



Energy Density Mapping for Conservation and Demand Management Implementation

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Who is Horizon?

- Serving residents and businesses in Hamilton and St. Catharines
- Pioneer of province-wide conservation programs
- Industry leader in sustainable development
- Low residential and commercial rates
- Low operating costs
- 237,000 customers
- 400 talented employees
- \$470 million in assets
- Municipally-owned 100%
- Extensive community involvement
- Generating full returns for shareholders
- Highest credit rating of all municipal utilities (S&P 'A')



New CDM targets – mandates for LDCs

- OEB requires total demand and energy reduction targets by 2014
- Reduction targets are part of the government's IPSP
- Horizon demand reduction = 60 MW or 5.6% of 1,091 MW of peak
- Horizon energy reduction = 281,000 MWh or 4.9% of all consumption

LDC CDM Targets

#	License Name	2014 Net Annual Peak Demand Savings Target (MW)	2011-2014 Net Cumulative Energy Savings Target (GWh)
1	Algoma Power Inc.	1,280	7,370
2	Atikokan Hydro Inc.	0,200	1,160
3	Attawapiskat Power Corporation	0,070	0,290
4	Bluewater Power Distribution Corporation	10,650	53,730
5	Brant County Power Inc.	3,300	9,850
6	Brantford Power Inc.	11,380	48,920
7	Burlington Hydro Inc.	21,950	82,370
8	COLLUS Power Corporation	3,140	14,970
9	Cambridge and North Dumfries Hydro Inc.	17,680	73,660
10	Canadian Niagara Power Inc.	4,070	16,810
11	Centre Wellington Hydro Ltd.	1,640	7,810
12	Chapleau Public Utilities Corporation	0,170	1,210
13	Chatham-Kent Hydro Inc.	9,670	37,260
14	Clinton Power Corporation	0,320	1,380
15	Cooperative Hydro Embury Inc.	0,340	1,120
16	E.L.K. Energy Inc.	2,690	8,250
17	ENWIN Utilities Ltd.	26,810	117,890
18	Enersource Hydro Mississauga Inc.	92,980	417,220
19	Erie Thames Powerlines Corporation	4,280	18,600
20	Espanola Regional Hydro Distribution Corporation	0,520	2,760
21	Essar Powerlines Corporation	7,190	21,540
22	Festival Hydro Inc.	6,230	20,250
23	Fort Albany Power Corporation	0,050	0,240
24	Fort Frances Power Corporation	0,610	3,640
25	Greater Sudbury Hydro Inc.	8,220	43,710
26	Grimsby Power Inc.	2,080	7,760
27	Guelph Hydro Electric Systems Inc.	16,710	79,530
28	Haldimand County Hydro Inc.	2,850	13,300
29	Halton Hills Hydro Inc.	6,150	22,460
30	Hearst Power Distribution Company Limited	0,680	3,910
31	Horizon Utilities Corporation	60,360	281,420
32	Hydro 2000 Inc.	0,190	1,040
33	Hydro Hawkesbury Inc.	1,820	9,280
34	Hydro One Brampton Networks Inc.	46,610	189,540
35	Hydro One Networks Inc.	213,660	1,130,210
36	Hydro Ottawa Limited	85,290	374,730
37	Innesfil Hydro Distribution Systems Limited	2,500	9,200
38	Kashechewan Power Corporation	0,070	0,330
39	Kenora Hydro Electric Corporation Ltd.	0,860	5,220

