

Module 4: Community Energy in Action

ONTARIO
**ENERGY
COMMUNITY
OF PRACTICE**
QUESTCANADA.ORG/ECOP



QUEST

Quality Urban Energy
Systems of Tomorrow



**Clean Air
Partnership**

Energy Community of Practice Resources

The Ontario Energy Community of Practice (ECOP) focuses on providing education and capacity building for Ontario municipalities, utilities and other local stakeholders to develop and implement community energy plans, and helping connect local, regional and provincial energy planning initiatives.

- ECOP Module 1: Community Energy Planning Benefits and Applications
- ECOP Module 2: Community Energy Planning within the Broader Provincial Energy Planning Framework
- ECOP Module 3: Community Energy Plan Implementation
- ECOP Module 4: Community Energy in Action
- <http://www.questcanada.org/events-projects/research/ecop>

City of Hamilton Cogeneration at Woodward Wastewater Treatment Plant



**Woodward Wastewater Treatment Plant
BioGas Storage in Globe**

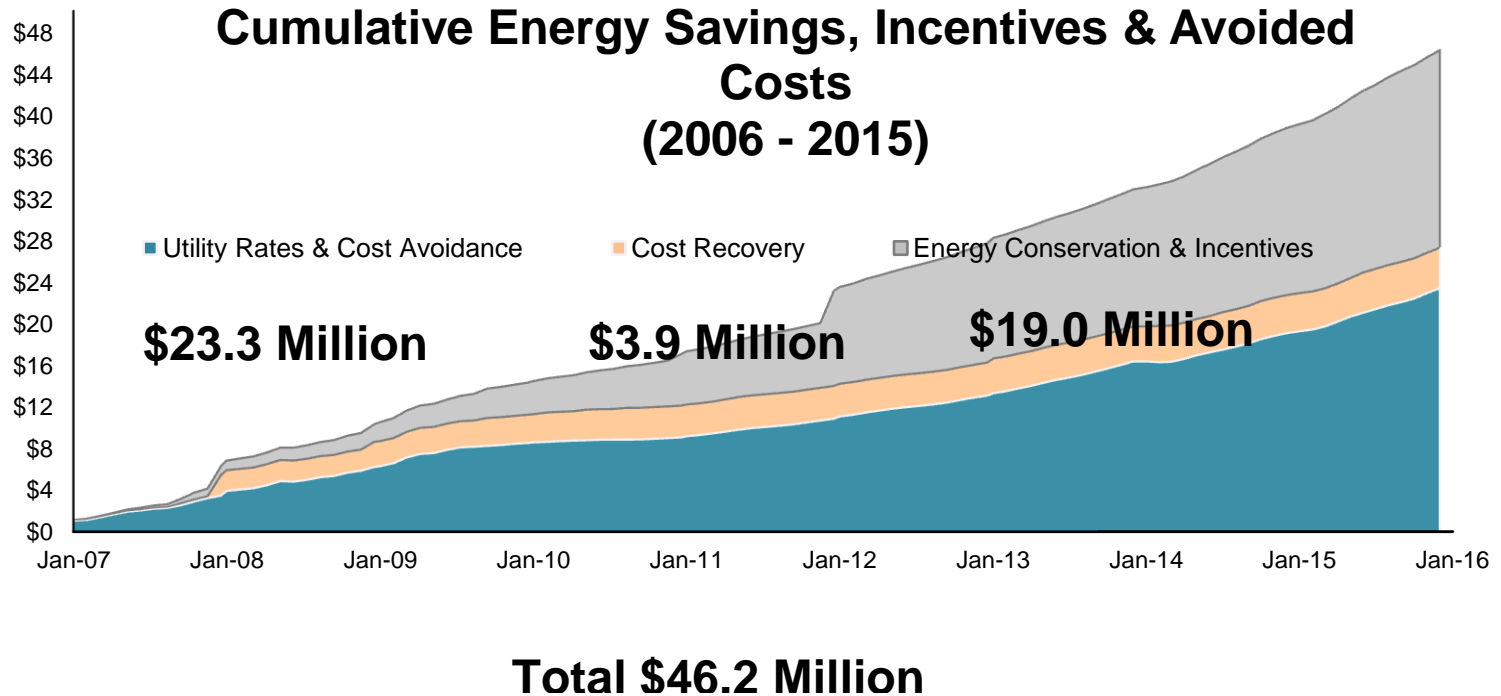


BioGas Purification Unit

Hamilton District Energy



City of Hamilton's Corporate Energy Actions & Energy Revolving Fund



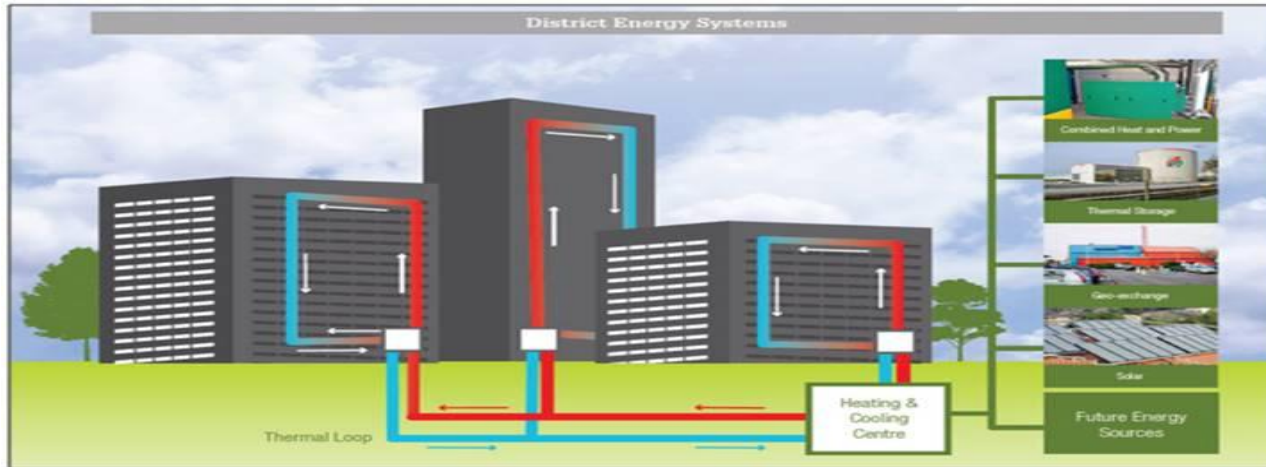
City of North Vancouver District Energy System



