

CBRM Pecha Kucha Presentation



Enjoy the good things
efficiency brings.

Introduction



Objectives

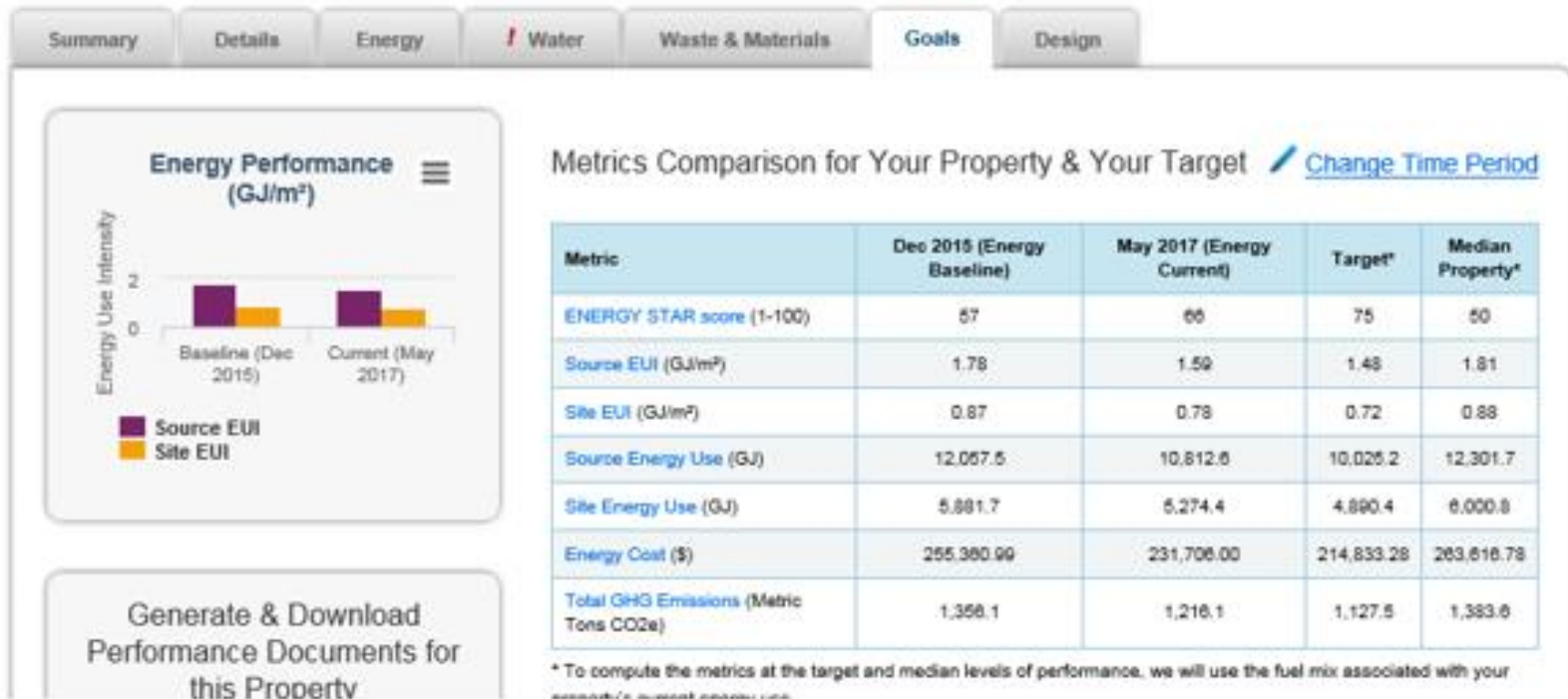
- Reduce Energy Costs for All Fuel Source Across the Organization by 15% over 5 Years
- Increase Organizational Awareness and Engagement around Efficiency
- Create Road Map For Future Energy Savings
- Maximize incentives from Efficiency NS and other sources