CDM for commercial customers

saveONenergy™
PROCESS & SYSTEMS

PLAN ON
ERIP



Hamilton Health Sciences



CDM services for “large user” customers

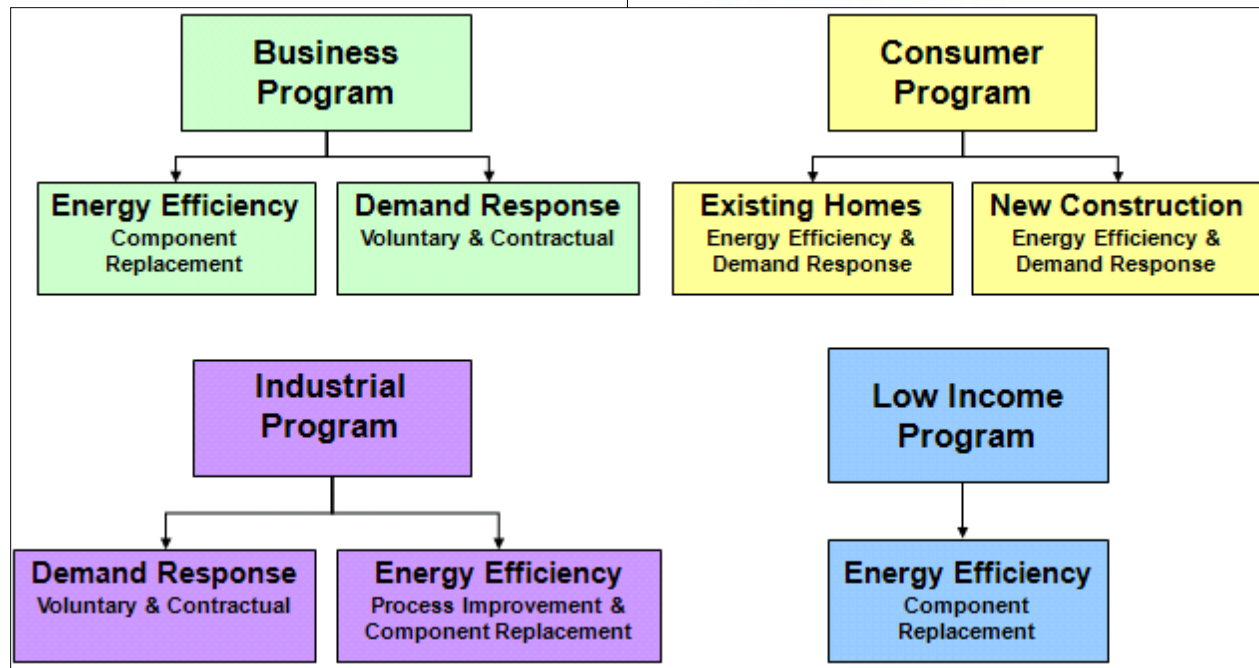


- OPA provides funding for 1 CDM Key Account Rep per 10 customers
- Horizon has 12 large users – greater than 5 MW
- Horizon now houses 3 Key Account managers for needs of 9 LDCs
- Dedicated to the needs of 30 large use customers
- Horizon is running whole process, from customer contact to application approval