Calgary District Energy, ENMAX



City of Markham District Energy System



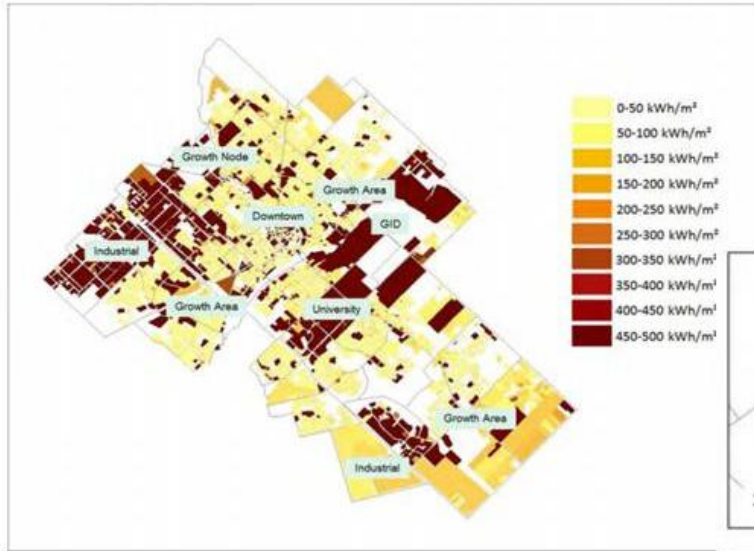
“Ultimately, they chose to invest in Markham because of the district energy connection”
~Bruce Ander
President of Markham District Energy



City of Guelph District Energy



City of Guelph, Community Energy Plan



60 per cent of the energy used to generate electricity can be lost by wasting heat and transmitting electricity over long distances; from the power plant to homes and businesses.



2012



2041

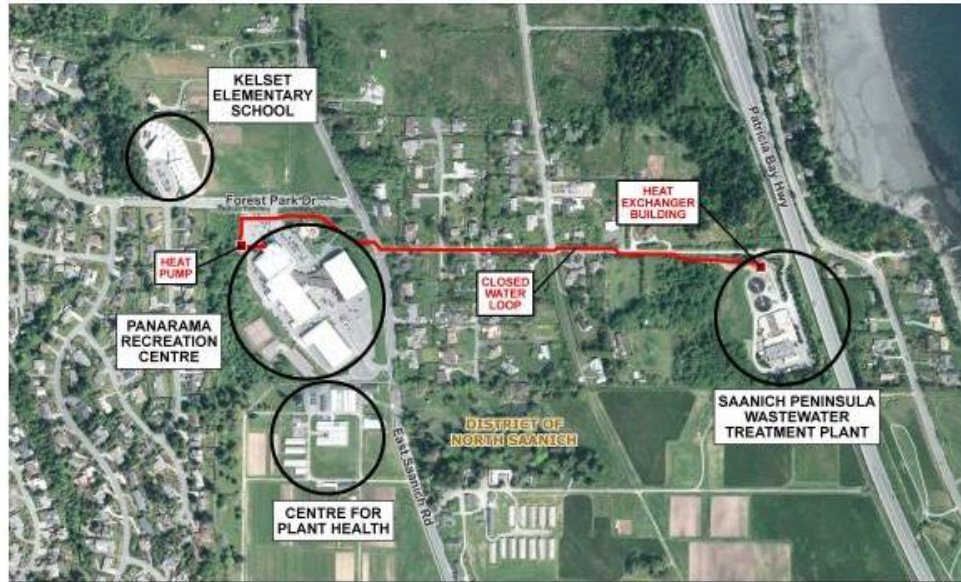
- Commercial Buildings
- Industrial Buildings
- Institutional Buildings
- Office Buildings
- High Density Residential
- Medium Density Residential
- Low Density Residential



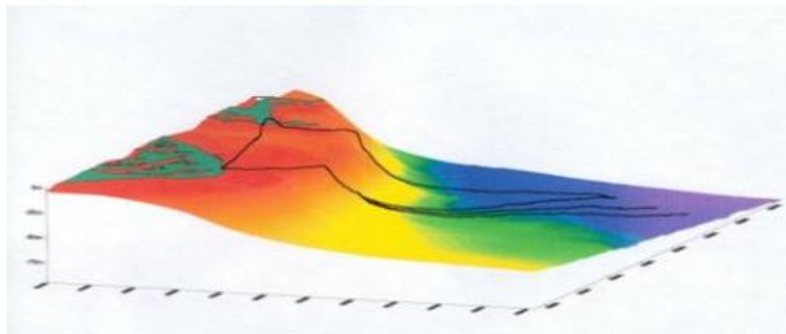
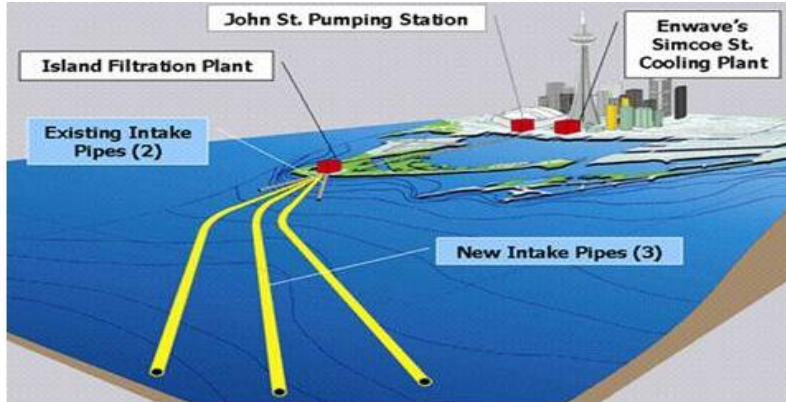
False Creek, City of Vancouver