Energy Costs 2015 vs 2017

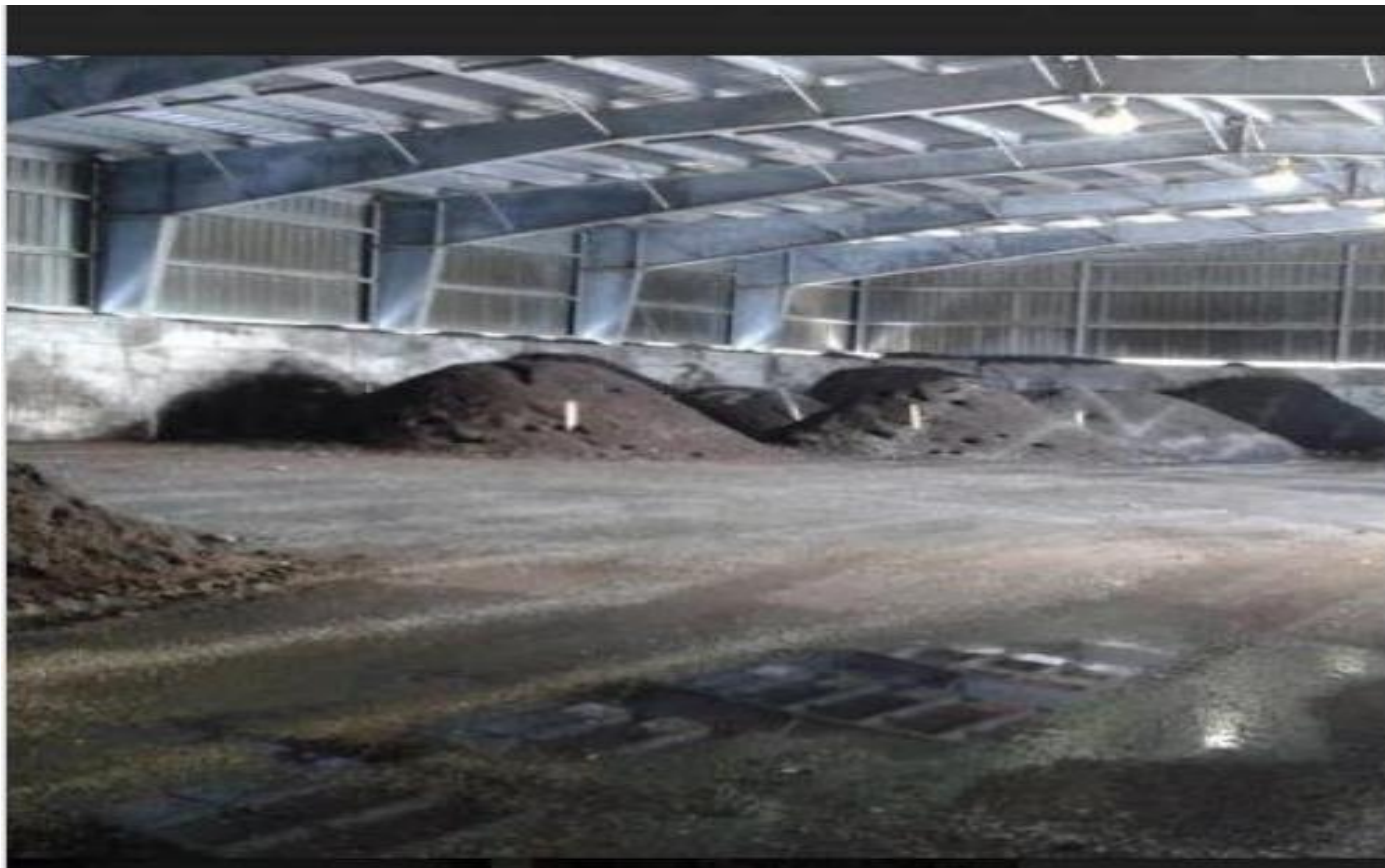
CBRM Energy Cost 2015 vs 2017				
Category	Cost (2015)	Cost Current	Cost Savings	Cost Savings
Buildings + Facilities	\$4,361,346	\$3,542,298	\$619,148	14.9%
Streetsights	\$4,240,140	\$2,363,808	\$1,876,332	44.2%
Transportation	\$2,142,549	\$2,007,673	\$134,876	6.3%
Total	\$10,544,035	\$7,913,679	\$2,649,517	25.1%