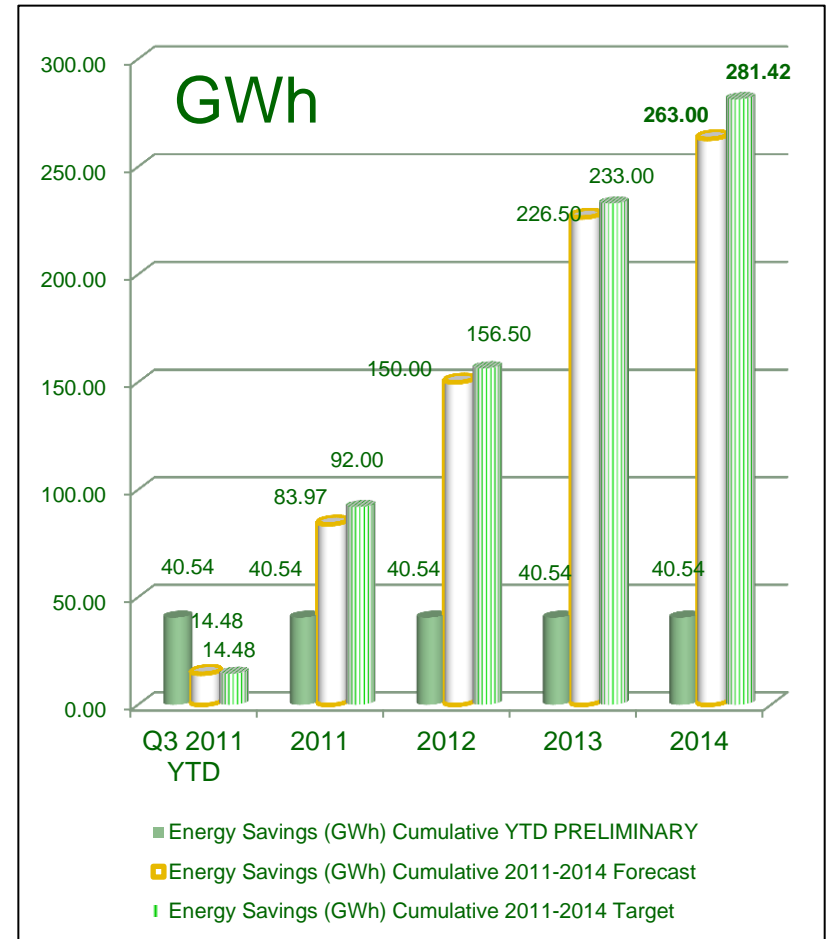
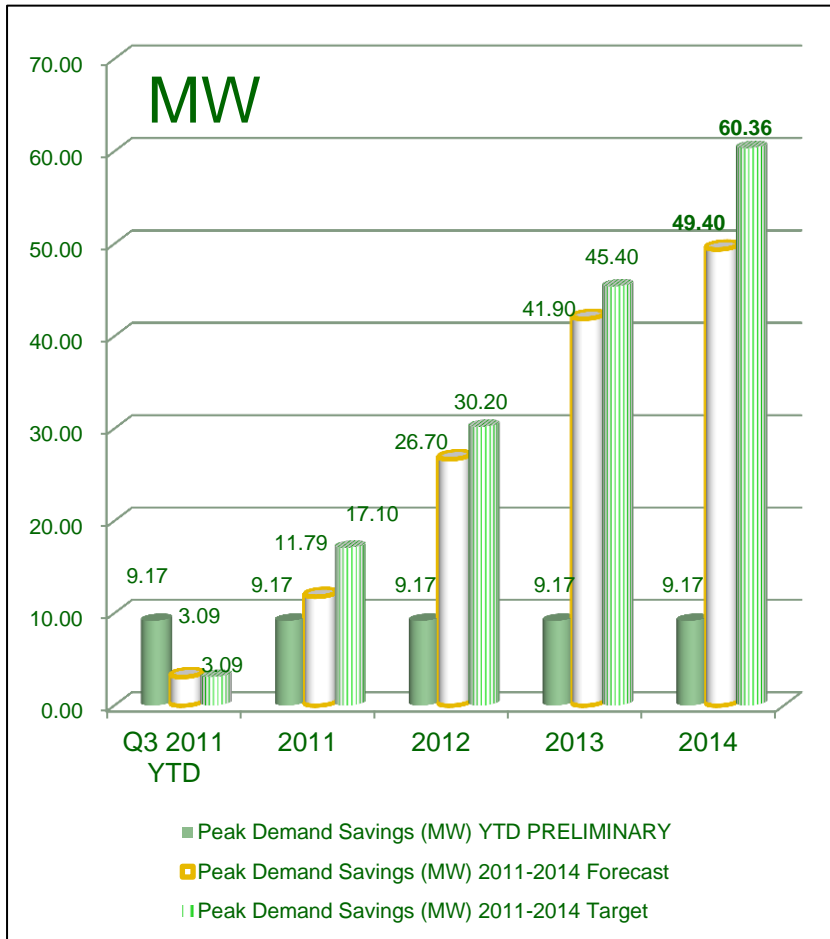
OPA's new CDM programs 2011-14