Saanich, BC: Heat Recovery District Energy



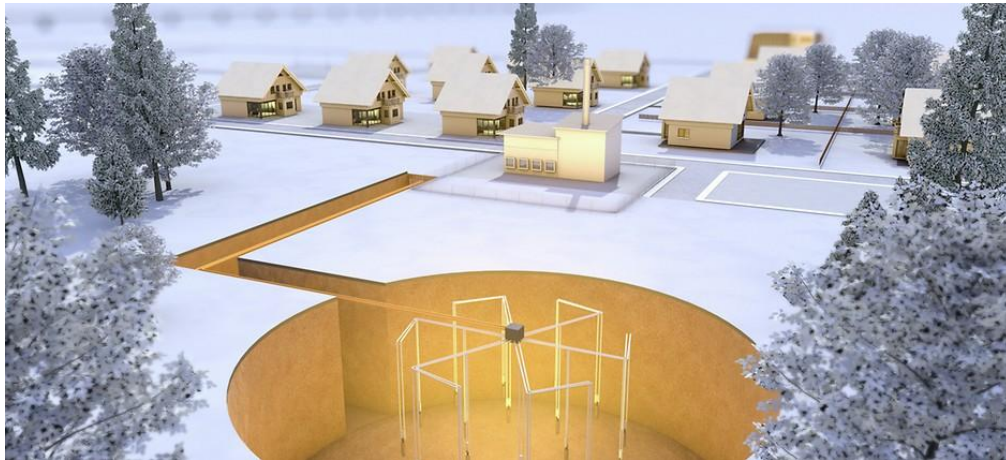
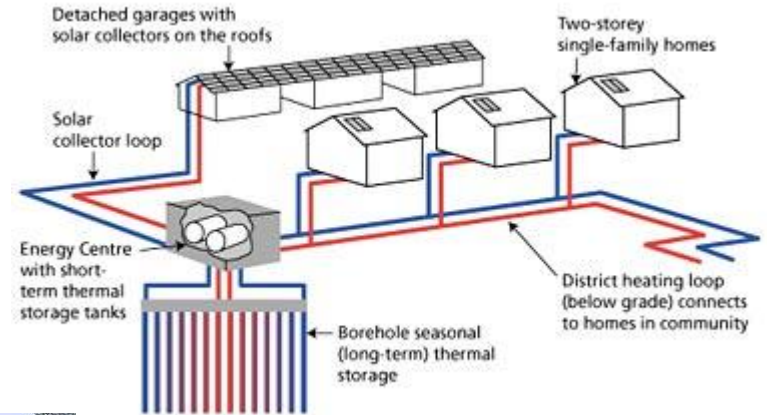
City of Toronto, Deep Lake Water Cooling