- CBRM's Energy Costs are down across organization by 25.1% since 2015

ENERGYSTAR Portfolio Manager



LED Lighting+Occ Sensors



Water Leakage Project

- In 2015 CBRM produced about 10 Million gpd/ and 40% was lost in the system
- Project to reduce unaccounted for water losses in Syd. And N. Syd.
- Scanned and repaired leaks, better metering, better leak response time
- 60,000 rebate from Efficiency NS
- \$150,000/yr savings to date
- Expanded project to NW and GB
- **Expect to save 1 billion gallons of water per year when complete**



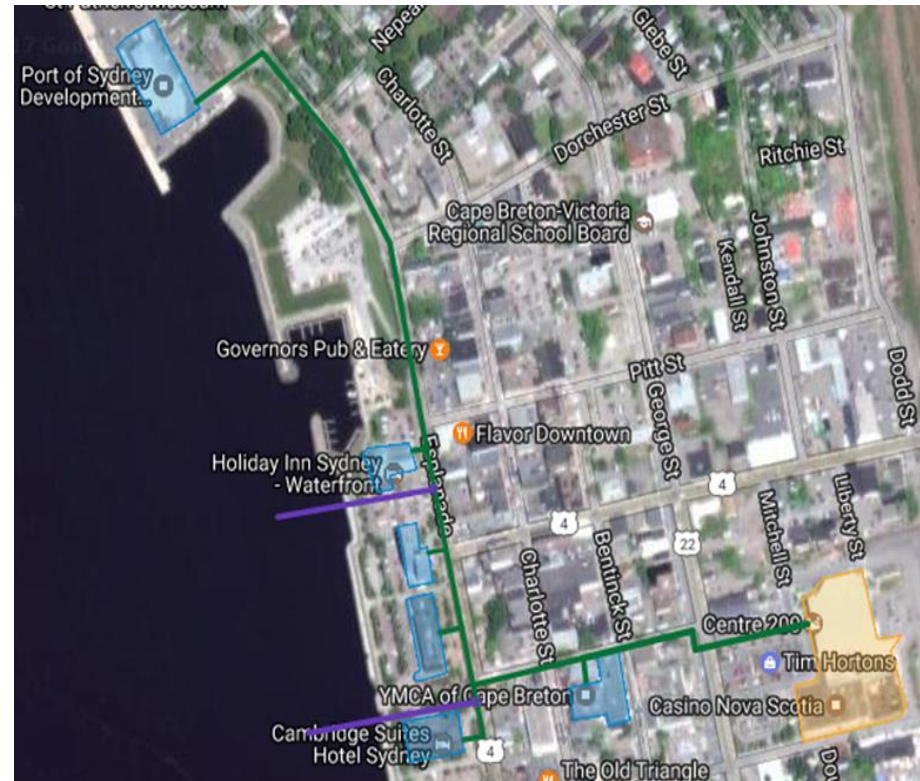
Wastewater Digester+CHP

- Received \$750,000 from FCM MCIP program, expecting \$100,000 from ENS
- Digest 2000 tons sludge that is currently landfilled to produce biogas and fertilizer
- Biogas will be used to heat and power facility through CHP
- \$215,000 annual savings
- 2500 ton reduction in c02 not including fertilizer benefits



