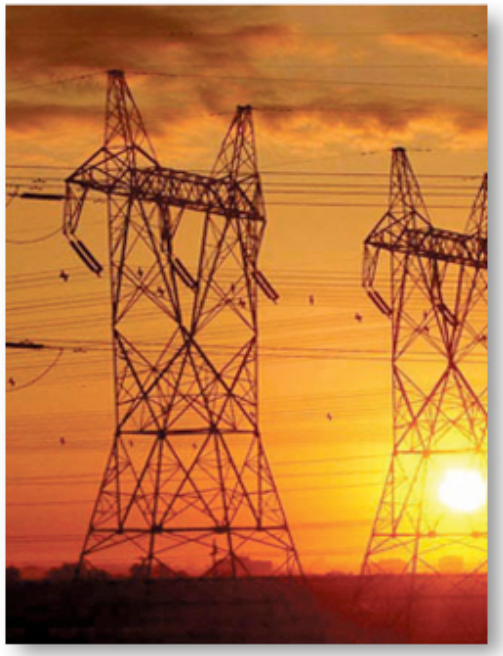
Whither/Wither Ontario's Power Grid?



Steve Dorey
Vice-President, External Relations

Waterloo DG Conference
October 27, 2008

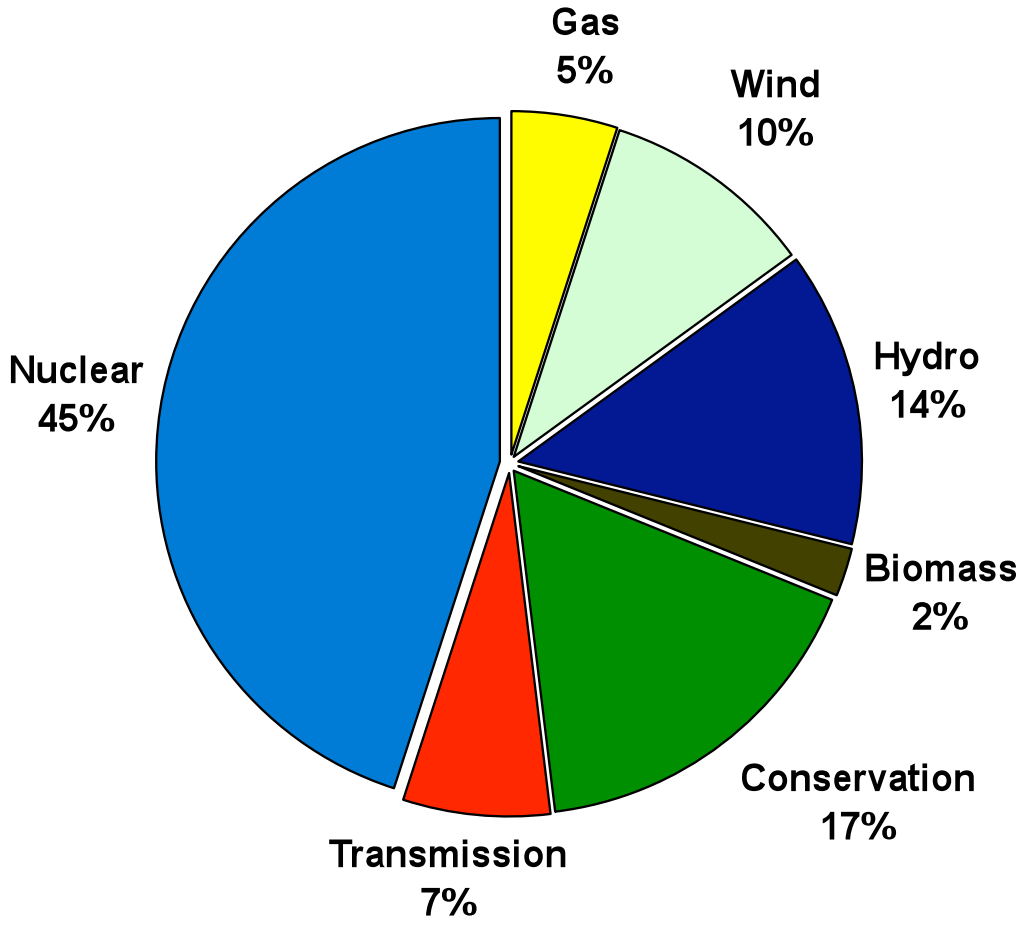
hydro one

Possible T & D Futures

- Status Quo plus IPSP
- DG with Community Minigrids
- Integrated Regional Supply