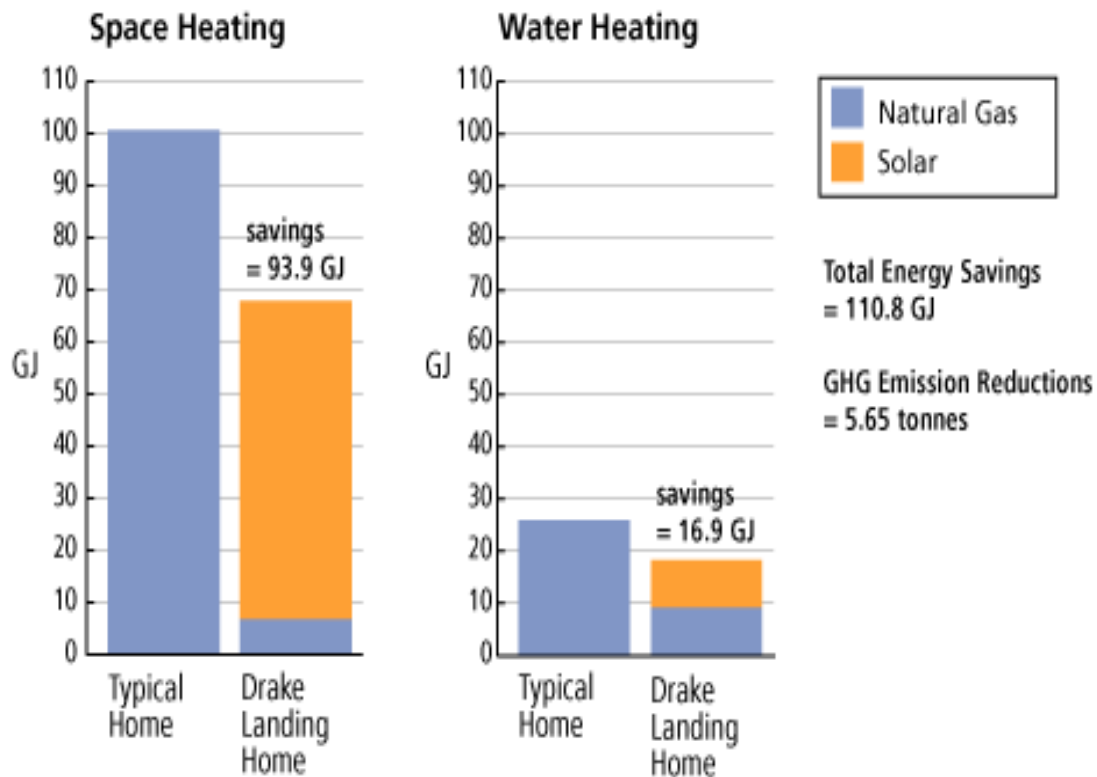
Landfill Gas to Electricity



Drake Landing Community, Okotoks, Alberta



Drake Landing Community, Okotoks, Alberta



Toronto Regent Park



Regent Park Revitalization Master Plan (Source: TCHC)



Regent Park Central Energy Plant Chiller Level.
(Source: RPEI)

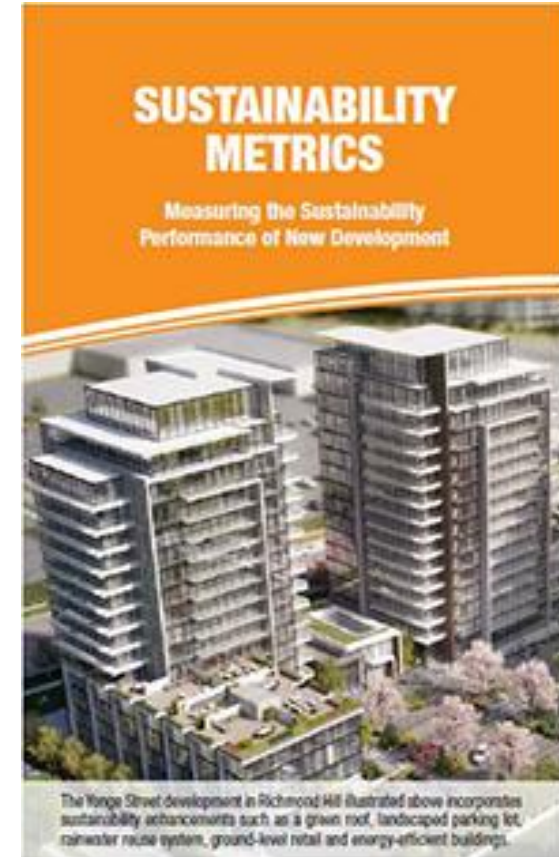
Toronto Exhibition Place



Town of Newmarket LEED Platinum Development



Toronto, Vaughan, Richmond Hill, Brampton & Halton Hills Green Development Standards



Clarington, Priority Green Home Performance Monitoring



PRIORITY GREEN Clarington
Building Liveable Neighbourhoods



Net Zero Ready and Net Zero Housing



City of Toronto and The Atmospheric Fund Tower Wise Program



City of Toronto Home Energy Loan Program

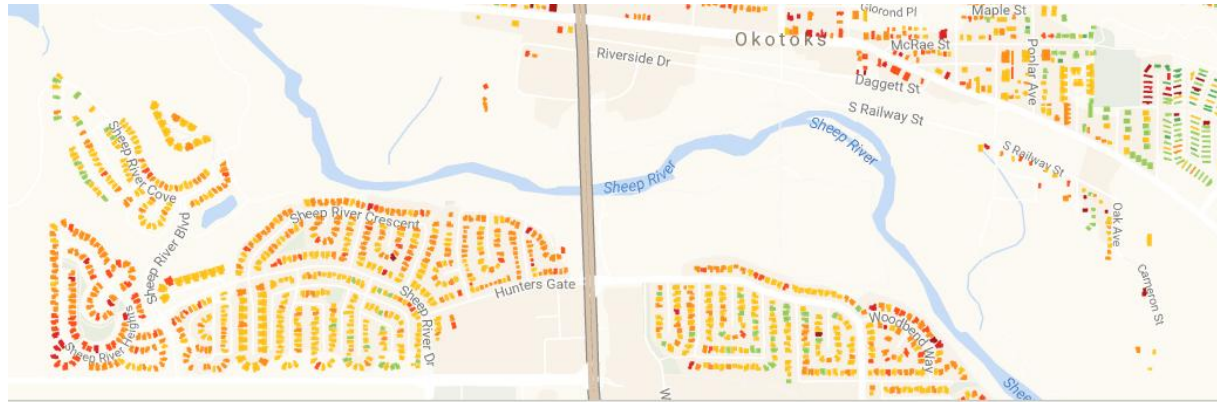
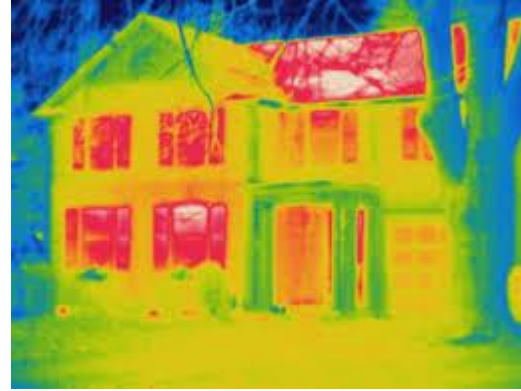


Save Energy. Save Money. Live Green.

