



DISTRICT ENERGY IN RICHMOND

Clean, efficient energy for now and the future

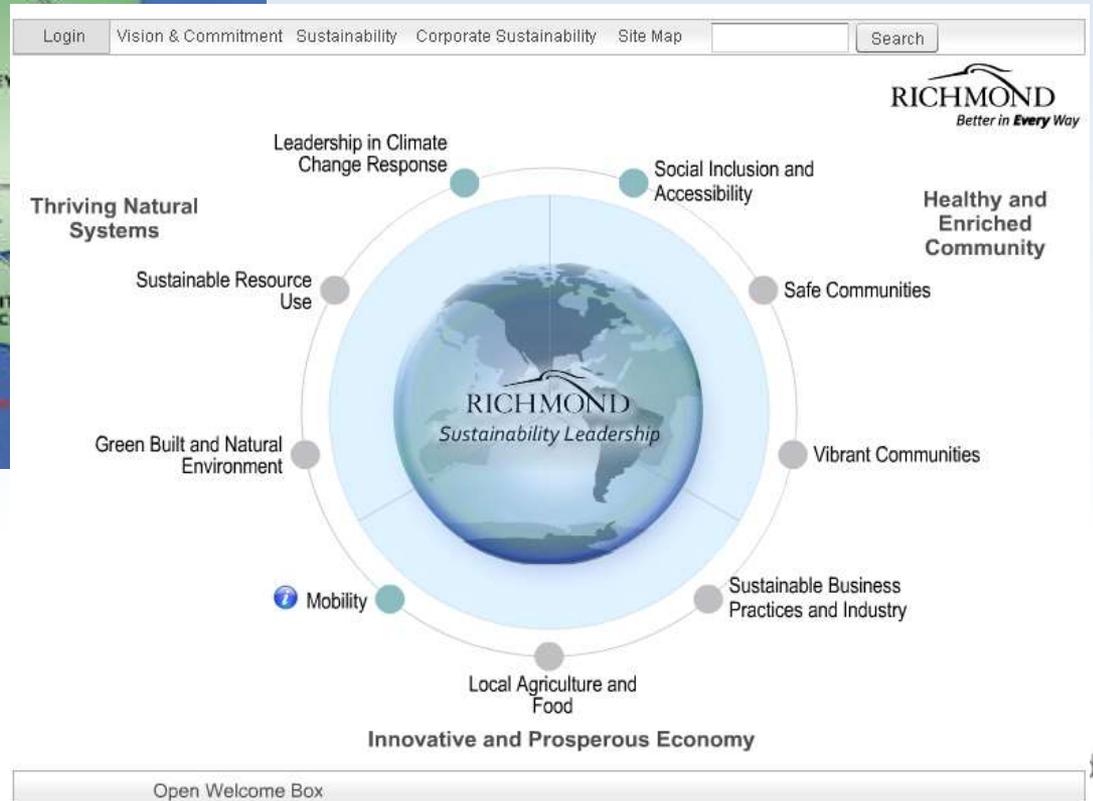
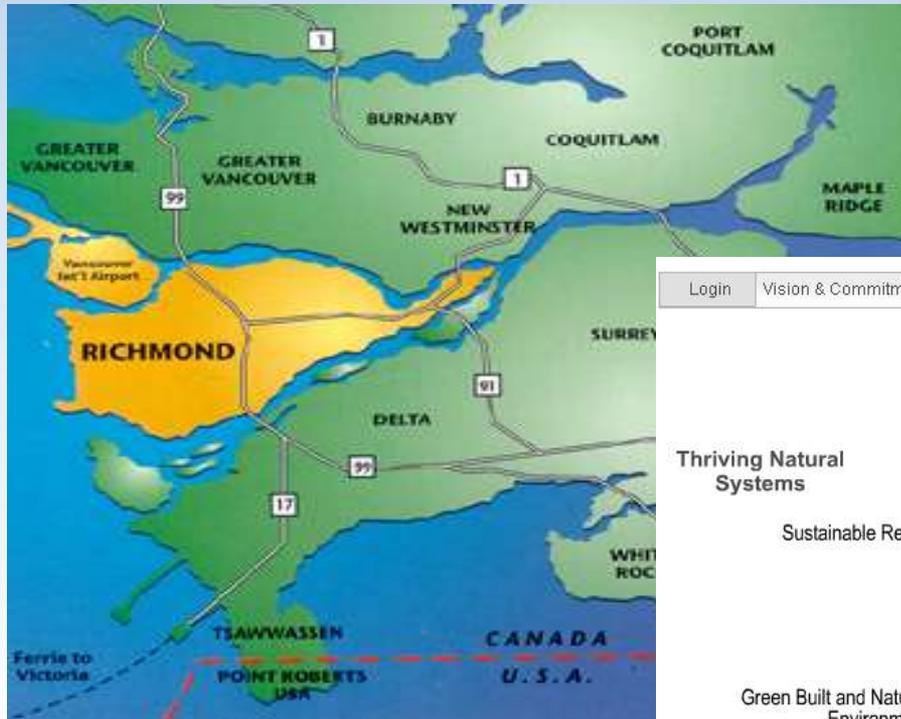
IDEA evolving ENERGY – December 7 - 10, 2015