Hydro One's System

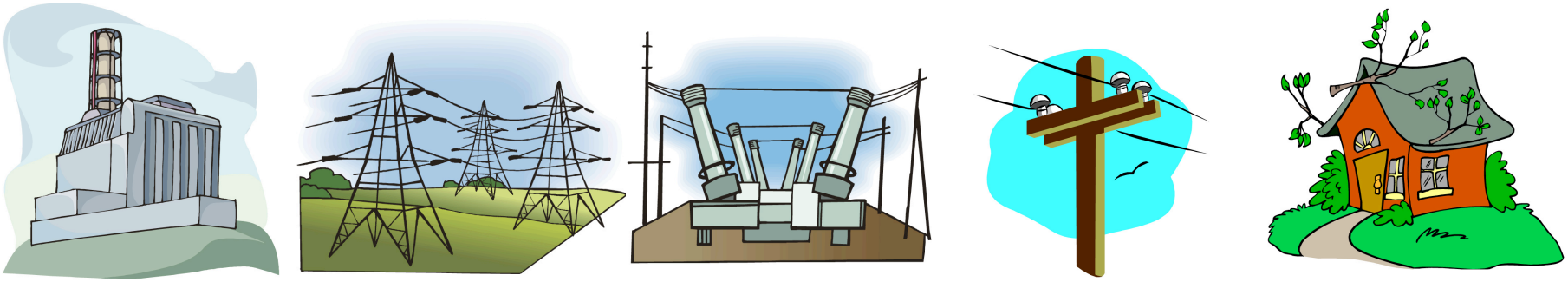
Transmission Represents 7% of Costs in IPSP



	2007 $ Billions
Conservation	10.2
Transmission	4.0
Nuclear	26.5
Gas	3.6
Wind	6.0
Hydro	8.4
Biomass	1.0
Total	59.7

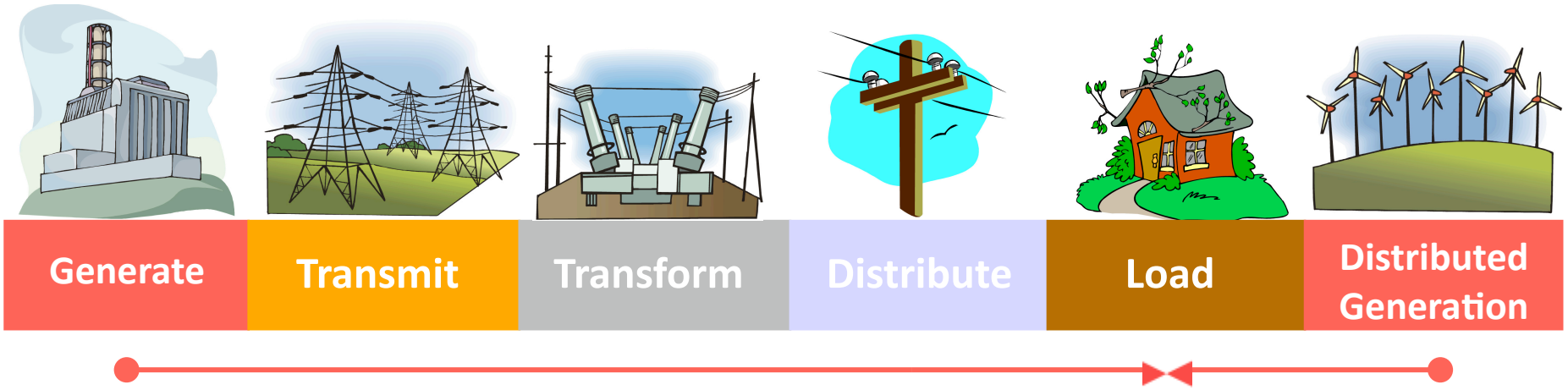
Overall Transmission Proposal in Ontario's Integrated Power system Plan (IPSP)