An Overview of the OPA's Conservation Programs 2011-14



Aggressive CDM targets

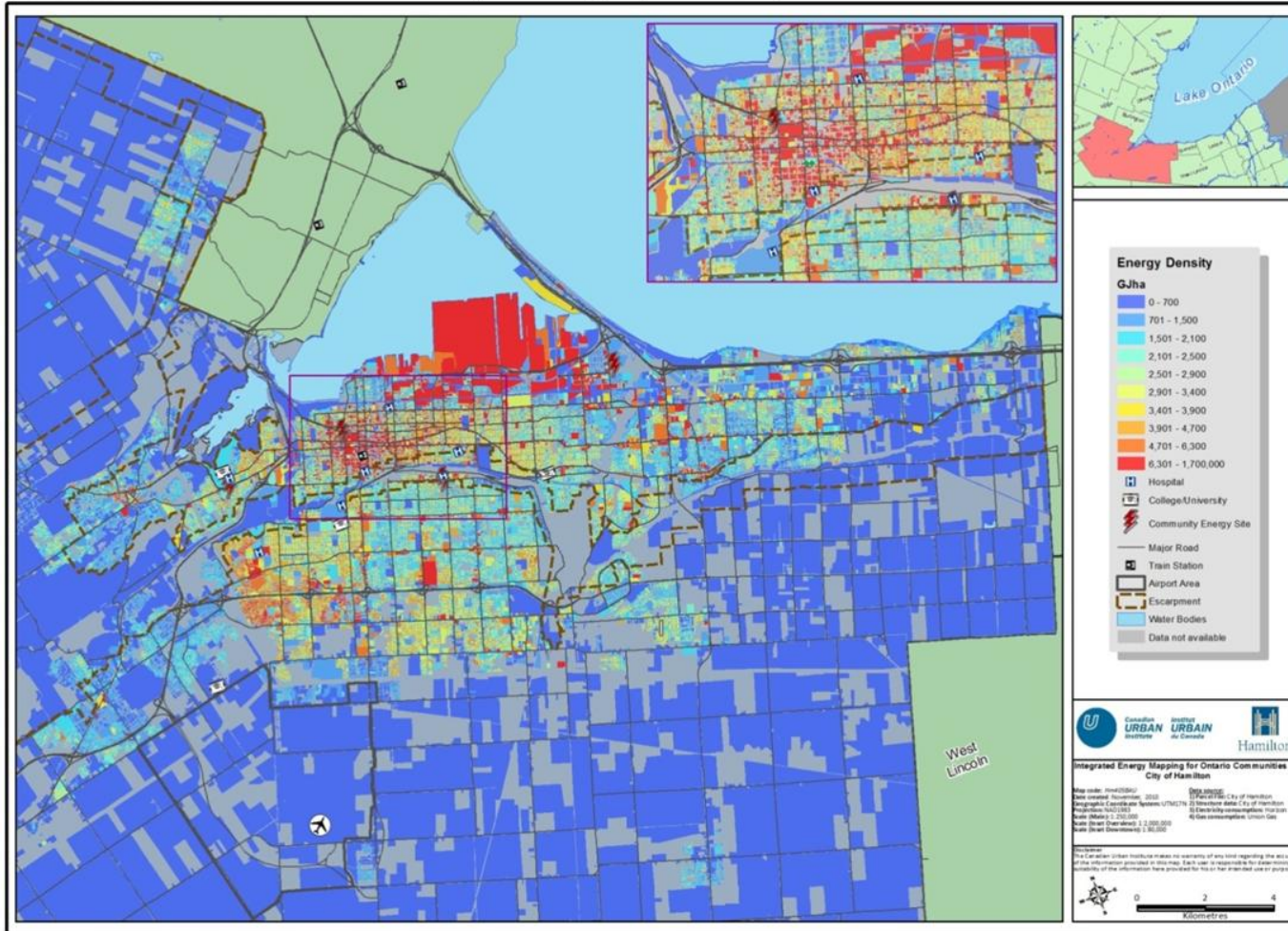


Energy mapping – Hamilton

DRAFT

Building Energy Density Map