Presented By:

Alen Postolka, P.Eng, CEM, CP

Manager, District Energy

Richmond and Sustainability



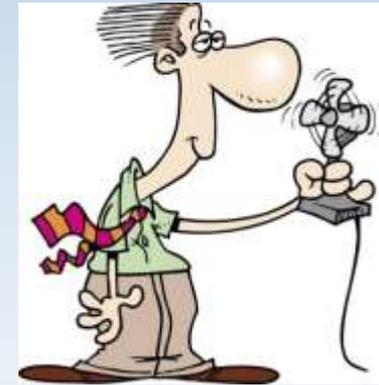
Business As Usual Heating and Cooling



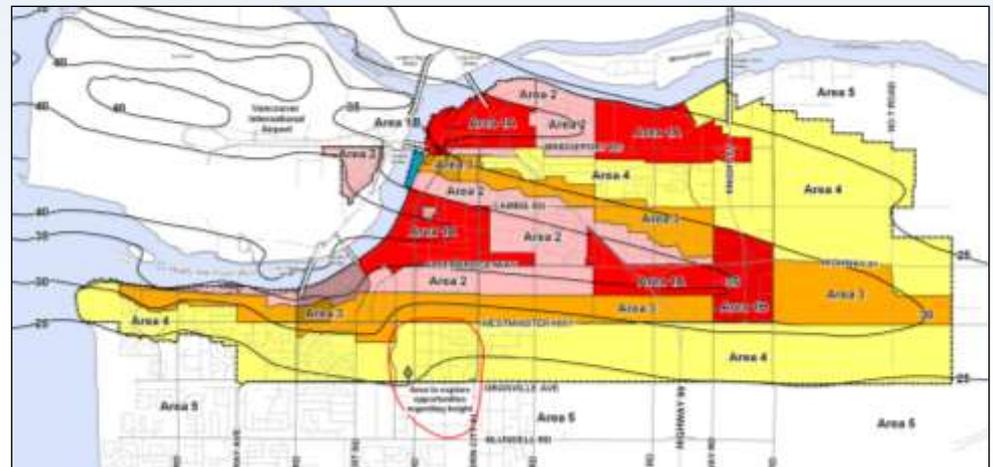
Courtesy of www.realestatesrichmond.com



Courtesy of www.bathheat.com



Courtesy of www.airconditioningrepairclearwaterfl.info



District Energy in Richmond



West Cambie



North City Centre



Oval Village



LIWWTP & Steveston

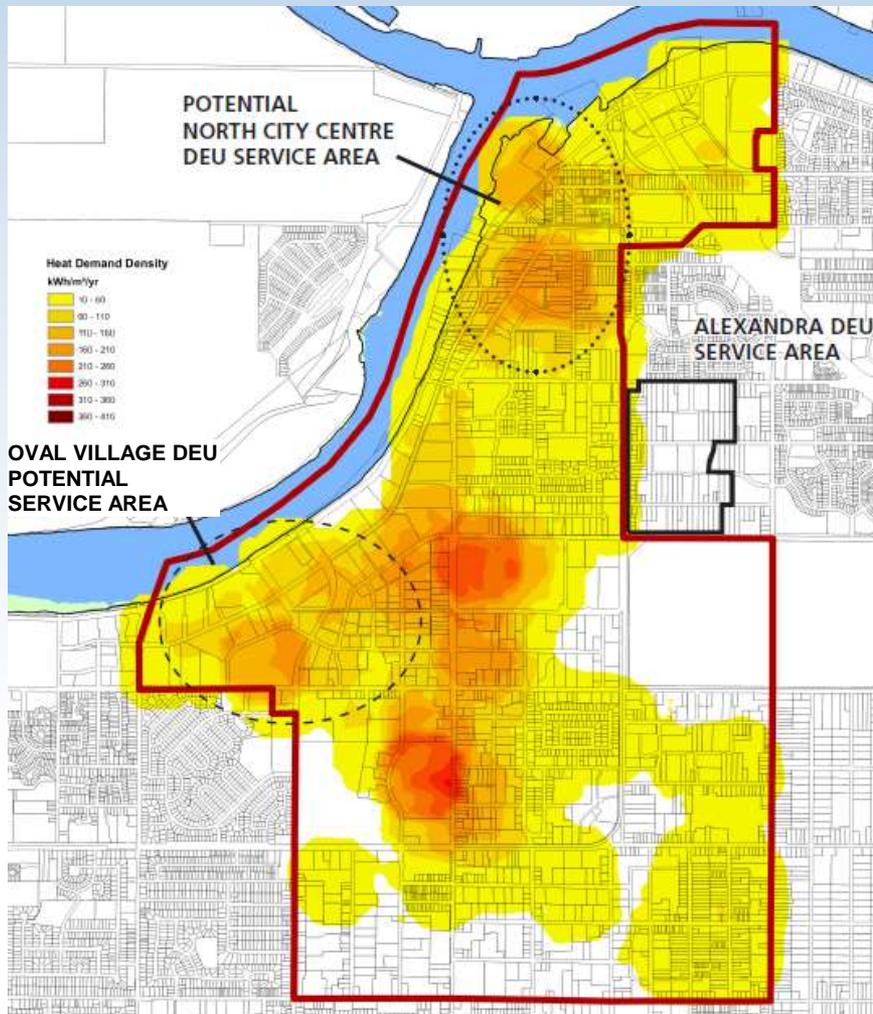