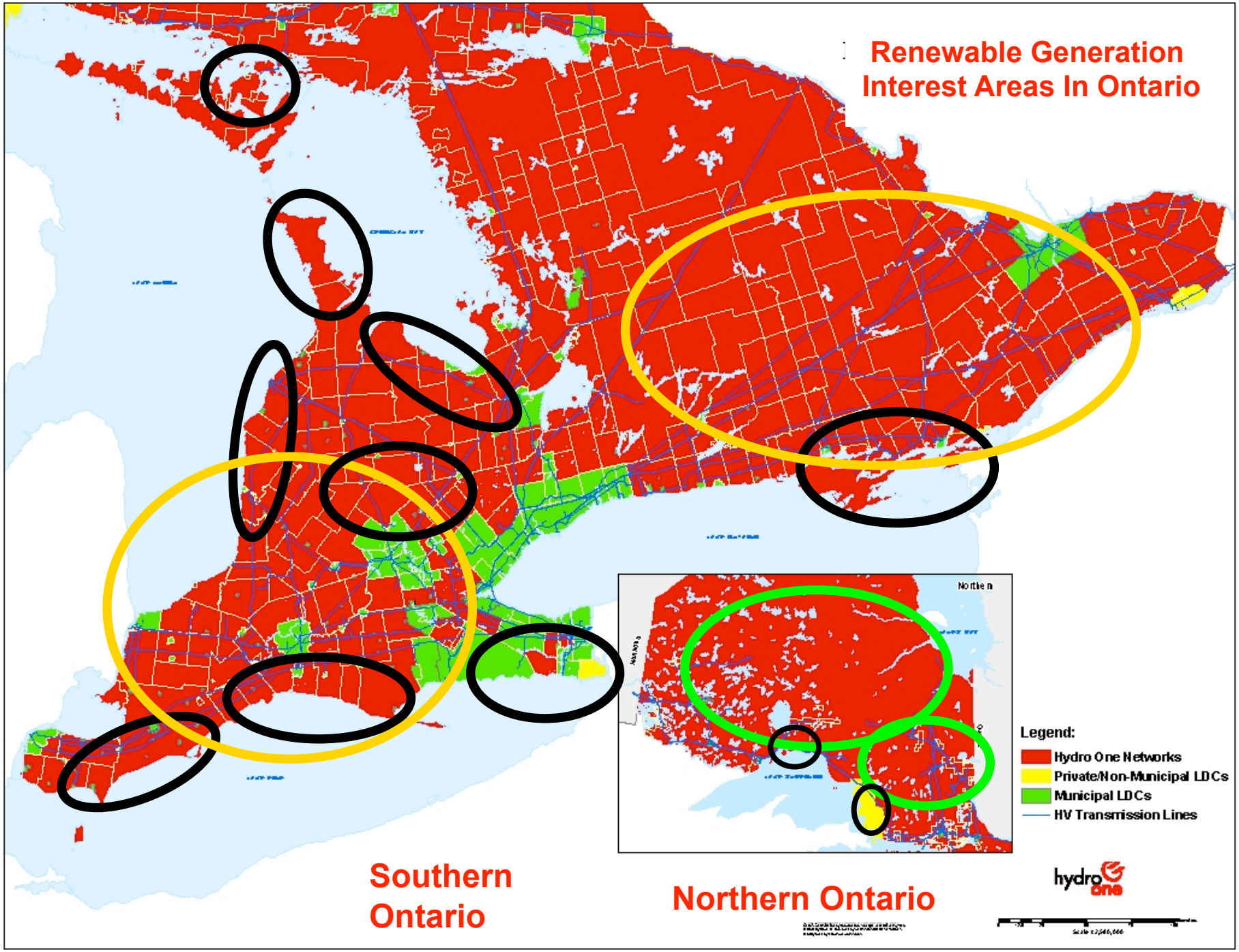
System Without Distributed Generation



Generate | Transmit | Transform | Distribute | Load

System With Distributed Generation




Renewable Generation
Interest Areas In Ontario
Southern
Ontario
Northern Ontario
Legend:
Hydro One Networks
Private/Non-Municipal LDCs
Municipal LDCs
HV Transmission Lines
hydro one

DG vs Small Renewables

- DG = “generation embedded in large load centres” (Conference Brochure)
- Small renewables tend to be distant from large load centres, and often located on rural distribution feeder lines

