



# Taking Action

Annual  
Report **2007**  
Ontario's Chief Energy Conservation Officer

## **Electricity System and Conservation in Ontario**

**Managing Residential Electricity Demand:  
Learning from Experience  
in the UK and Ontario**

**St Hugh's College, Oxford  
May 21-23, 2008**

# Energy – Quick Facts

- Population 12,800,000
- 40 percent of Canadian GDP; 52 percent of manufacturing shipments
- 40 percent of Canadian employment; high employment in resource extraction/ processing, manufacturing, services
- Ontario still a leader in North American auto production – 14 assembly plants and over 400 parts manufacturers
- Merchandise exports US\$170 billion a year – 84 percent to US
- Ontario leads G-7 in exports as share of GDP (68.5 percent, compared to Germany's 41.5 percent and U.S.'s 10 percent)
- Energy a vital input; Ontario still relatively inexpensive



source: [http://www.nationalgeographic.com/geographyaction/habitats/popup\\_state-international.html](http://www.nationalgeographic.com/geographyaction/habitats/popup_state-international.html)

# Ontario's Electricity Sector

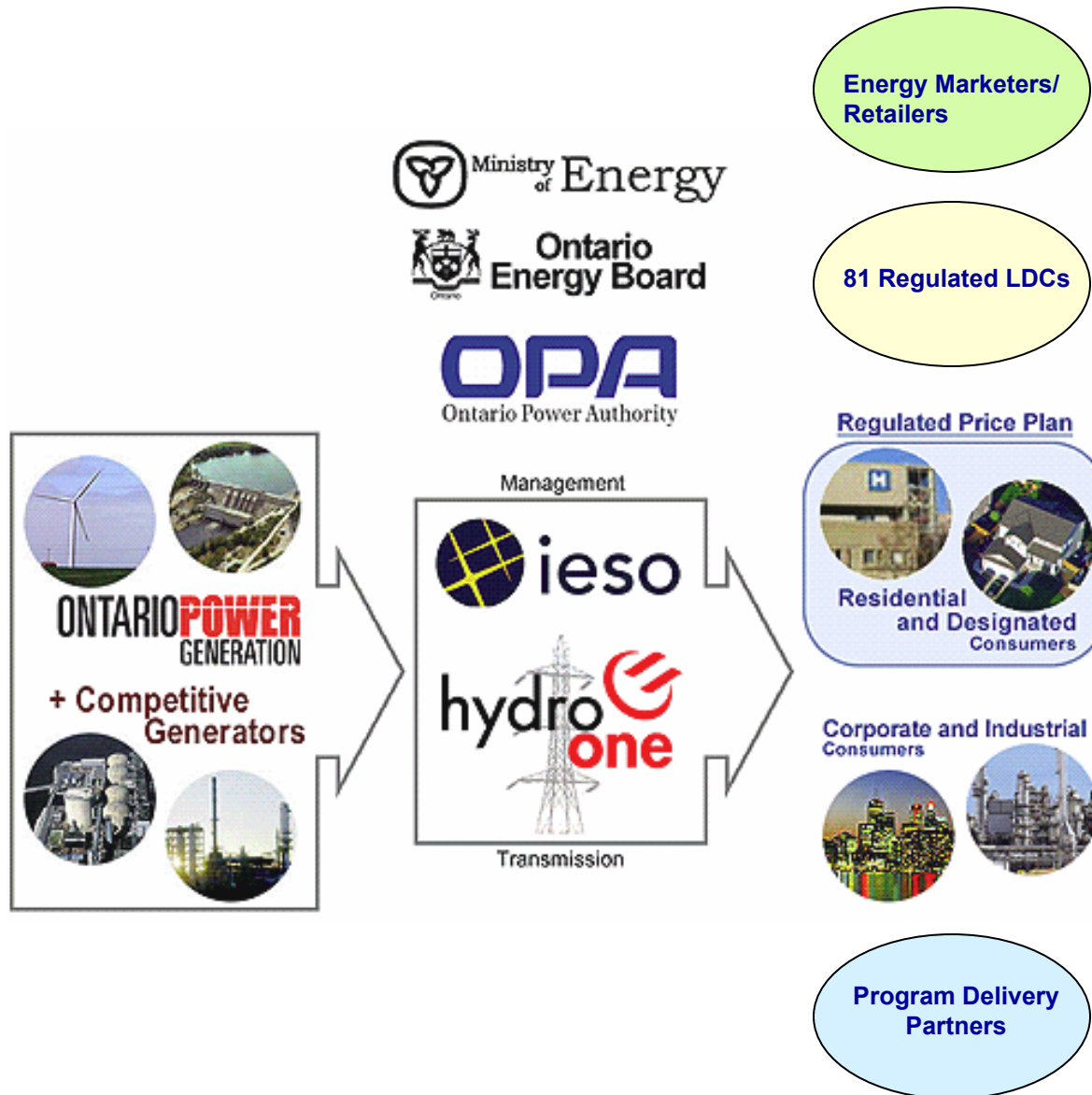
- Canadian constitution gives provincial government significant authority over natural resources including electricity resources
- Ontario is one of most energy-intensive jurisdictions in the world
- Total annual consumption of 156 terawatt hours (billion kWh) – valued at \$12 billion/year
  - Residential: 33 percent
  - Commercial/Institutional: 35 percent
  - Industrial: 31 percent
- Average homeowner uses ~ 900 to 1,000 kWh/month
- Bottom line: retail electricity price of 11.4 ¢/kWh
- All homes to have smart meters and time of use rates by 2010