Fantasy Gardens

Two main objectives:

- Customer rate competitive with conventional energy systems
- Utilities owned by the City

Thermal Energy Demand



Active district energy nodes:

- Alexandra DEU
- Oval Village DEU

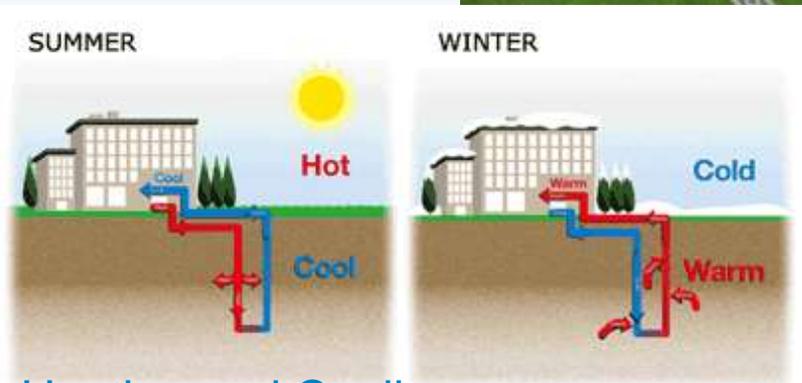
Planned district energy nodes:

- City Centre North DEU

Future district energy nodes:

- Lansdowne DEU
- City Precinct DEU

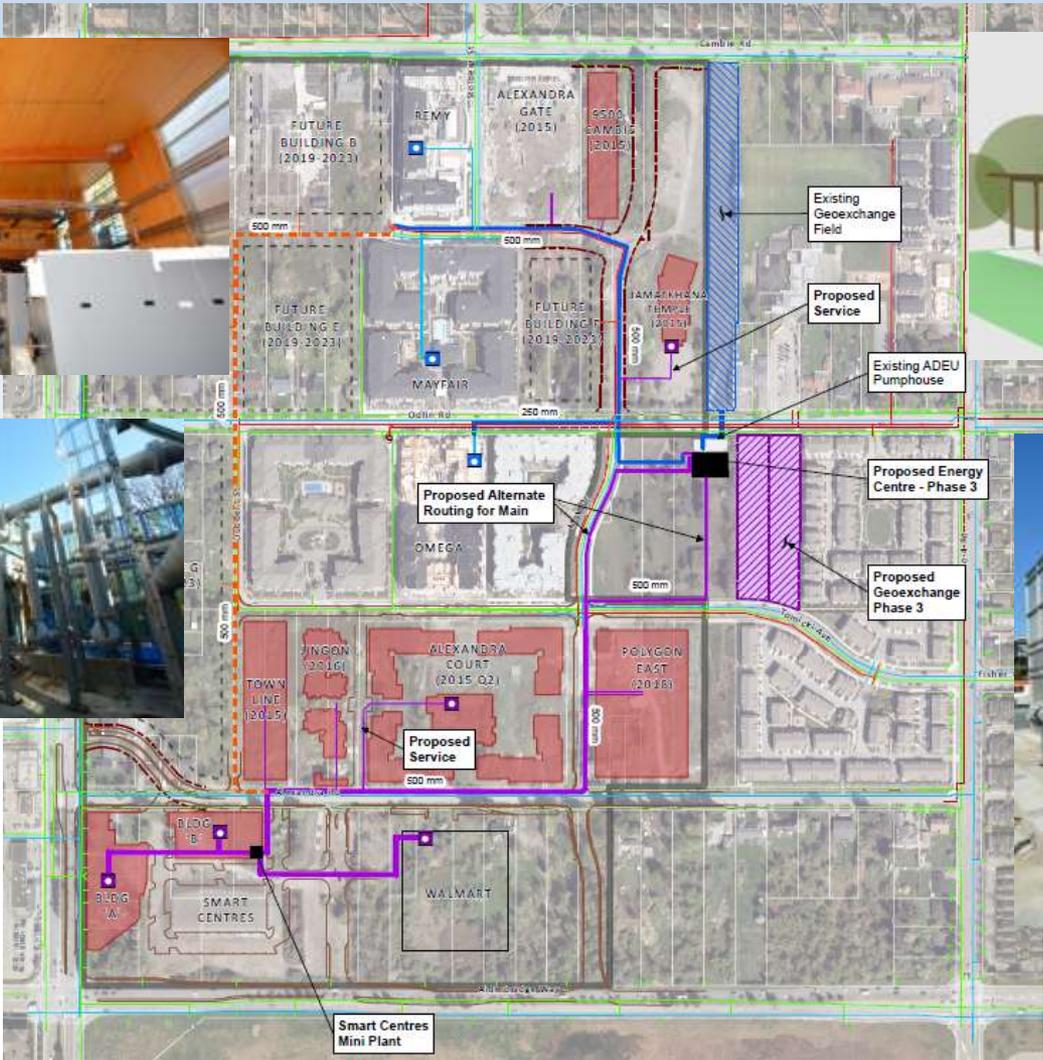
Alexandra District Energy Utility (2011)



