

Energy Planning Tool (EPT)

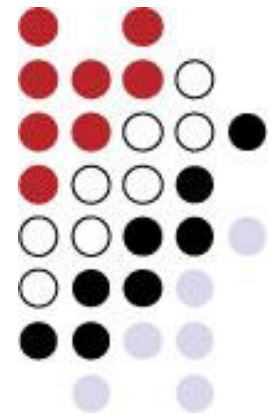
Getting You Ready for Reg. 397/11



Sustainable Peterborough Energy
Planning Team

Friday, May 11, 2012

Scott Vokey



LAS is a wholly-owned subsidiary company
of the Association of Municipalities of Ontario

What is LAS?



- Our objective is to help you:
 - *Save Money, Make Money, and Build Capacity*
- A wholly-owned subsidiary of the Association of Municipalities of Ontario (AMO)
- Financial return to AMO



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LAS Programs and Services



- Electricity
- Natural Gas
- **EPT**
- **EMT**
- Solar
- Fuel
- Group Benefits
- Insurance
- Risk Management
- One Investment
- CDM Resources
(Audit++, Benchmark, Toolbox)

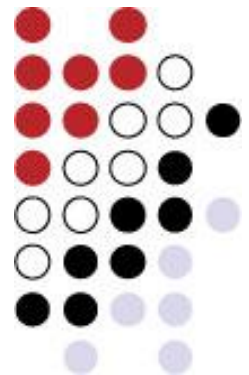


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Energy Planning Regulatory Requirement



- Energy Conservation and Demand Management Plans (Reg 397/11) Regulation under *Green Energy Act* requires:
 - The first report due July 1, 2013: Energy Consumption and GHG Emission Template.
 - The second report due on July 1, 2014 energy conservation and demand management plans.



Energy Consumption and GHG Emission Template

Operation Name/ Type	Address	Total Floor Area ¹	Operation Hours of Use (e.g., 9-5, 24/7, ice hours for arenas)	School and Hospital Attributes ²	Energy Type	Energy Purchased in Natural units	Energy consumed kWh/yr or (ekWh/yr) ⁴	GHG Emissions (tonnes CO2e/yr) ⁵	GHG Intensity (tonnes CO2e per year/sqf) ⁶	Energy Intensity (ekWh per year/sqf) ⁷
					Electricity ³	kWh				
					Natural Gas	M3				
					Steam	mega pounds				
					Propane	litre				
					Fuel Oil	litre				
					Chilled water	Ton hours				
					Wood	metric tonne				
					Coal	metric tonne				
Total by Operation Type										
Overall Agency Totals										

1. Total floor area of indoor space in which the operation is conducted. For water and sewage works would report water distributed and sewage treated annually in mega litres.
2. Schools should note the number of temporary accommodations, and if a pool is part of school. Hospitals should note if they are chronic or acute care facilities, or both
3. Electricity consumed should be in kWh not adjusted for line losses
4. Equivalent kWh will be automatically calculated in the template supplied by Ministry of Energy
5. GHG emission will be automatically calculated in the template factor to be supplied by Ministry of Energy
6. For water and sewage works GHG emissions intensity will be reported as tonnes CO2 equivalent per year/Mega Litre

Energy Planning Tool (EPT)



Test Account

Energy Planning Tool

Logout

Home Municipality People Facilities Programs Processes Projects Library Reports

Commitment

Understanding

Planning

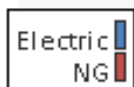
Execution

Evaluation

Municipality Yearly Energy Budget Summary

Energy Type	Cost	Usage	eKwh	% Reduction	eKwh Saved	YTD Usage	YTD Cost
Electric (<i>kWh</i>)	30000.00	10000.00	10000.00	2.50	250.00	10000.00	50000.00
NG (<i>m3</i>)	23000.00	7500.00	78300.00	5.00	3915.00	0.00	0.00
Totals	53000.00		88300.00		4165.00		50000.00

Budget Cost (\$)



56.6%

43.4%

Data & Implementation Bar

Home	Municipality	People	Facilities	Programs	Processes	Projects	Library	Reports
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Track who, what, when and where, including your energy team, your energy consuming buildings/assets, key projects, meetings, workshops, and relevant documents (OPs, sustainability plans, etc.)

