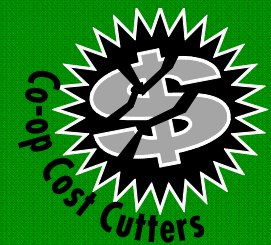




Energy Audits

Green Asset Management
Presentation



What to Expect

- An initial walk through by Energy Consultant to Supply a Quote.
- The Quote should include: Found Energy Saving Opportunities, List of Applicable Rebates, Estimated Potential Savings %, Potential Audit Rebates, and Cost of Study

What to Expect from the Audit Process

- On Site detailed walk through of all mechanical, electrical rooms, lighting audit of every room, and roof access.
- In-Suite audit of toilets, sinks, and shower heads, windows, doors, appliances, insulation.
- Auditor will require a copy of the building blue prints, and 2 years of electricity and water consumption.

Energy Audit and Study?

- Required for Many Rebates
- Identifies Different Technologies
- Which Products to use
- Different Rebates — Over 20 Rebate Programs available in Ontario
- Shows Savings
- Payback
- Return on Investments
- Cash flow
- Develop an Energy Plan
- Combine a Energy Audit with a BCA “Energized BCA”

Energized BCA

- A combined Energy study and Building Condition Assessment makes a lot of sense.
- Some company provide this services.
- Usually a energy Study only focus on Energy Savings and Payback. If the payback on replacing a piece of equipment is long it may not be suggested.
- A BCA focuses on Life Cycle and Condition. A piece of equipment may be in great shape, but a huge energy user.
- A Energized BCA is a better assessment, because it evaluates both, allowing the board to make the best informed decision on replacement.

Energy Savings

The Typical Savings for a Multi-Residential Building Energy Project is:

- 30% on Natural Gas Consumption
- 10% on Electricity Consumption
- 30% on Water Consumption

What Energy Measures?

Typical Apartments

- Heating Boilers
- DHW Boilers
- Lighting
- Variable Speed Drive on Make-Up Air
- Variable Speed Drive on Booster Pumps
- Windows, Patio Doors
- Water Conservation
- Appliances
- Electric Baseboard – Thermal Storage, Motion Based Thermostats
- Co Sensor on Garage Fans
- Alternative Energy - Solar

What Energy Measures?

Typical Townhouses

- Lighting
- High Efficient Furnaces
- Windows, Patio Doors
- Insulation
- Grey Water Heat Recovery
- Water Conservation
- Appliances
- Domestic Hot water – Instantaneous
- Electric Baseboard – Thermal Storage, Motion Based Thermostats

Which Products To Use?

- Energy Star
- CSA
- CEE
- Energuide

All Programs have Minimum Standards –
Which Product is the Best for your
Application, with Maximum Savings and
Lowest Cost?

Which Products To Use?

- High Efficient Furnace – Which One
 - 92% Efficient
 - 93% Efficient
 - 94% Efficient
 - 95% Efficient
 - 96% Efficient

Who do you ask your Contractor, or Energy Consultant

Which Products To Use?

- Energy Efficient Windows – Which One
 - Double Pane – Triple Pane
 - Argon – Krypton
 - Vinyl - Fiberglass
 - CSA Test Results

Who do you ask your Window Contractor, or
Energy Consultant

Non-Profits and Co-ops, Grants and Incentives

- Can be unique, because they can fall into Commercial and Residential Rebate Programs. Depending on:
 - Type of Building – Apartment or Townhouse
 - Size of Building
 - How many Floors and Suites
 - Type of Heating
 - Individually Billed or Bulk Billed

What Rebates?

Audit and Study Rebates and Incentives

- Union Gas has a program called the Commercial Audit Incentive Program. The program pays up to \$4,000.00 or 30% of an Energy Audit and Study.
- Enbridge Gas has a audit incentive program for large multi residential, that pays up to \$5,000.00 or 50% of the Energy Audit and Study.
- Multi-Family OPA Audit Rebate – SHSC
Globe program, Audit incentive * May be available soon

What Rebates?

Implementation of Energy Saving Measures Rebates and Incentives

- The Union Gas Retrofit Incentive Program pays \$0.05 per cubic meter of natural gas saved in the first year to a maximum of \$30,000.00 per account
- High Efficient Furnace, Domestic Hot water, Grey water heat recovery and thermostat rebates

What Rebates?

The Enbridge Gas Retrofit Incentive Program

Pays \$0.10 per cubic meter of natural gas saved in the first year to a maximum of \$30,000.00 per account

What Rebates?

OPA - Electric Retrofit Incentive Program (ERIP)

- The Program has two incentive options:
- Prescriptive Projects – Where rebates are offered for Lighting, Motors, Cooling Equipment, and Transformers.
- Custom Projects – Where all technology, equipment and systems are evaluated for energy performance – Motion Based Thermostat, Windows, DHW, Solar etc.

What Rebates?

NRCan- ecoEnergy Retrofit Incentive for Buildings

- Natural Resources Canada (NRCan) has a new ecoEnergy Retrofit Incentive for Buildings Program, which started taking applications September 15th 2007 and is funded until 2010. The incentive pays \$10.00 per gigajoule saved to a maximum of \$50,000.00.

What Rebates?

NRCan- ecoEnergy Retrofit for Homes

- Ontario Ministry of Energy - Home Energy Retrofit Program - Matches ecoEnergy Rebate
- Requires Blow Door Test, Cost \$400 to \$550 per Unit
- Only good for 18 Month's
- Not cost, savings or payback identified
- No equipment identified
- Rebate amount and Green house gas reduction and Energuide Rating included
- Cost of Blow Door Test may Exceed Rebate!

What Rebates?

Ontario Power Authority – Multi-Family Incentive Program

- The Ontario Power Authority has three housing initiatives underway and is actively developing a new initiative for the housing sector to be launched in early 2009.

What Rebates?

- Water Saver Program
- Ontario Ministry of Municipal Affairs and Housing – AHP Energy Efficiency Program
- Many More!

Don't go by Payback Alone

- Use the Holistic approach to implementation, don't just do the fast payback measures. Look at all the measures together and look at the overall payback for Maximum Savings and Maximum Rebates.

What to Expect in the Study

- Estimated Cost of Energy Saving Measures
- Estimated Savings
- Payback
- List of All Applicable Rebates
- Project Management Proposal including: a tendering process, and applying for all rebates, and construction management of the entire energy saving project from start to finish.

Thank You

Harri Makivirta

Virta Energy Consultants Inc.