Downtown Sydney District Energy

- GMF and DOE contributed \$100,000 towards district energy feasibility study
- Utilize waste heat to provide cheap clean heat and electricity to buildings in downtown core and encourage revitalization
- Partnering with Enwave, Brookfield subsidiary and largest DE company in North America, who would fund, build, own and operate system

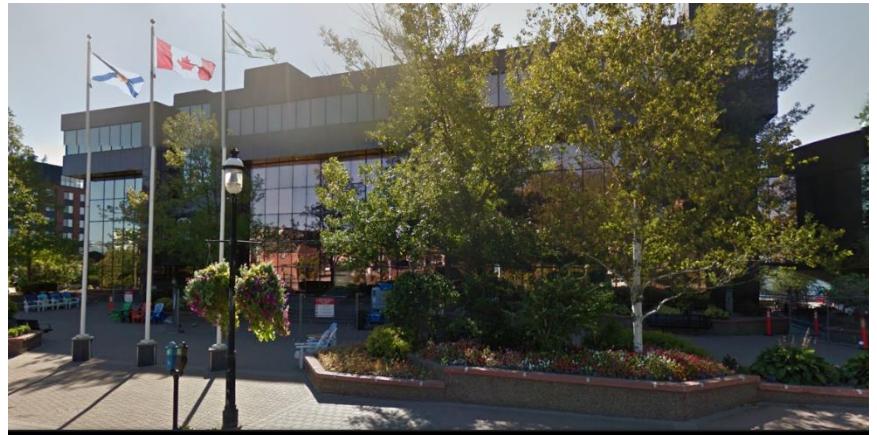


Energy Efficiency New Construction



Civic Centre Upgrades

- Saved \$20,000 per year by recommissioning building controls
- Installed Efficient VRF refrigeration system
- Saving over \$30,000 per year total
- Energy Star score increased from 57 to 69



Controls Upgrades



Compost/Conveyor

- Conveyor + Screening to reduce overage at compost facility. Approximately 3500 tons of organics are trucked to landfill in Guysborough
- Operating savings of \$250,000
- 3270 tons ghg reduction



Decorative Pole Lighting



Awareness and Engagement



Centre200 Upgrades

- New LED Ice Lighting Saving energy, better quality, lighting shows
- Replaced interior and exterior/non ice lighting
- Efficient Ammonia Refrigeration System that heats building from waste heat
- Approximately \$200,000 per year in Savings



Working with NSCC Students

ESET students seek solutions for Louisbourg

Result of energy audits will support reduction in energy consumption



ESET students Peter-Blair Mackinnon Nicholson, Dave Coulombe, and Isabel Phillips taking readings at a facility in Louisbourg

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Clean
Inspiring Environmental Change

Hello everyone! I hope you are all enjoying your summer, it is hard to believe there is only one week left for the NSYCC students! We are debuting this edition to waterway restoration, as a third of the NSYCC projects this summer are focused on aquatic habitat restoration. This edition highlights another ten projects happening across the province, and showcases a hardworking NSYCC student. Please keep reading to check out what some groups are up to!

One third of this summer's NSYCC projects involve watershed restoration. Many of our NSYCC interns are working towards creating better habitat for aquatic species at risk such as Atlantic Salmon and Striped Bass. A lot of planning and physical effort goes into creating structures that improve freshwater ecology such as digger logs, brush bundles, and deflectors. The following pictures provided by NSYCC students illustrate some of the structures and methods used in watershed restoration (clockwise from top).

Helena with the Chatham River Salmon Restoration Association, taught the Hoses posing for a picture along a river who is working on. Austin from Pitou County Rivers Association provided the picture of a digger log which imitates a naturally fallen tree in the stream and helps to create habitat diversity. This brush bundle, installed by Andee and Collin from the North Colchester River Restoration Association, is helping to narrow the width of a river. This example of a rock deflector from Taylor from Shubenacadie Watershed Environmental Protection Society helps to narrow and deepen the channel by consolidating flow and flushing silt from the main channel and decreasing it along the banks. Regen from the Clean Foundation uses a sand wand to remove extra sediment on gravel beds to enhance salmon and trout spawning habitat.