Planning Bar



The planning bar chevrons take you through the process one easy step at a time.

Commitment – Vision, Policy, Goals, Targets and Objectives

Understanding – Identify current status and future needs

Planning – Plan your strategy, people, structures, finances and implementation


Execution – Chart activities and projects

Evaluation – Review planning and monitor progress



Municipality & People

Township of Douro-Dummer [EDIT]	
Address:	894 South Street
City:	Warsaw
Province:	ON
Postal:	K0L 3A0
Phone:	(705) 652-8392



Goals

Details

- 1 To continuously improve the energy efficiency of our facilities and processes in order to reduce our operating costs, our energy consumption and the concomitant greenhouse gas emission.
- 2 To be a community leader in energy efficiency and the use of renewable energy.

Objectives

Details

- 1 To conduct energy audits on all municipal facilities during the next five years
- 2 To implement at least 30% of projects from energy audits.
- 3 To have a high level of energy awareness in all staff.

Basic Information


Input municipal address, phone and picture.

Goals & Objectives

Add CDM Targets and related objectives as determined by team

People List

Input details on the key individuals; link to programs, processes, and projects to ensure accountability.

People List					
Name	Position / Title	Work Phone	Fax	Email	Actions [NEW]
Stephen Dixon		705 761 8324	705 555 1212	sdixon@knowenergy.com	
Sam McKnight	[ADMIN]	905 555 1212	905 555 1111	smcknight@knowenergy.com	
Tom Dwyer	[ET][ADMIN] Owner			tom@dwyers.ca	
AMODemo User				amo	
Steven Cundari	System Administrator	416 971 9856		scundari@amo.on.ca	
Group List					
Name				Active	Actions
All Users [Default]				YES	
Operations				YES	
Administration				YES	
Finance				NO	
Group 4				NO	
Group 5				NO	
Group 6				NO	
Group 7				NO	
Group 8				NO	
Group 9				NO	
Group 10				NO	



Facilities

Facility List					
Name	Description	Address	Building #	Focus	Actions [NEW]
55 Plus Centre	Older Adults	564 Road	56	NO	[VIEW] [EDIT] [DEL]
Grandview	Arena	123 Street	111	NO	[VIEW] [EDIT] [DEL]
Warsaw Roads Depot		1422 County Road #4		NO	[VIEW] [EDIT] [DEL]
Douro Roads Depot		435 Douro Line #4		NO	[VIEW] [EDIT] [DEL]
Douro-Dummer Town Hall					
<u>While Lake Fire Hall #5</u>					
Warsaw Fire Hall #4					
Donwood Fire Hall #1					
Douro Fire Hall #2					
Fire Hall #3					
Warsaw Community Centre					
Douro Community Centre					

Edit Facility	
Name	<input type="text" value="55 Plus Centre"/>
Description	<input type="text" value="Older Adults"/>
Address	<input type="text" value="564 Road"/>
City	<input type="text"/>
Province	ON ▾
Postal	<input type="text"/>
Phone	<input type="text" value="555-555-1212"/>
Building #	<input type="text" value="56"/>
Operations Contact	Tom Dwyer ▾
Energy Team Contact	<input type="text"/>
Focus Building	NO ▾
Photo (JPG Only):	<input type="text"/> <input type="button" value="Browse..."/>
Asset Composition	
10000 (m ²)	Long-Term Care <input type="button" value="[DELETE]"/>
500 (m ²)	Office <input type="button" value="[DELETE]"/>
Add Type	<input type="text"/> (m ²)
Total Area (m ²)	10500



Facility List & Details

Upload data for each of your facilities including address, and link or edit to data housed in the chevrons and other title bar sections.