High Efficiency, City of Hamilton, Ontario

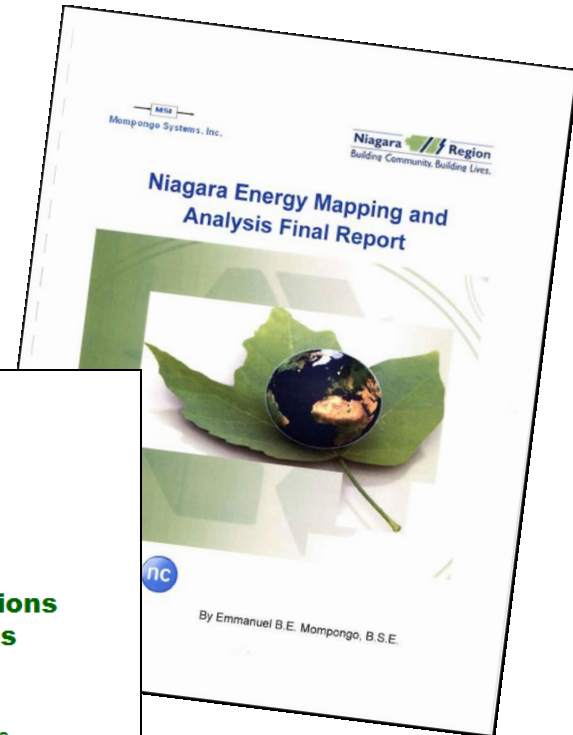
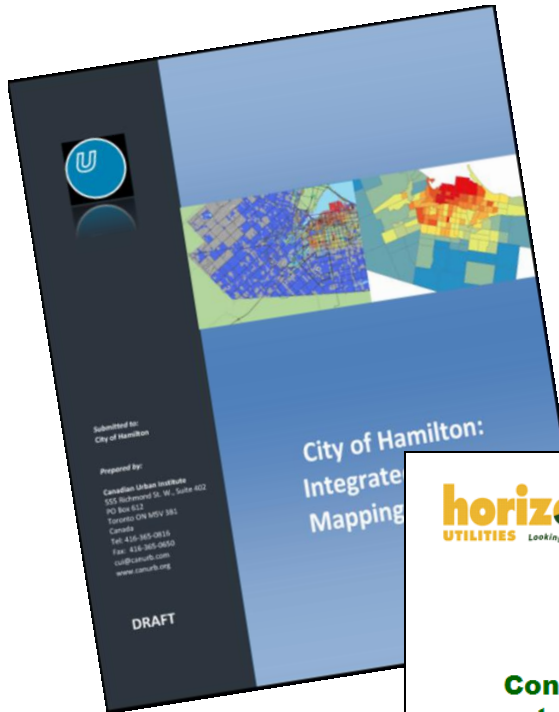
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Grid & “smart” grid / meter & “smart” meter