Cape Breton Regional Municipality

Maligh has spent her summer as an Energy Management Specialist with the Cape Breton Regional Municipality (CBRM). Her work will save the municipality up to \$25,000 in energy savings by installing low cost energy efficient products at 504 buildings in the area. Maligh includes everything from hot water tank blankets, LED lights, pipe insulation, timberline power bars, faucet aerators and low flow shower heads. She is also in charge of creating awareness throughout CBRM, handing out pamphlets and handing mini information sessions on site and educating CBRM employees on what they can do to "save energy better" not only at home, but in their work environments. While visiting sites Maligh is also responsible for collecting data for an energy monitoring program called Energy Star Portfolio Manager and also seeking out old appliances at each site to submit through Efficiency Nova Scotia's Appliance Retirement program. This program in particular will assist the CBRM in getting incentives for new appliances that use less energy.

This position has allowed Maligh to take what she learned in the classroom and apply it in the field. This work gives her joy and fulfillment because she knows she is doing something good for the earth and for future generations.

Newsletter

Energy Saving News

CBRM Holiday Edition

Leading by example

News Network is truly leading by example in energy efficiency. It's something that is celebrated every year at Efficiency News Network's Bright Business awards. This year, Cape Breton Regional Municipality (CBRM) was named the winner of the Engagement Award.

CBRM implemented a broad range of energy efficient activities, including hiring an in-house energy manager, developing a building energy management plan, and engaging employees at all levels of the organization to make energy efficiency commonplace at work and home. To date, we're completed over 50 energy saving projects, totaling nearly half a million dollars in project savings.

“ This is about doing what is right, it's about putting our principles in place,” says Mayor Carl Cahill. “It's about encouraging people to recognize that by being energy efficient, it actually helps you get more and do more for your fellow citizens.”



Here you are congratulating all of Efficiency News Network's 2015 Bright Business Award winners:

- Halifax Regional Subject Board, Community Award
- Three Rivers, Small Business Award
- Intertek Polymer Group (IPG), Large Business Award
- Bowser Strength and Energy Solutions, Innovation Award
- AMCA Canada, Sustainability Award
- Telus Energy Leadership Award

Holiday Light Exchange

- Efficiency News Network partners with companies all across the province to give their holiday tree lighting opportunities. At the event, people bring in five sets of their old incandescent holiday lights in exchange for one set of energy efficient LED holiday lights - all in exchange.
- LED holiday lights use 80 per cent less electricity than traditional green holiday lights and last for seven times longer and last longer and reduce the risk of fire. They come in a variety of colors and sizes for both indoor and outdoor use.

Info on LEDs

- LEDs are 80 per cent more efficient than old green-style holiday lights.
- They're also a lot more durable since they don't use glass and are up to 10 times longer.
- They don't get hot like the old-style ones - making them a lot safer to use.
- LEDs now come in a wide variety of colors, lengths and shapes. A great product that isn't necessarily priced.

Did you know?

Centre 300 has saved a total of **\$400,000** in fuel costs so far. This is a result of energy efficient upgrades to its controls, its plant, and heating system.

And that is just the beginning...

The building is currently undergoing an LED lighting upgrade. It is expected to **save \$40,000** in annual energy and maintenance costs.

A feasibility study shows that selling waste heat from the ice plant to Capen House South West door is expected to generate **annual revenue of \$40,000**.

Employee Energy Survey

At this year's assessment event in the Centre you offered your suggestions to make CBRM more energy efficient. As a result, we're stepping up efforts to reduce lighting operating hours through control and occupancy sensors, and employee engagement.

What are you aware of that CBRM is doing to save energy?

Facility lighting upgrades	██████████████████
LED smartlights	██
Go the Energy Manager/ Efficiency News Network	████
Awareness initiatives	██
Reducing Water Consumption	██
Reduce Equipment Run time	████
Streamlining Energy usage	█
Energy Efficiency Incentive/ Equipment	████

What would CBRM be doing to save energy?