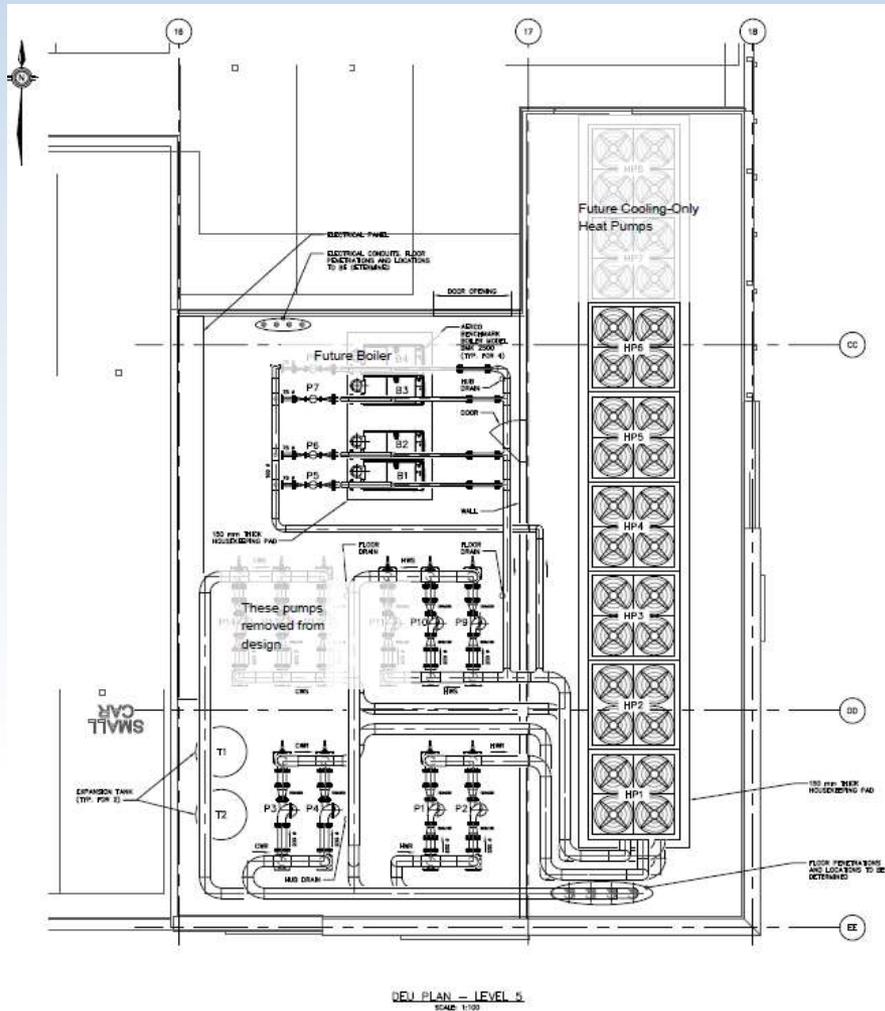
Heating and Cooling

Geo-exchange fields provide renewable energy

Alexandra District Energy Utility (2016)