ONTARIO POWER AUTHORITY



# Ontario's Electricity Sector



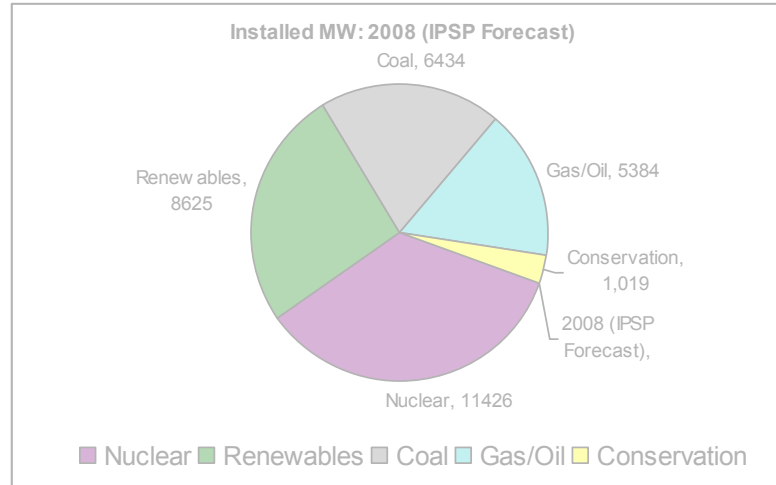
# Integrated Power System Plan

- A road map for reliable, competitive and sustainable electricity future
- Has a 20-year outlook, updated every three years
- **Four key results:**
  1. Growth in peak demand is reduced by 75 percent through conservation
  2. Coal is replaced in the supply mix with renewable energy and natural gas
  3. Nuclear power is restored through refurbishments and new builds
  4. Transmission is reinforced for reliable service and to connect renewable energy to population centres
- IPSP currently in interrogatories phase of regulatory review by Ontario Energy Board; issues list defined by Board in January 2008
- \$10 billion to be invested in conservation; \$1.2 billion over the next three years

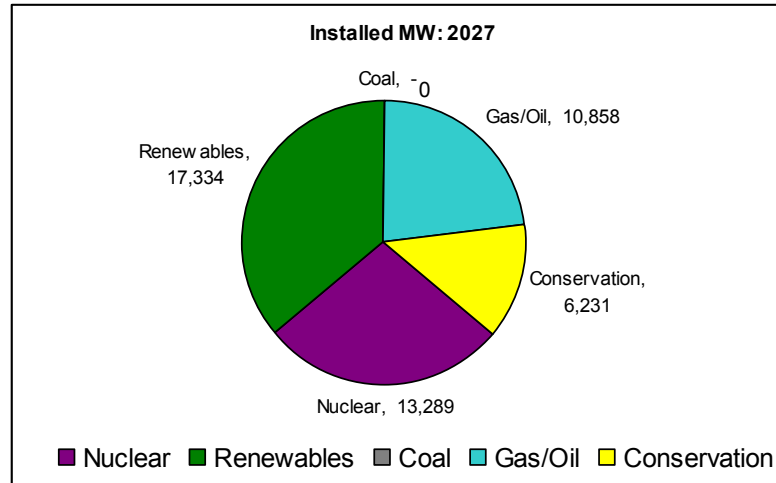


# Ontario's Present and Future Supply Mix

**2008:**



**2027:**



# Conservation Targets

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- 6,300 MW reduction in peak demand by 2025
- Interim targets of 1,350 MW by 2007 and another 1,350 MW by 2010
- 2007 results were 1,350 MW (currently being verified)
- OPA to lead, coordinate, facilitate and build conservation capability

# Other Benefits of Conservation

## The Three Es:

- **Employment** benefits: labour-intensive, local jobs
- **Economic** benefits: efficiency is cost-effective for households and makes private sector more competitive
- **Environmental**/health benefits: reduced GHGs, acid rain, smog