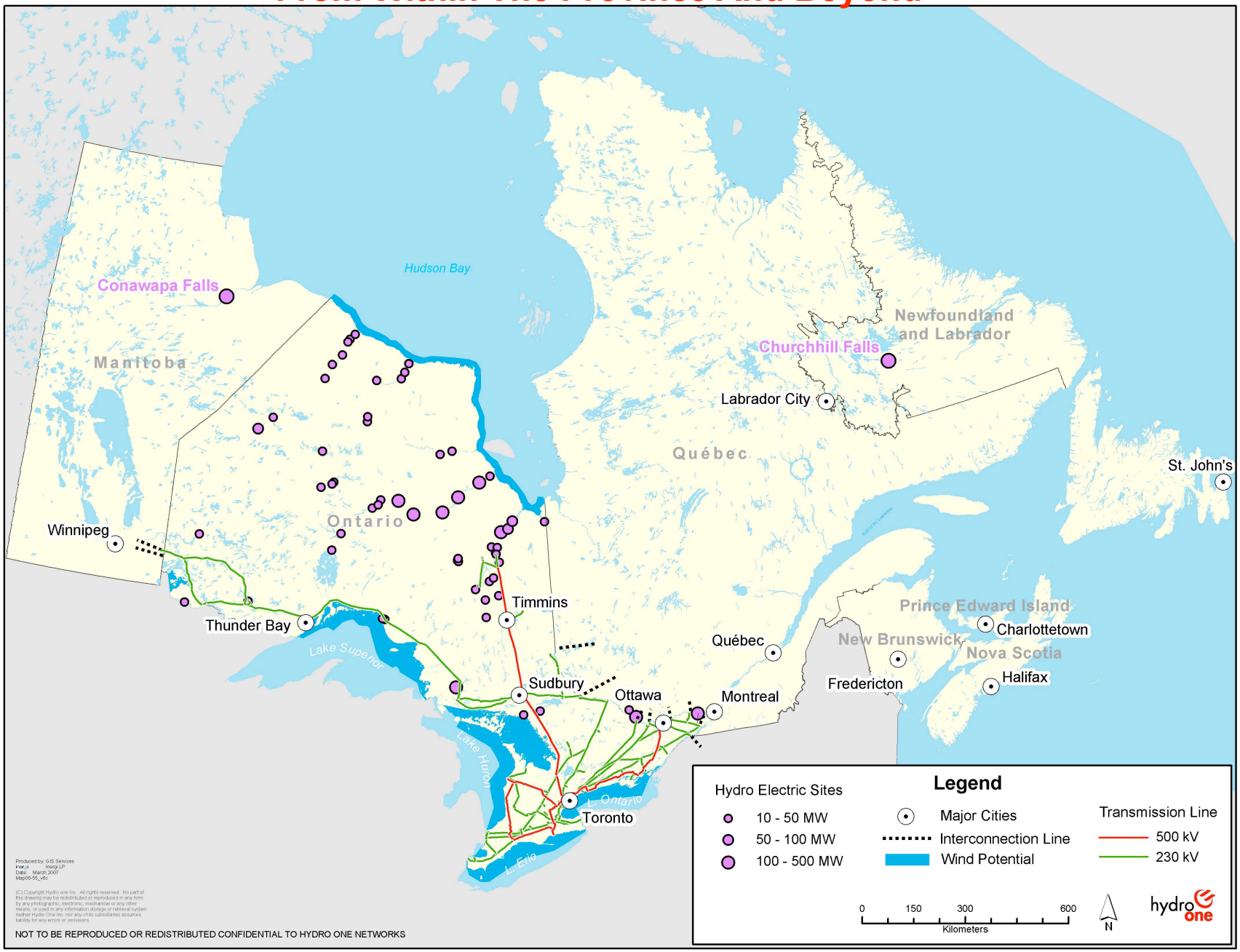
Distributed Generation Applications

- Emergency backup
- Power quality
- Congestion solutions
- Remote communities
- Combined heat and power
- Peak shaving
- Water heating
- Base load power…