Alexandra DEU - SmartCentres



Alexandra DEU



CITY OF RICHMOND

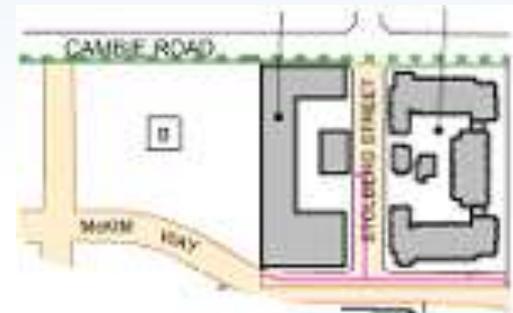
ALEXANDRA DISTRICT ENERGY UTILITY

BYLAW NO. 8641

EFFECTIVE DATE – DECEMBER 13, 2010

CONSOLIDATED FOR CONVENIENCE ONLY

This is a consolidation of the bylaws below. The amendment bylaws have been combined with the original bylaw for convenience only. This consolidation is not a legal document. Certified copies of the original bylaws should be consulted for all interpretations and applications of the bylaws on this subject.



Alexandra DEU

- City owns, designs, builds, finances and operates ADEU
- Rates to customers competitive with conventional energy systems
- Rates to customer recover all capital and operating costs
- \$31M capital cost at full build out
- Payback 17 years



Lulu Island Energy Company



2014 | Annual Report

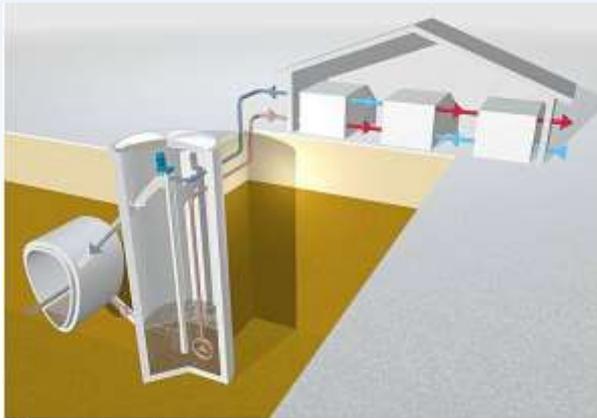


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Oval Village DEU

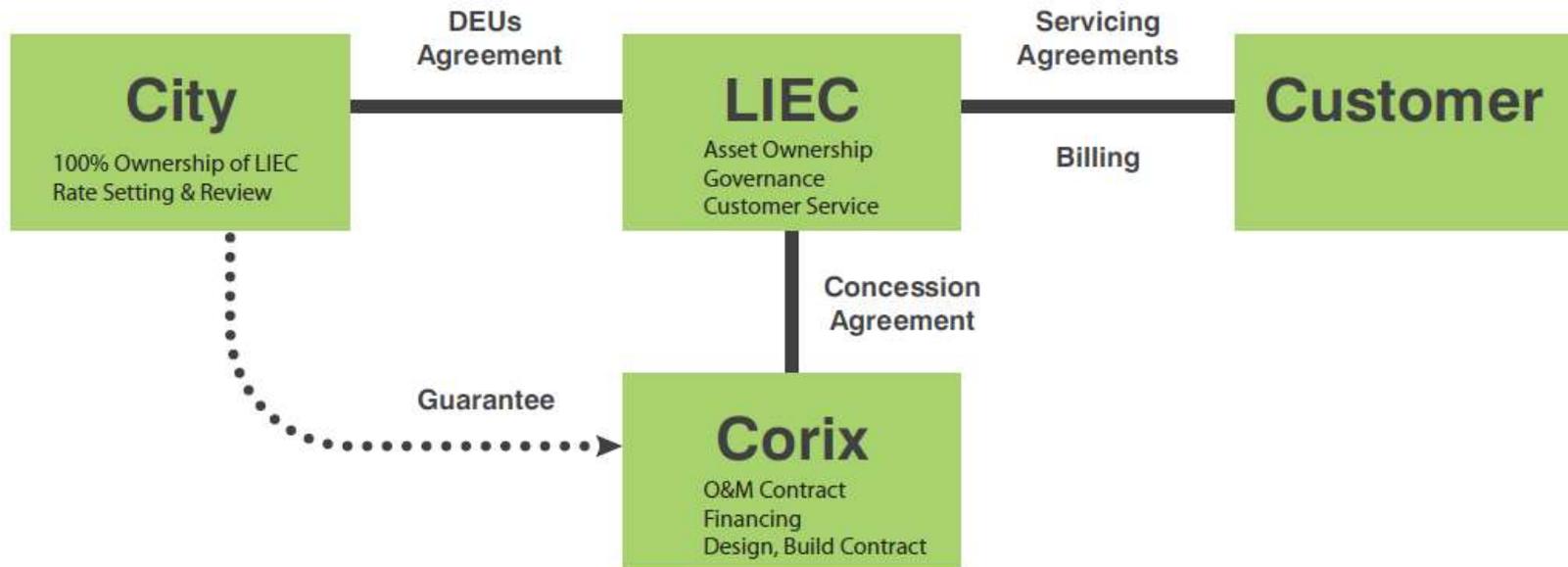
Area of Rapid Change and Dense Development