Tying together smart grid and smart growth

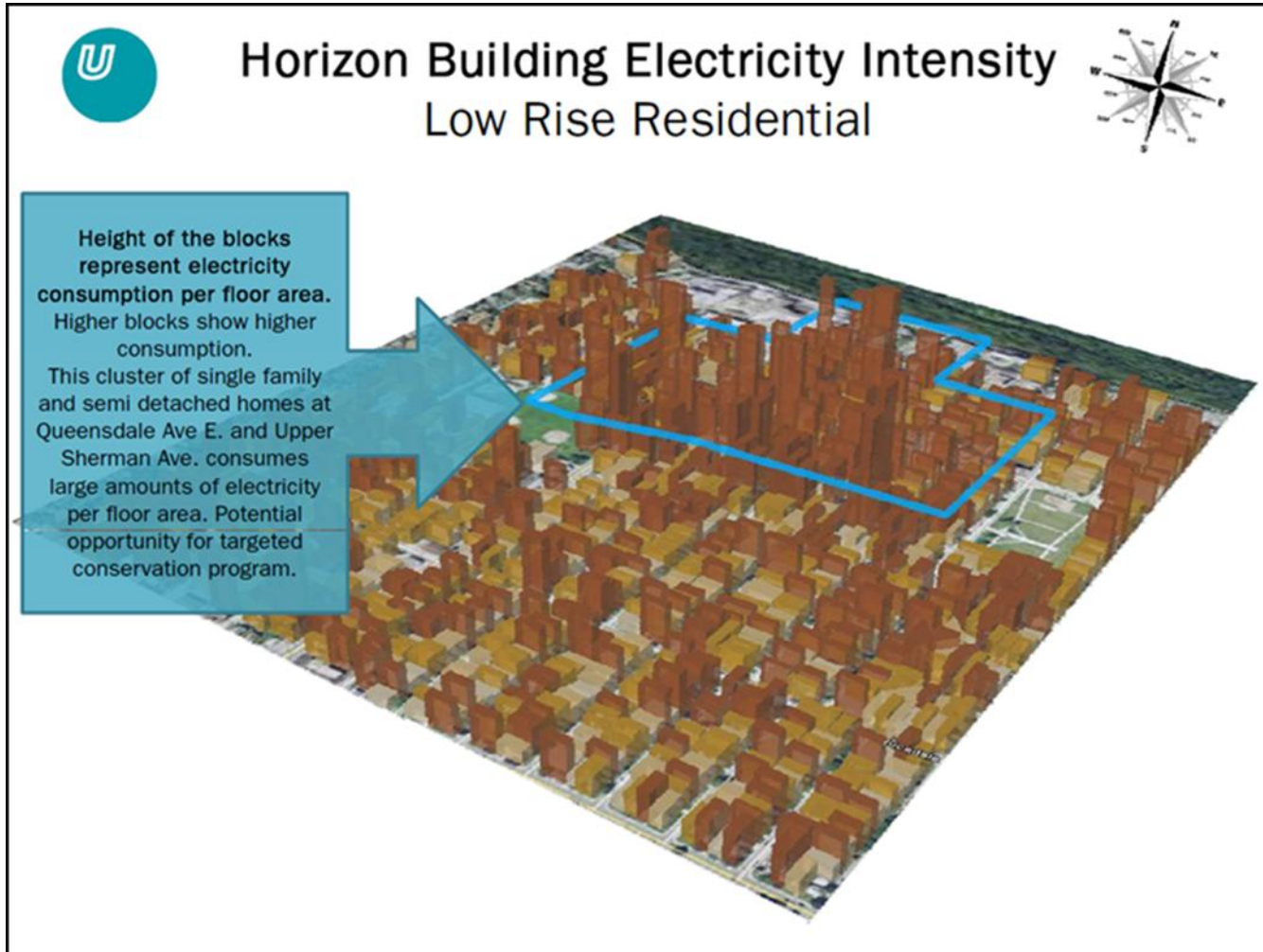


'Smart Grids' and 'Smart Growth': Contributing Sustainable Energy Solutions to Advance Sustainable Communities

The Future of LDCs:
From Wires Companies to Local Energy Companies
8th Annual Ontario Power Summit

Max Cananzi, CEO
Horizon Utilities Corporation
May 25, 2009

Mapping electric energy density



- GIS based functionality
- Plus electric use data
- Plus MPAC building attribute data
- Plus Teranet property reference data

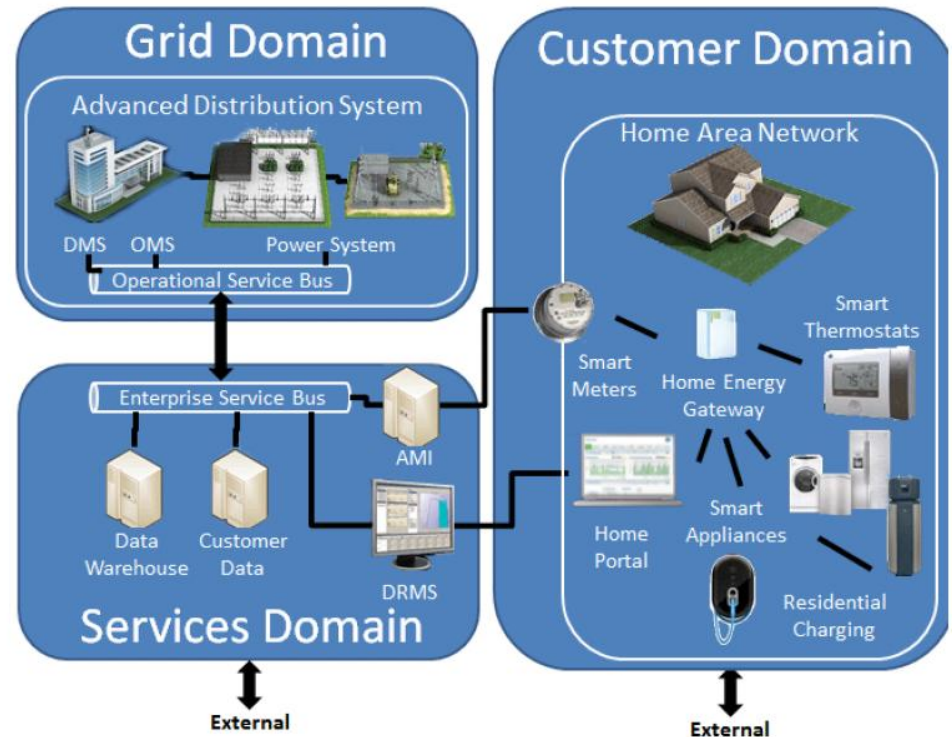
Energy mapping – Privacy



Privacy by Design

Ann Cavoukian, Ph.D.