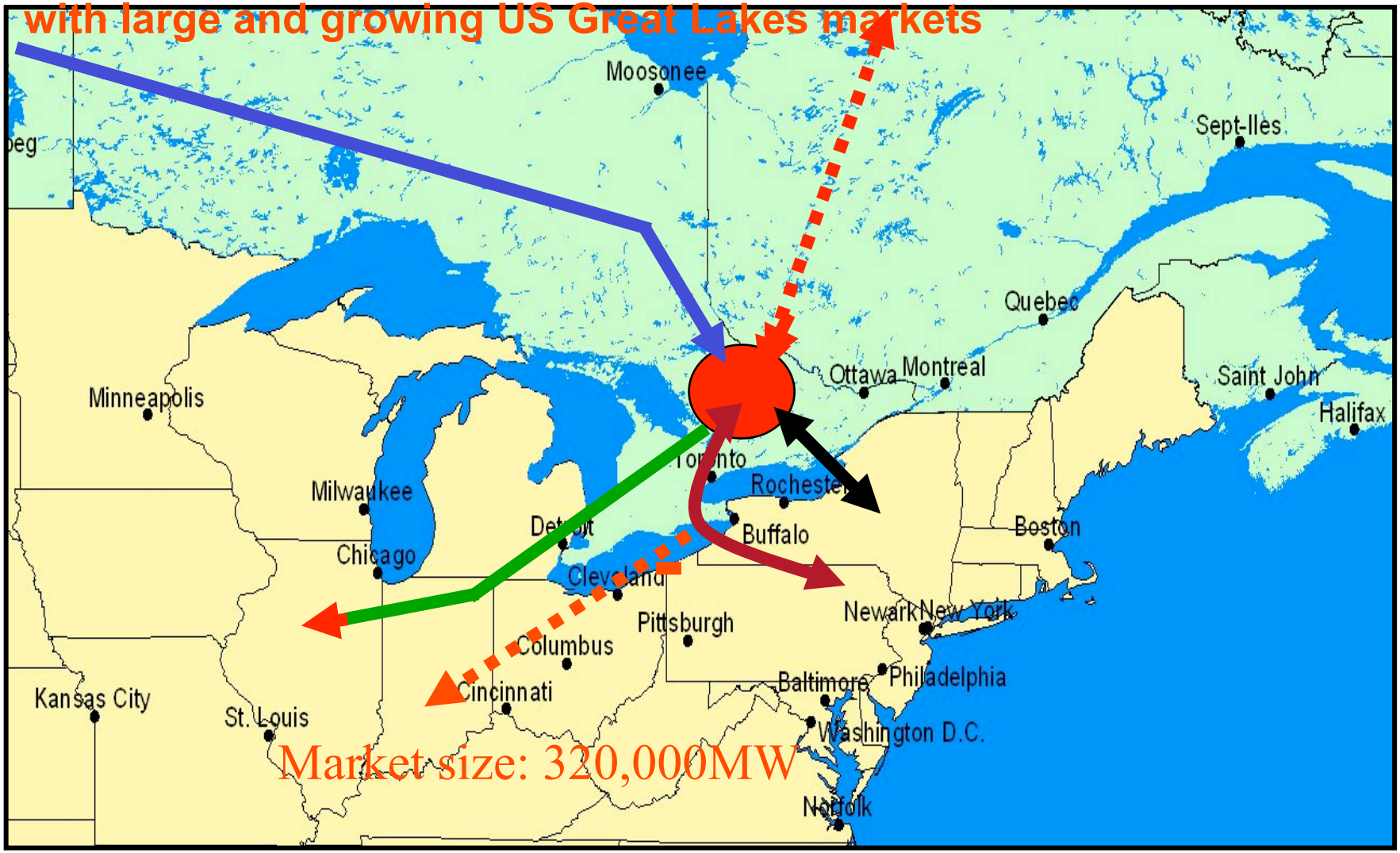
Distributed Generation and Microgrids

- Smart systems to balance local supply and demand
- Consumers actively managing supply and demand
- Residential CHP
- Cost and technical breakthroughs on solar/micro wind turbines and storage
- Local grid management (LDC or other)

Transmission Needed To Incorporate Nuclear, Wind and Water – From Within The Province And Beyond



Ontario is a natural electricity hub, as its large, integrated transmission grid links clean Canadian hydropower sources with large and growing US Great Lakes markets