City of Guelph GEERS Program (in development)



My Heat: Available in Aidrie, Calgary, Edmonton, Okotoks, Sherwood Park

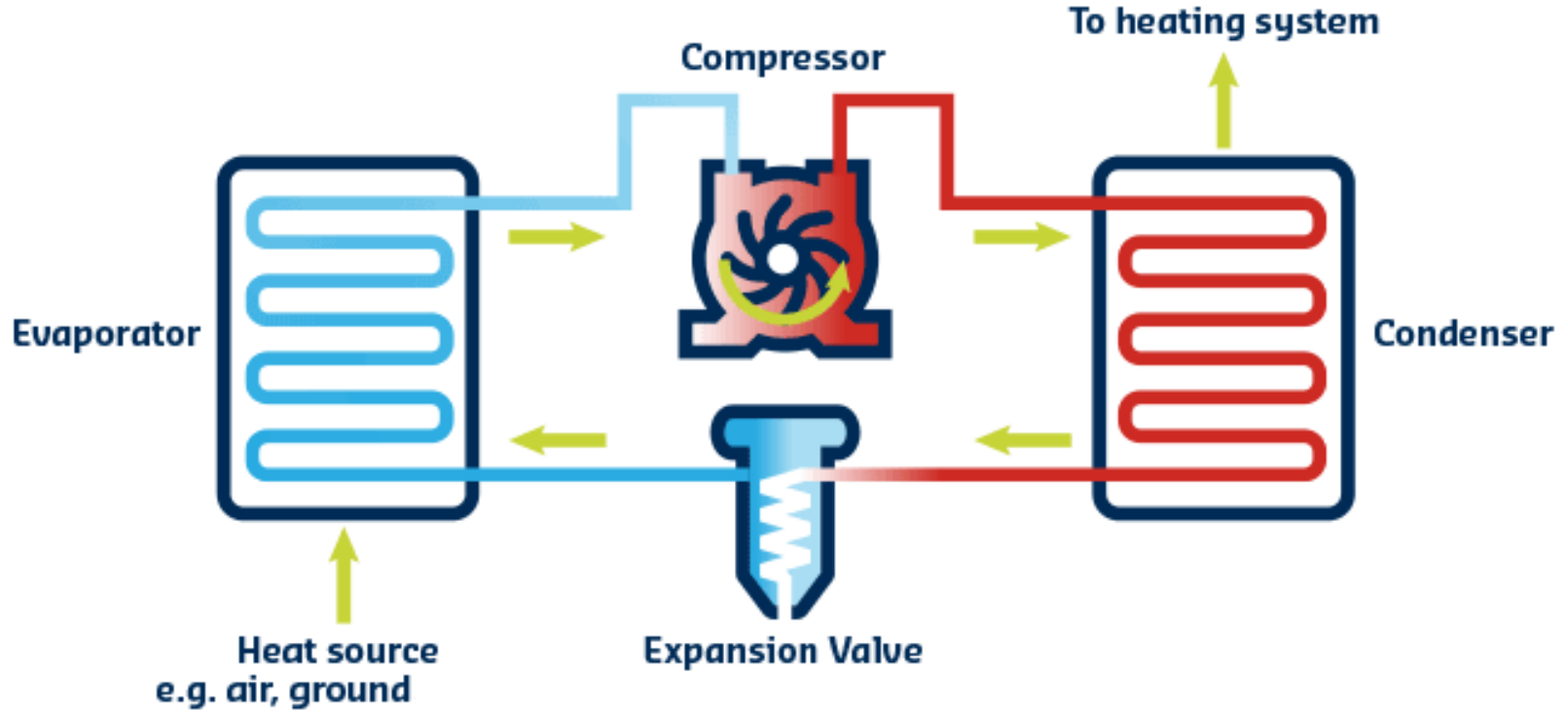


LOW EFFICIENCY HIGH EFFICIENCY

Ile-Des-Chenes, Manitoba: Community Centre Geothermal



The Atmospheric Fund, Heat Pump Business Case



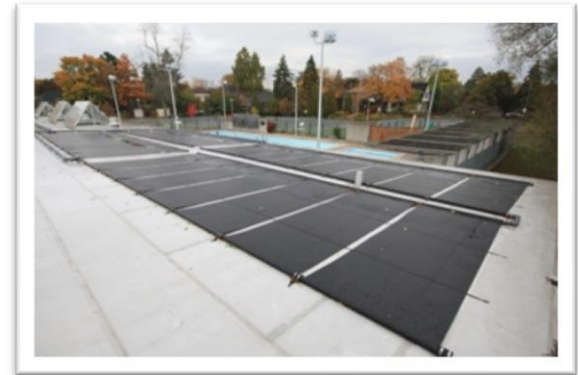
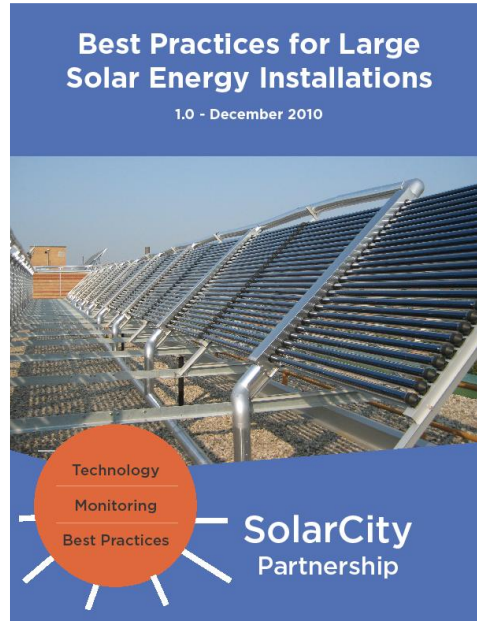
City of Markham, Solar PV