Projects

Projects List										
Description	Asset	Contact	Start	End	Status [%]	Cost	Save(GJ)	Save(\$)	ROI	Actions [NEW]
Pump Retrofit		Stephen Dixon	2009-07-23	2009-06-30	Pen [10%]	15,000.00	200.00	5,000.00	3 yr	edit
Lights Off Campaign		Stephen Dixon	2009-07-10	2009-07-15	Act [50%]					
Heat Recovery Systems		Stephen Dixon	2009-08-01	2009-12-31	Pen [0%]					

Edit Project

Description

Asset

Category

Contact

Start Date (YYYY-MM-DD)

End Date (YYYY-MM-DD)

Photo (JPG Only):

Details

Estimated Cost

Est. Savings (GJ)

Est. Savings (\$\$)

ROI

Status

Percent Complete

Last Update (YYYY-MM-DD)

Pump Retrofit

Short Term

Stephen Dixon

2009-07-23

2009-06-30

Browse...

Retrofit all fixed speed circulation pumps in the rink to Variable Speed Drives.

15000.00

200

5000.00

3 YEARS

Active

10%

2010-03-24

☒ submit

Project Documents

Document Filename	Action
Energy Improvement Bill 150.doc	[VIEW] [DELETE FILE]

Home	Municipality	People	Facilities	Programs	Processes	Projects	Library	Reports
Programs List								
Description	Facility	Contact	Date	Status	Actions [NEW]			
Energy Committee Meeting		Stephen Dixon	2009-06-30	Completed	 edit 			
Energy Audit		Sam McKnight	2009-07-05	Active	 edit 			
Council Workshop		Stephen Dixon	2009-10-05	Pending	 edit 			
Education campaign		Sam McKnight						

Program List & Details

Create and track programs such as meetings, workshops and audits that further plan creation and implementation.

Each program assigned an asset, a staff lead, and length.

Edit Program

Description

Energy Audit

Facility

Category

Project

Contact

Sam McKnight

Program Date (YYYY-MM-DD)

2009-07-05

Photo (JPG Only):

Browse...

Details

Audit by recreation energy specialists. This audit will be comprehensive and look at all areas of energy consumption.

Status

Active

submit



Reporting Options



Test Account

Energy Planning Tool

Logout

Home

Municipality

People

Facilities

Programs

Processes

Projects

Library

Reports

Reports

Name

Description

Energy Management Plan

5 Year Energy Management Plan [Starting from Jan 01, 2012 ▼]

[VIEW]

Consumption & Emissions

Annual Energy Consumption and GHG Emission Report [Starting from Jan 01, 2012 ▼]

[VIEW]

Generates Compliant Annual Reports and 5 year Plans



Association of Municipalities of Ontario

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LAS End Product 1: Annual Report

Energy Consumption and GHG Emissions

Facility Name	Address	Built	Total Area (m2)	Hours/Day	Fuel Types	Consumption	Emission Factor	Energy (ekWh/yr)	GHG Emissions (tonnes CO2e/yr)	GHG Intensity (tonnes CO2e/m2)	Energy Intensity (ekWh/m2)
Facility Primary Type: Long-Term Care											
55 Plus Centre	564 Road		10500		NG	293882 m ³	1.86	3026984.60	546620.52	288.28	52.06
					Electricity	85656 kWh	0.21	65656.00	13787.76	6.25	1.31
Grand Total:								3092640.60	560408.28	294.54	53.37

Fulfill Ministry of Energy's Requirement for the following in your annual report:

- Address, total floor area, hours of use and type of operation
- Amount of energy used by type
- Amount of greenhouse gases emitted with respect to types of energy purchased and consumed per facility