Courtesy of www.directindustry.com

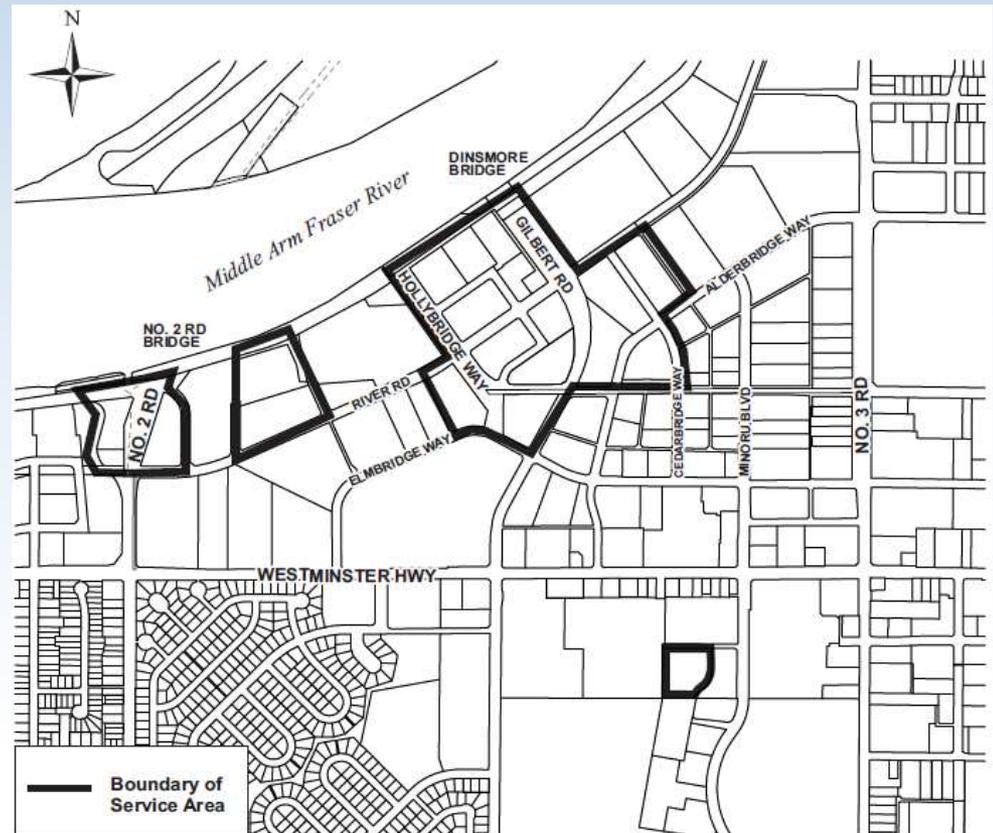
Sewer heat recovery

Oval Village DEU

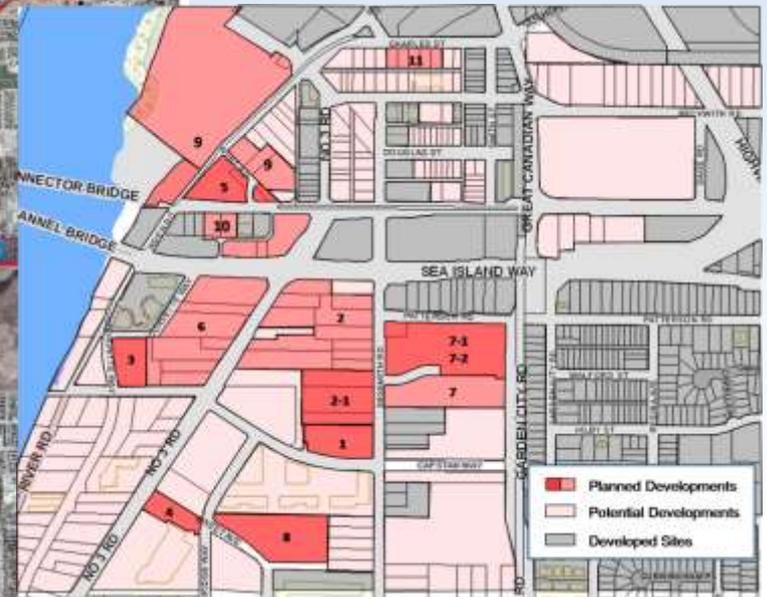


Oval Village DEU Business Plan

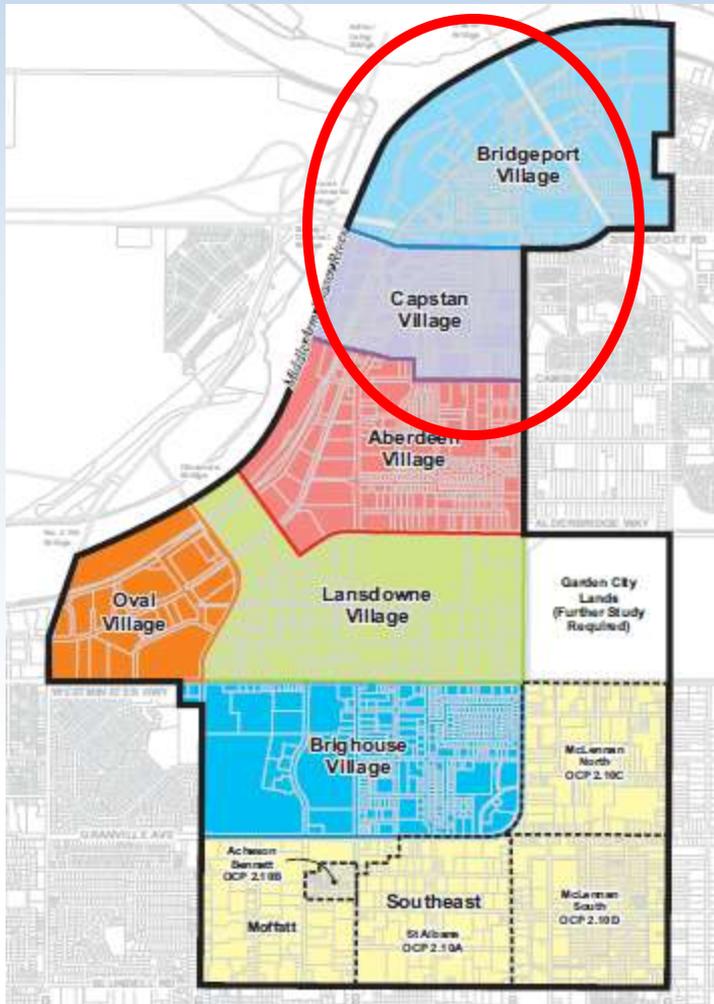
- Corix design, builds, finance and operate OVDEU
- LIEC owns OVDEU / Council sets the rate
- \$30M overall capital program
- No capital costs assumed by City; City provides land
- Rates to customers competitive with conventional energy systems
- Rates to customer recover all capital and operating costs
- Mandatory connection via Service Area Bylaw



DEU-Ready Policy



North City Centre DEU



North City Centre DEU

Development:

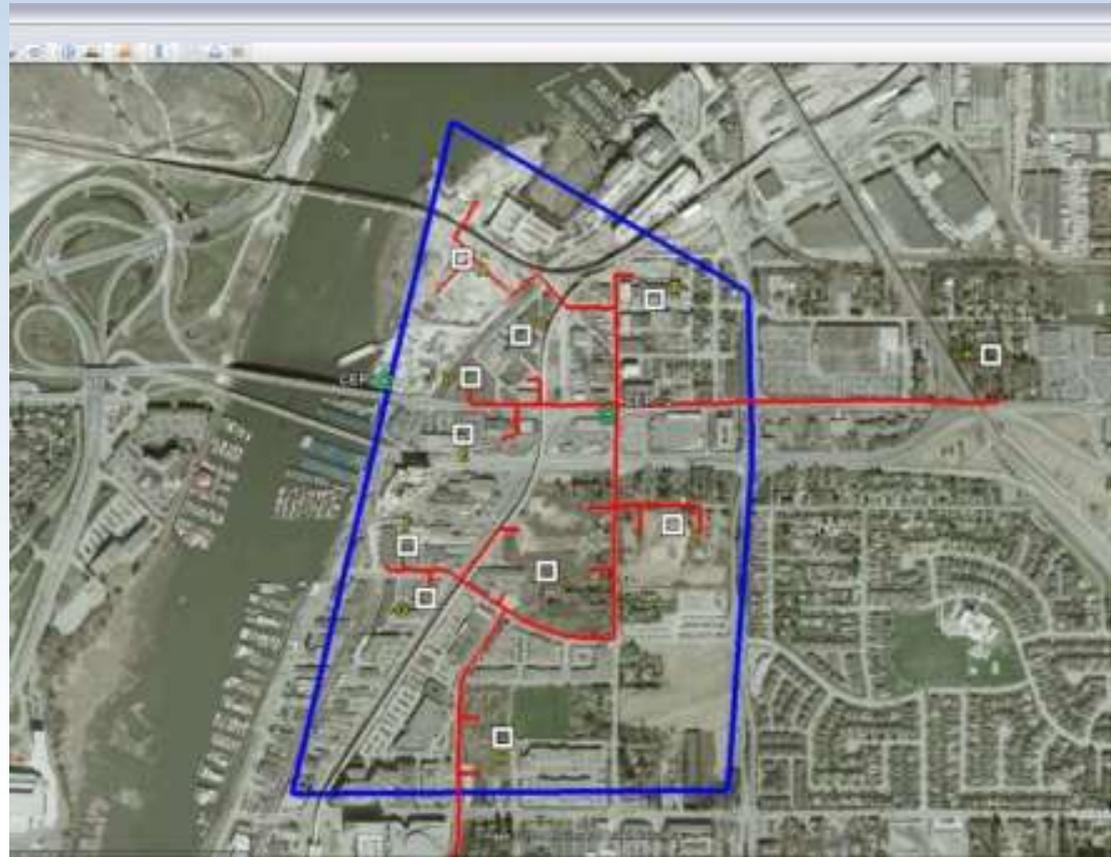
- Over 8.2 M ft² under development

Energy demand (2011):

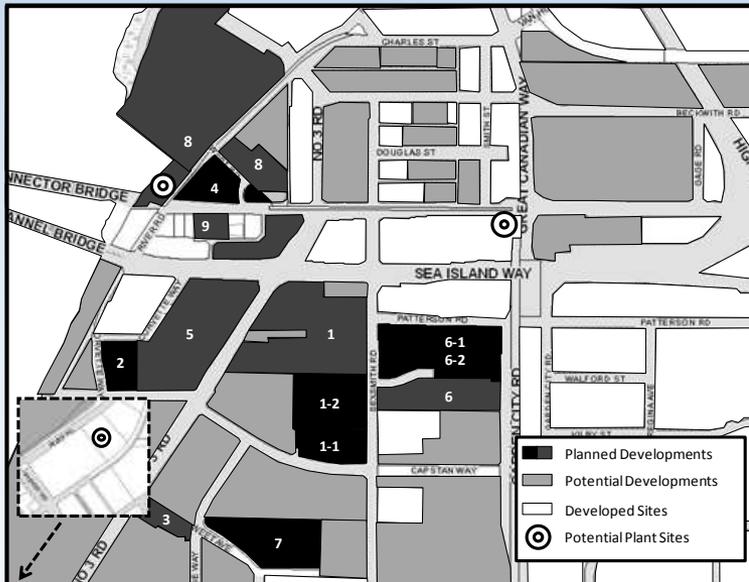
- 25 MW heating
- 12 MW cooling

Technologies:

- River heat recovery
- Sewer heat recovery
- Biomass
- Something else?



North City Centre DEU



Map	Project	Proposed Floor Area (sq. ft.)	Use
1	Pinnacle Centre (4 Phases)	1.55M	
1-1	Phase 1A	187,300	Residential
1-2	Phase 1B	378,300	Residential
2	Minglian (GBL)	175,300	Mixed Use
3	DHI Holdings "Studio One"	76,000	Residential
4	GBL "Hotel Versante"	214,000	Commercial
5	Yuanheng Seaside Developments	1.05M	Mixed Use
6	Concord Gardens (5 Phases)	1.04M	
6-1	Phase 1	251,800	Residential
6-2	Phase 2-3	430,200	Residential
7	Polygon "Avanti"	478,000	Residential
8	Jingon International	4.4M	Commercial
9	Wensley Architecture	320,000	Commercial



5326 EOI

REQUEST FOR EXPRESSIONS OF INTEREST – 5326 EOI

DESIGN, BUILD, FINANCE, AND OPERATE A DISTRICT ENERGY UTILITY AT NORTH CITY CENTRE IN RICHMOND, BC

City Centre DEU:

- Reliable
- Low Cost
- Adaptable and Sustainable
- Excellent Customer Service

Why District Energy

DISTRICT ENERGY SYSTEMS ARE SUSTAINABLE ENERGY SYSTEMS:

- ✓ ADAPTABLE TO FUTURE ENERGY TECHNOLOGIES AND SOURCES
- ✓ REDUCE DEPENDENCY ON NON-RENEWABLE ENERGY SOURCES
- ✓ REDUCE GREENHOUSE GAS EMISSIONS
- ✓ INCREASE COMMUNITY ENERGY RESILIENCY
- ✓ PROVIDE ECONOMIC BENEFITS TO THE COMMUNITY

**DISTRICT ENERGY SYSTEMS ARE
KEY COMPONENT OF A SUSTAINABLE COMMUNITY**



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THANK YOU