 for energy upgrades.
    - Farms included.
- Residential Programs (pending funding decision):
  - **PEI ecoEnergy Audit Assistance Program**
    - Regular and low-income versions
  - **Home Energy Low-income Program (HELP)**
    - Free weatherization service to all low-income clients
  - **PEI Energy Efficiency Grant Program – 15% of total costs**
  - **PEI Energy Efficiency Loan Program – up to \$10,000**
    - Regular and low-income versions



# Office of Energy Efficiency

- Regardless of whether funding programs are available or not, the OEE can help you.
- We assist clients, including farmers, in reviewing energy audit reports and prioritizing energy upgrades.
- Make sure that the money you spend achieves the greatest savings possible.
- We can guide you through the application process, ensuring that all funding sources are available to the client.

# Office of Energy Efficiency

- **Location**

- The Office of Energy Efficiency is located at the Sherwood Business Centre (former Ellis Bros. Shopping Centre),
- 161 St. Peters Road, P.O. Box 2000, Charlottetown, PEI, C1A 7N8.
- You can reach us by telephone at 1-877-734-6336 (toll-free) or (902) 620-3690 (local).
- Website: [www.gov.pe.ca/oe](http://www.gov.pe.ca/oe)