End Product 2: Strategic Plan

Energy Management Plan

Township of Douro-Dummer

2011-09-22

Commitment

- *Declaration of Commitment:* Test 123
See Reference Document: Resolution.doc
- *Vision :* We exercise stewardship in our use of finite energy resources in order to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in our community.
- *Policy:* We will incorporate energy efficiency into all areas of our activity including our organizational and human resources management procedures, procurement practices, financial management and investment decisions, and facility operations and maintenance.
- *Goals:* To continuously improve the energy efficiency of our facilities by utilizing best practices (management/policy, technical, organizational), in order to reduce our operating costs, energy consumption and the reduction of greenhouse gas emissions. We will seek opportunities to reduce fossil fuel use by utilizing any renewable energy sources available.
- *Overall Target:* 1. Initial target for 2014, before end of council term (XX% reduction in consumption from baseline year, 2008) 2. Longer term target of 2018 to align with another council term
- *Objectives:*
- *Stakeholder Needs:* Internal stakeholders (Council, committees of council, CAO, staff) need to be able to clearly communicate the corporate commitment to energy efficiency, to maintain awareness of energy use and to develop the skills and knowledge required to implement energy management practices and measures.
See Reference Document: Corporate Energy Plan- notes.doc
- *Our Municipal Energy Needs :* We need reliable, low-cost, sustainable energy sources delivering energy to the most efficient facilities and energy-consuming technology feasible
See Reference Document: Current Consumption.xls

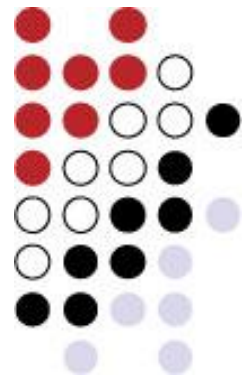
Fulfill requirement for the following in your energy plan:

- Data from energy report(s)
- CDM goals and objectives
- Proposed CDM measures
- Confirmation of Council Approval

Energy Monitoring



- The first step in any successful energy management regime is tracking energy consumption
- *You cannot manage what you don't track*
- The EMT allows users to track **day to day** energy consumption





The Energy Management Tool

- Manage all types of energy (natural gas, electricity, steam, propane, etc.)
- Multiple years of data – consumption or metered
- Customizable Municipal facilities hierarchy
- Environment Canada weather feed
- Track GHG and Benchmark Facilities

EMT - Dashboards

Dashboards

Reporting

Trend Analysis

PQ Analysis

Billing

Administration

Logout

File

Help

Pages

DH Dashboard

GHG Sample

DH Sample Dashboard

Community Centre Pool Comparison

Chart

Sep 01 2007 to Sep 30 2007

Community Centre Pool - Oakville

Community Centre Pool - Dryd...

Kwh [KiloWatt...]

Sun 02

Sat 08

Fri 14

Thu 20

Wed 26

Wed 05

Tue 11

Mon 17

Sun 23

Sat 29

MONTH/YEAR

Greenstone Town Office Energy & Demand

1 of 1

Export As...

Energy & Demand Repo

19427.AB-TH-TH-E-TOWN OFFICE-NAK

1/1/2008 12:00:00 AM - 1/31/2008 12:00:00 AM

Period Demand

Maximum

25.62 kW @ 01/03/2008 06:00

LAS Home Page

January 26, 2009

Local Authority Services

Innovative Programs & Services

About LAS

Energy Services

Commodity Pro

LAS Commodity Prices (including fees)