Information & Privacy Commissioner
Ontario, Canada

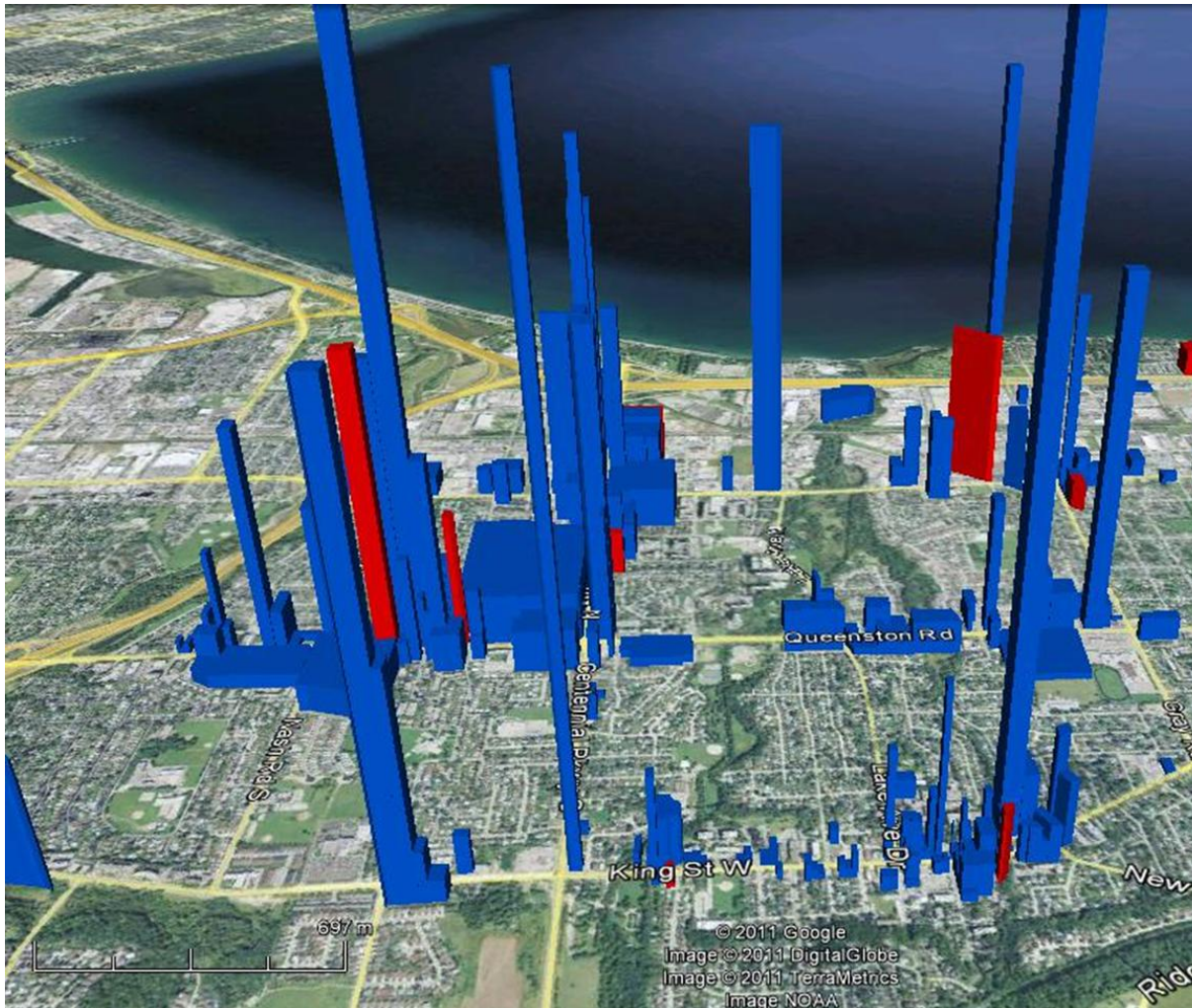


Building privacy in from the earliest design stage was ultimately the easiest, fastest, and best way to ensure that privacy considerations would be met.

CDM electric energy density mapping pilot

- Energy mapping first thought beneficial for identifying areas for smart grid / smart growth planning coordination, but is also useful for CDM
- “saveONenergy” is the OPA’s new program to reduce electricity consumption and capacity
- New CDM program tools are essential to meet OEB targets now since most of low hanging fruit is taken
- CDM and sustainable development experience brought together in energy mapping pilot to better target CDM