Region of Waterloo Solar PV



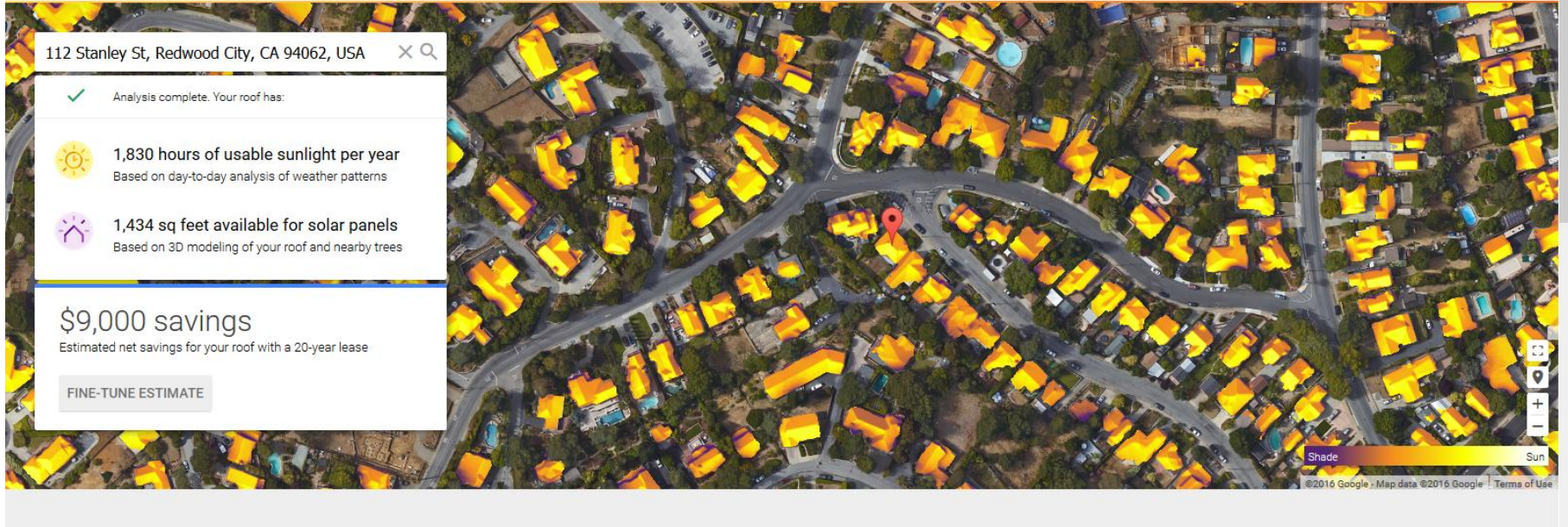
Toronto Solar City



Halifax Solar City



Project Sunroof by Google



Project Sunroof (continued..)

How Project Sunroof Works

Your own personalized solar savings estimator, powered by Google Earth imagery.



1

Search for your home

We use Google Earth imagery to analyze your roof shape and local weather patterns to create a personalized solar plan.



2

Personalize your solar analysis

Adjust your electric bill to fine-tune your savings estimate and the recommended number of solar panels for your home.



3

Compare finance options

Compare loan, lease, and purchase options for your solar panels based on your results.



4

Contact solar providers

See a list of local solar installers and ask for estimates from your top choices.

City of Burlington, Solar Thermal and Heat Recovery



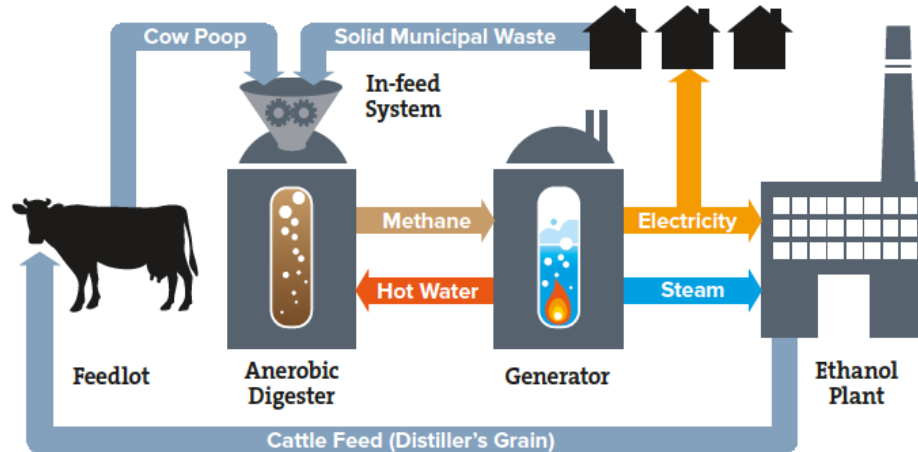
San Francisco Policy Requiring Solar Panels on New Buildings



One Week Later... Santa Monica Follows



Lethbridge Bio Gas Plant, Alberta












The UK's First Poo-Powered Bus



Growth Management Policies and Plans



Active Transportation Plans

Location	CAC Member	Plan Type	Plan Name	AT Mode Share Targets	AT Injury/Fatality Targets	AT Infrastructure Targets	AT Outreach Targets	Plan Detail
								