ELECTRICITY

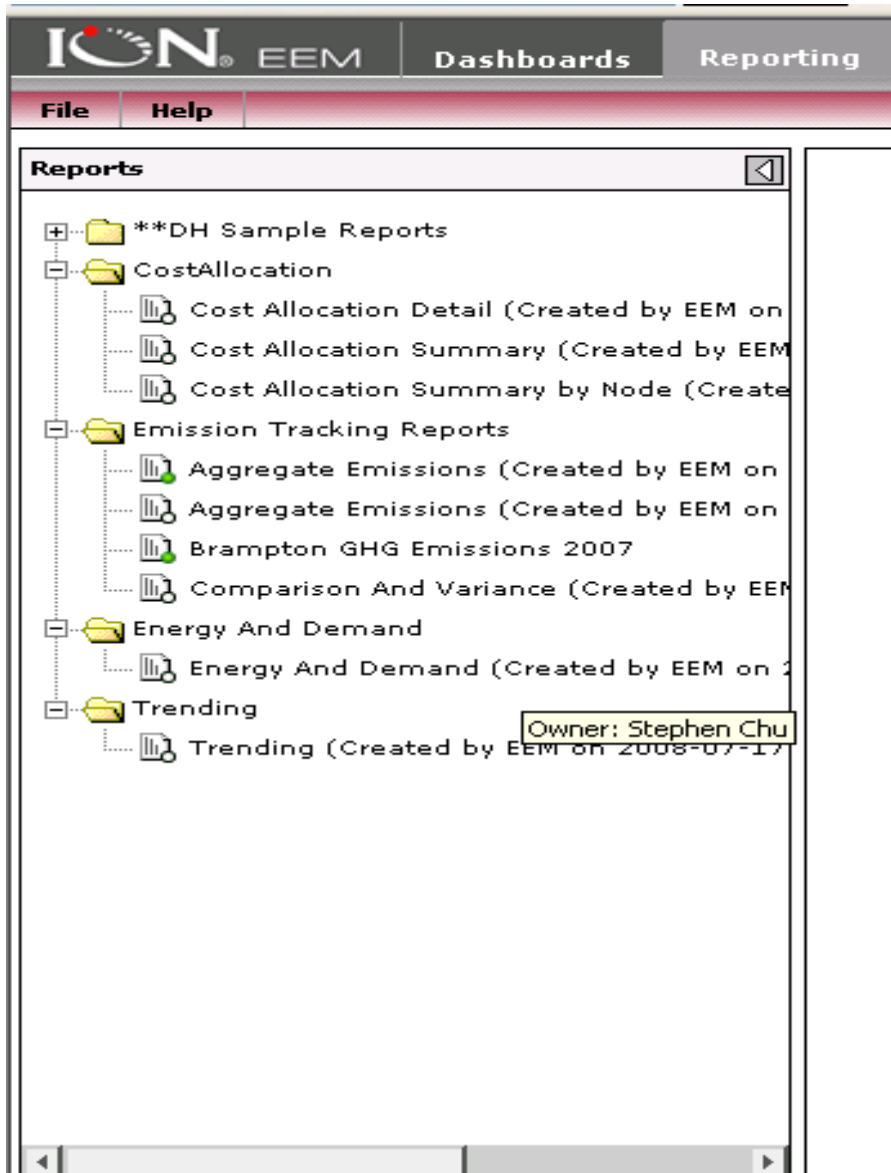
Pool 1+2 Hedge

6.12 ¢/kWh

Pool 3 Hedge

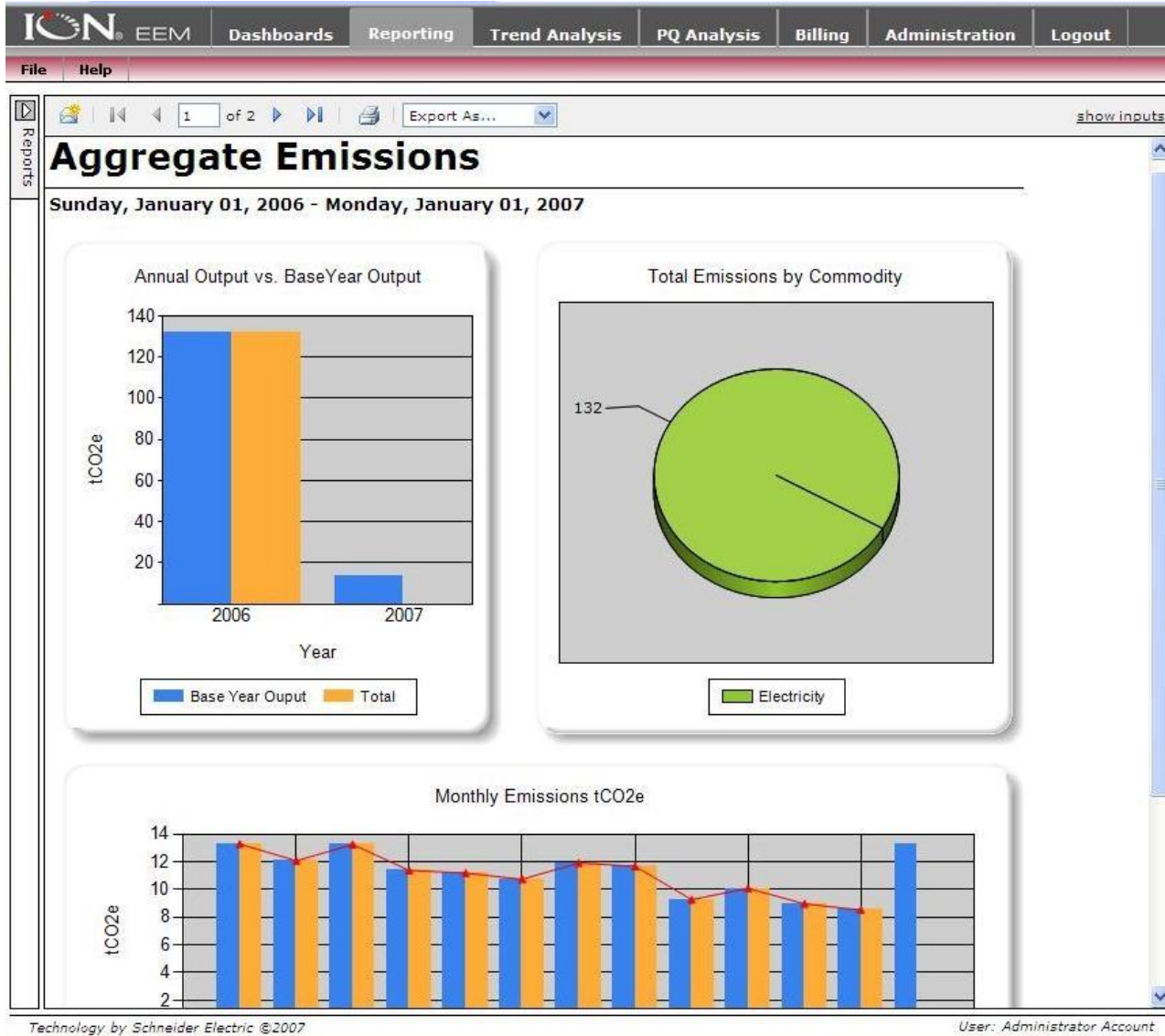
5.45 ¢/kWh

EMT – Report Options



- Four categories of standard reports
- LAS can build custom reports upon request

GHG Emission Reports





The Energy Management Tool

- For information about EMT service offerings, pricing, and other questions please contact **Chris Hanlon**, Manager, Energy, email: CHanlon@amo.on.ca, (416) 971-9856 ext. 356



Recap: Getting Started

1. Gather Your Information

- Facilities List
- Baseline Energy Data (from billing sources)

2. Build Your Team

- Creating an Energy Team to lead/guide the process, provide feedback, and encourage buy-in
 - Should include individuals from all aspects of municipal operations (council, senior admin/finance staff, facilities/operations)

3. Consider Outside Supports

- LAS' EPT and EMT
- Ministry, Utilities, OPA, FGT, consultants

To Learn More...



Contact:

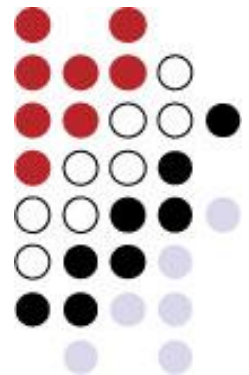
Scott Vokey

Energy Services Coordinator

416-971-9856 ext. 357

svokey@amo.on.ca

Or visit our website at: www.LAS.on.ca



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