Reduce Lighting (Re-timed/ Out Sensors)	██████████████████
Occupancy	██
No Idle Lighting	██
Awareness initiatives	██
Energy Star Appliances/ Equipment	██████
Reduce Equipment Run time	██████
4 Day Work Week	█
Reduce Temperature setpoints	█

Support

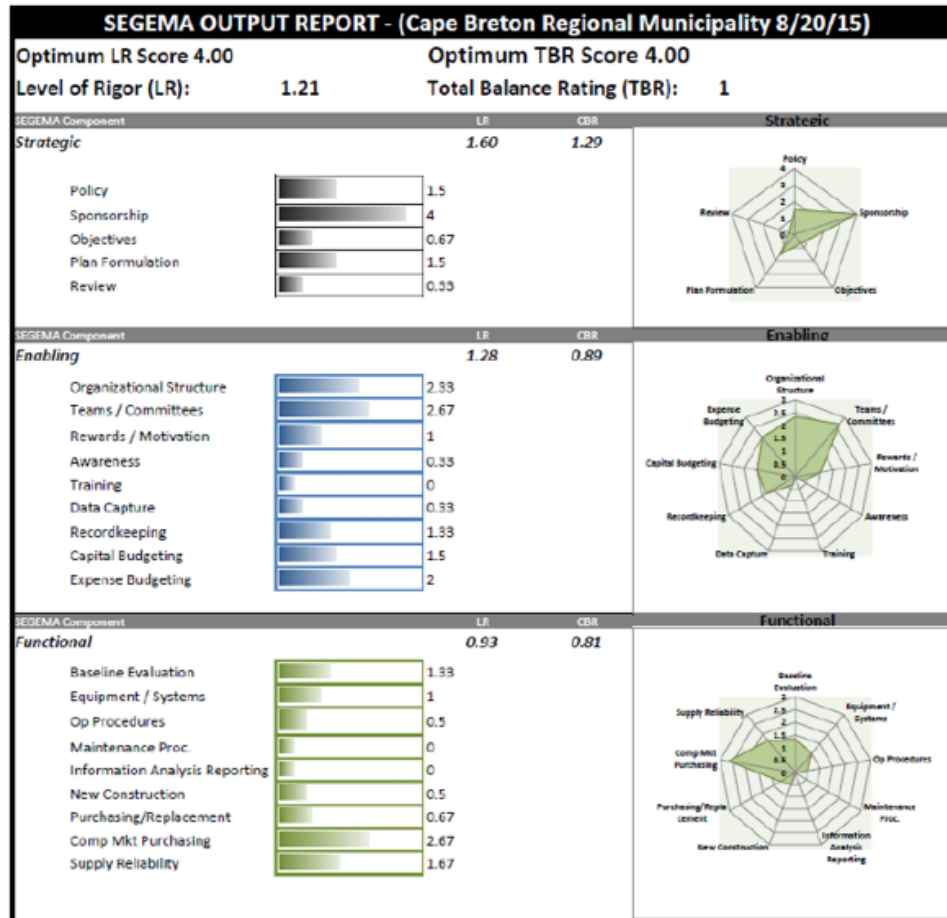
If you have ideas on how we can save energy in your building, please contact our energy expert, David Bruchelle at 902 621 1099 or energy@cbnm.ns.ca



efficiency.ns.ca

HELPING YOU SAVE. 1.877.959.6035 efficiency.ns.ca

EMA Scan



Bright Business Award



HRM and CBRM Future

- Work to continue with CBRM

HRM Now Tracking Buildings in Portfolio Manager

- Identified \$500,000 in lighting savings to date

- Working with controls company to recommission portfolio manager

- Rate Code Analysis

- Auditing all ice surfaces for opportunities

- Planning awareness and engagement activities