COLLEGE AVENUE WEST GUELPH

\$11k



COLLEGE AVENUE WEST GUELPH

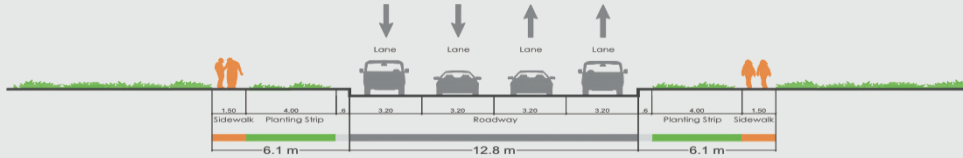


**MORE PEOPLE ON BIKES,
FEWER IN CARS**

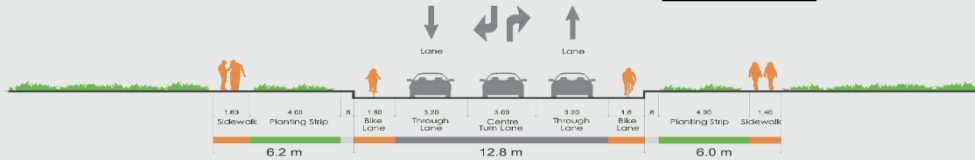


**INCONCLUSIVE
SAFETY IMPACTS**

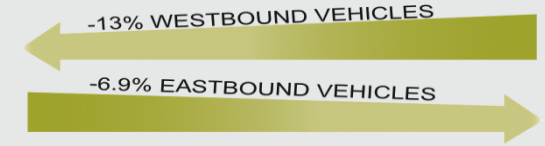
BEFORE



AFTER

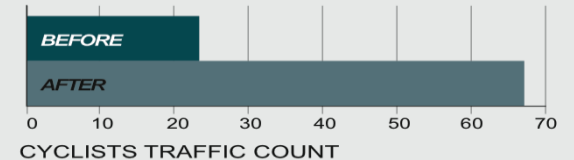


DECREASED MOTOR VEHICLES



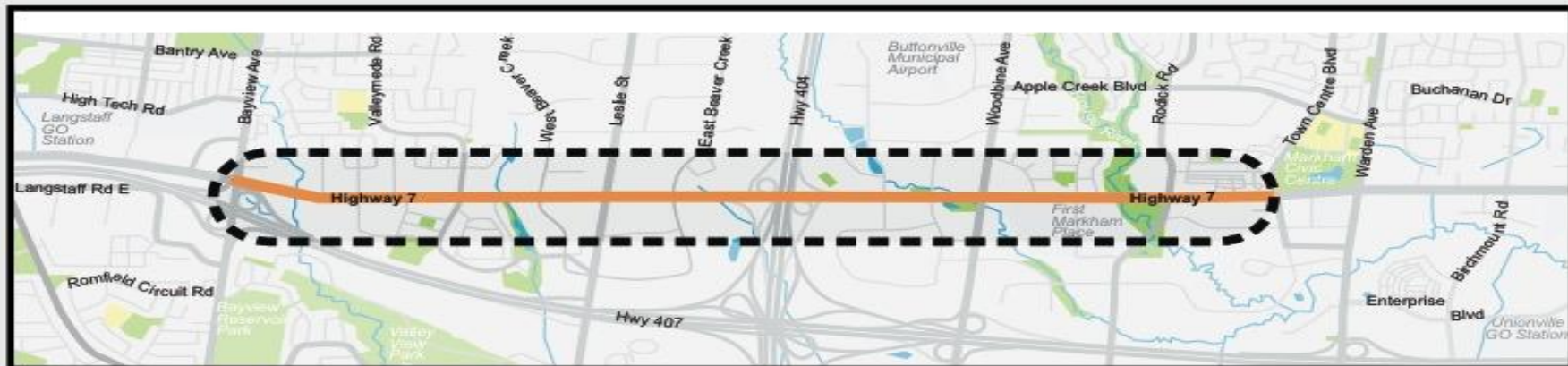
VOLUMES REDUCTION AFTER
CONSTRUCTION

INCREASED CYCLISTS



HIGHWAY 7 EAST MARKHAM/RICHMOND HILL

\$308m



HIGHWAY 7 EAST

MARKHAM/RICHMOND HILL



**MORE SUSTAINABLE
TRANSPORTATION**



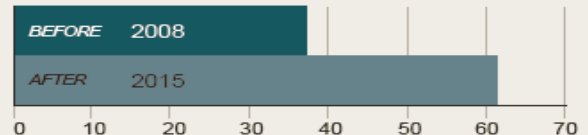
**SHORTER TRANSIT
TRAVEL TIMES**



A SAFER STREET FOR ALL



DECREASED COLLISIONS
BETWEEN DRIVERS, PEDESTRIANS & CYCLISTS



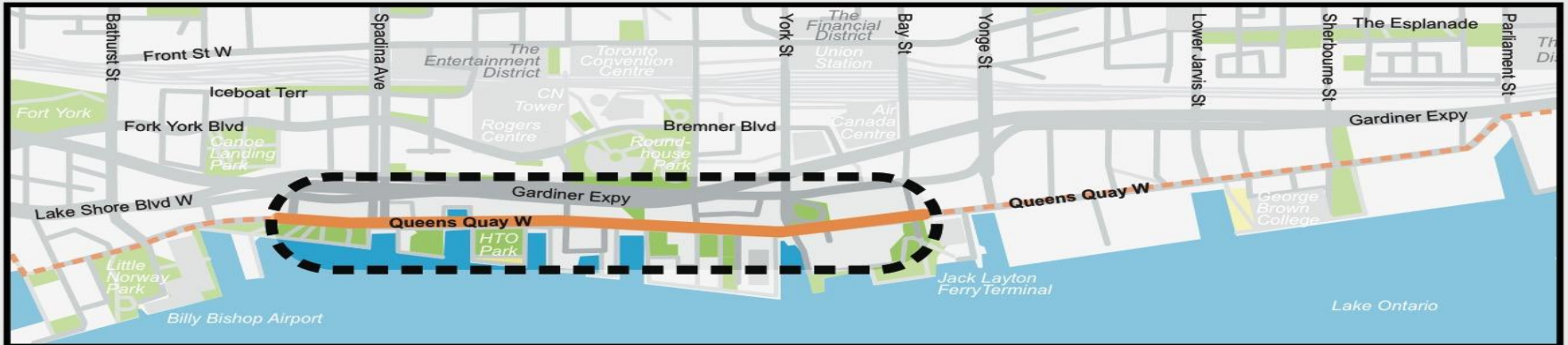
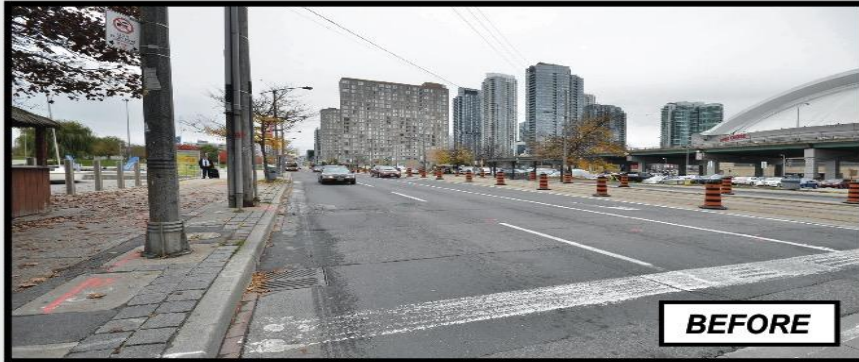
INCREASED PEDESTRIANS
PEDESTRIAN TRAFFIC COUNT