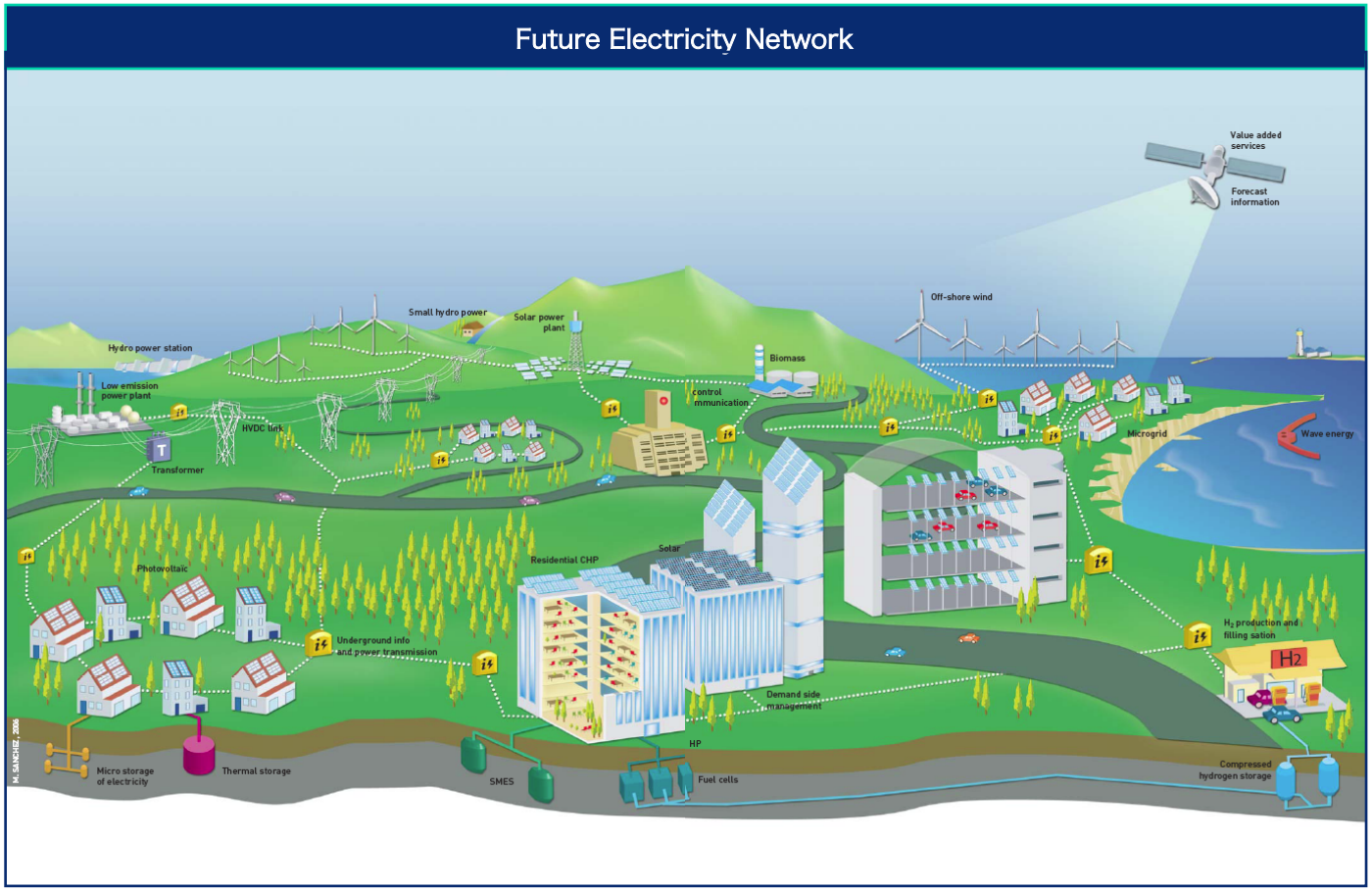
Possible T & D Futures

- Status Quo plus IPSP
- Community Minigrids
- Integrated Regional Supply

No Silver Bullet….Pursue All of the Above

The Smart Distribution Network

Ontario's LDCs will play a leadership role in the smart use of electricity to develop the sustainable communities of tomorrow



The distribution grid of tomorrow:

- **2-way power and communication flows**
- **Localized peak management**
- **Community energy planning**
- **Fully integrates DG with large central power generation**
- **Extensive, small-scale DG, some connected close to customers**
- **Customer-specified quality, reliability, security**

The power network of the future will enable clean and renewable energy, effective demand management, in addition to efficient operation of the grid

Thank you…