Commercial buildings profile

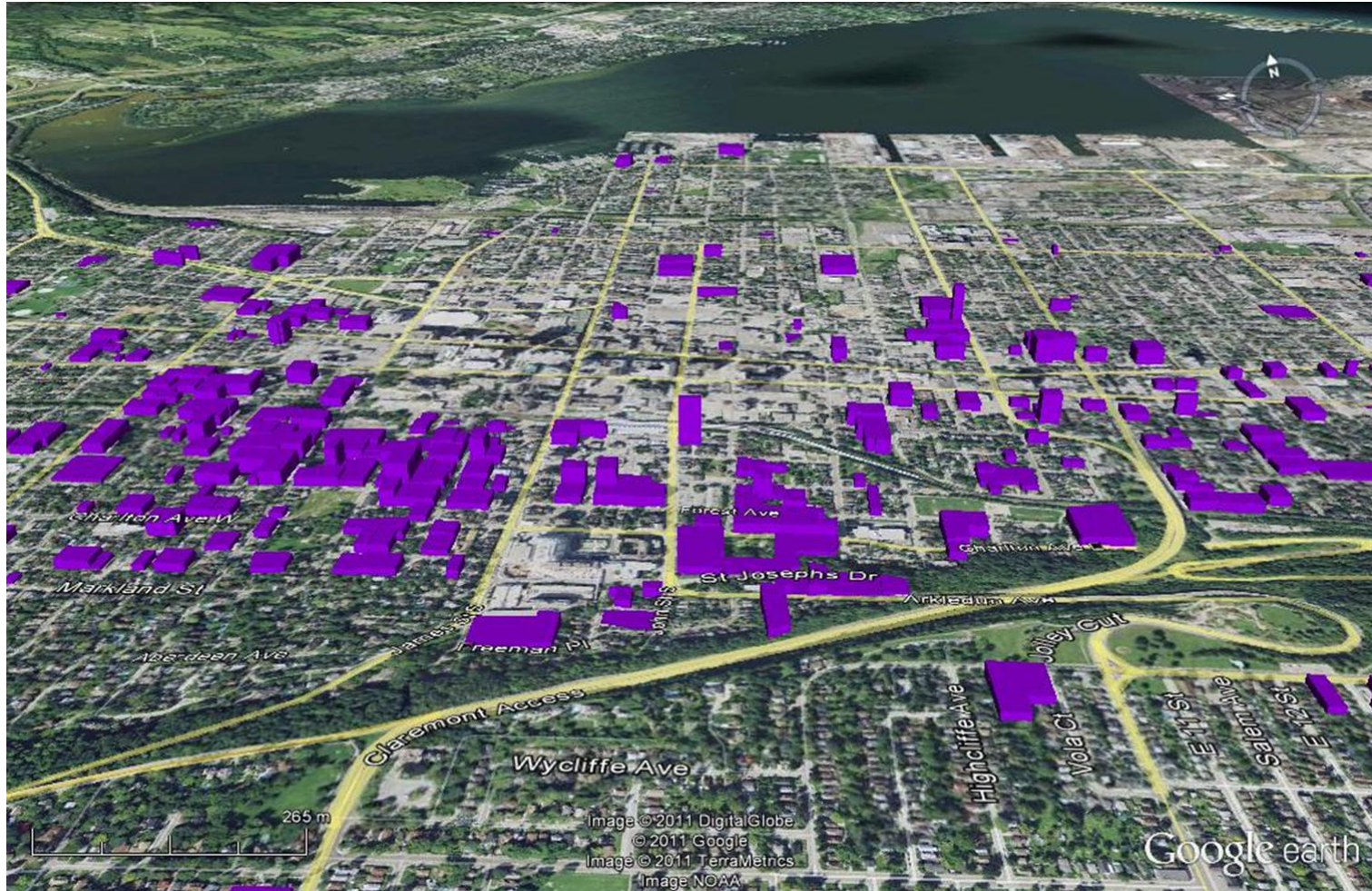


- Apply MPAC data
- Develop detailed kW/MW consumption profiles per surface area
- Understand loading (motors/ HVAC)
- Target specific solutions on the customer level

Commercial buildings profile



Multi-unit residential profile



Energy mapping pilot for CDM role out

- Pilot receiving \$500,000 from OPA's Conservation Fund
- Horizon's partners providing another \$250,000 of "in-kind" services
- Pilot focuses on energy density mapping
 - kWh per square metre is main metric
 - Other metrics leveraging MPAC building attribute data
- OPA wants Horizon project to develop CDM best practices for all Ontario LDCs
- Pilot's focus is all of Horizon – Hamilton and St. Catharines



Horizon's energy mapping partners



Statistics
Canada



Natural Resources
Canada

Energy mapping and smart grid

- Data will be useful for understanding electricity use for
 - planning for smart growth
 - smart grid implications for smart growth
- Energy mapping knowledge could be useful for
 - managing smart grids
 - managing end use data in smart grid applications

Questions?

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