INCREASED TRANSIT RIDERSHIP
BETWEEN BAYVIEW AND TOWN CENTRE BLVD

QUEENS QUAY TORONTO

\$129m



QUEENS QUAY TORONTO

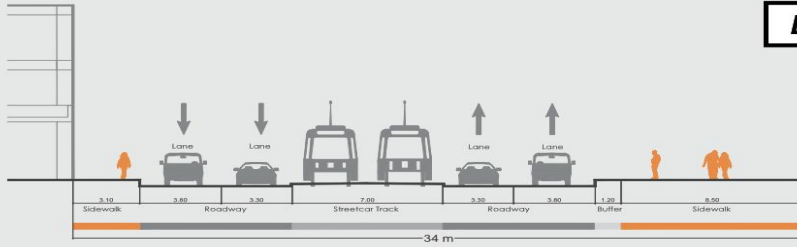


**POSITIVE PUBLIC
FEEDBACK**

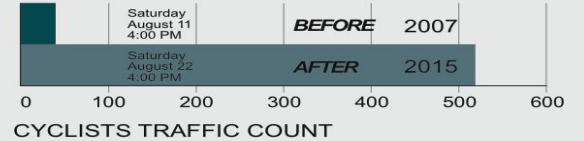
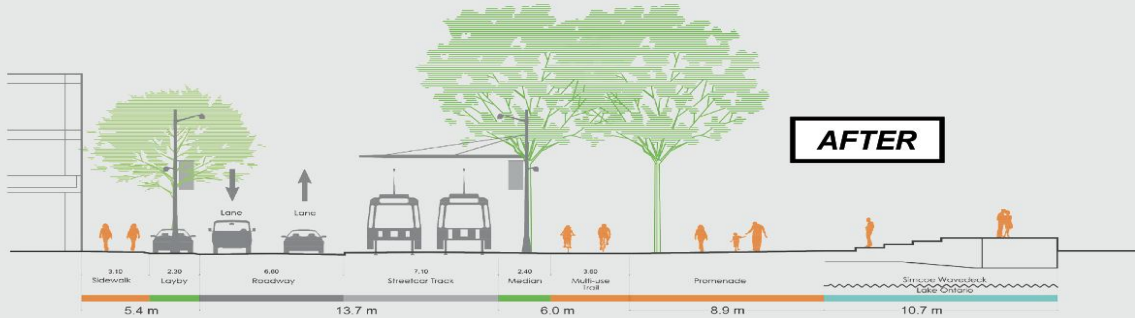


**DRAMATIC INCREASE IN
PEOPLE ON BIKES**

BEFORE



AFTER



Cyclist counts, done in **2007** and again in August **2015** after the revitalization, found an overall average

*increase in
weekend
cycling
traffic of:*

888%

Where is Your Jurisdiction on its Community Energy Journey? Where Will it Go Next?



Community Energy Planning Progress Grid	Level 1 (Building Awareness and Knowledge)	Level 2 (Building Capacity, Support and Engagement)	Level 3 (Moving on to Planning, Implementation, Monitoring and Evaluation)
Beginner	Does not see municipalities playing a role in energy planning and implementation; see that as Province's responsibility. Does not see what benefit community energy provides a municipality.	Initial communications taking place across and within departments related to the role community energy planning can play in addressing municipal priorities and issues.	Council mandate to develop Community Energy Plan. Internal buy in to benefits and engagement from council and various departments, communication and engagement of stakeholders and follow through and timeline to develop Community Energy Plan.
Intermediate	Recognizes some of the local benefits to municipal engagement on community energy related to energy efficiency benefits. Aware of provincial regional electricity plans, little coordination with stakeholders and planning being acted upon.	Review of existing Plans and identification of community energy actions/issues already identified in those Plans. Identification of gaps that need to be addressed.	Council approval of Community Energy Plan and staff and budget dedicated to implementation and progress report on implementation actions. Sharing of experiences and resources with other municipalities.
Advanced	Communications related to the benefits of community energy planning being communicated and discussed within municipality, largely isolated within one department or champion however.	Internal preparation for strategy and support for the development of a community energy plan and the goals and purpose it would serve.	Monitoring and evaluating results of community energy, integrating lessons learned into improving implementation of Community Energy Plan. Promoting the results and lessons learned of planning and implementation community energy opportunities to other municipalities and stakeholders.

Thank You

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