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POWER PRODUCERS  
OF ONTARIO

# Industrial Gas Users Association 2011 Spring Seminar

May 6, 2011  
David Butters  
President & CEO



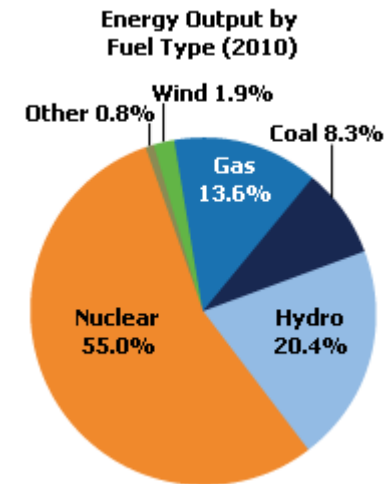
# Agenda

- APPrO – who we are
- Background on Ontario's gas-fired generators (GFGs)
- Current Key Issues for Ontario GFGs
- Summary
- Questions?



# Who We Are

- The trade association for Ontario's commercial electricity generators and related businesses
- 20+ generator members produce 98% of Ontario's electricity from nuclear, hydro-electric, fossil, wind, solar, waste wood and other fuels
- Members have built and operate nearly all of Ontario's generation.
  - Represent 90% of the MW of Ontario's gas-fired fleet
  - Total gas generation output was 19.3 GWh or 13.6% of total energy produced in 2010





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# Key APPrO generator members

- OPG
- Bruce Power
- Brookfield
- TransAlta
- TransCanada Power
- Sithe
- Capital Power
- Northland Power
- West Windsor Power
- Cardinal Power
- Brighton Beach
- Greater Toronto Airport Authority
- Regional Power
- International Power
- Toromont Energy
- Verasen Inc.



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# What We Do

- Our main focus is advocacy – focus is on mitigating business risk to members
- APPRO also produces a bi-monthly magazine, *IPPSO Facto*,
- Runs Canada's largest power sector conference each November



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# APPRO's Mission & Objectives

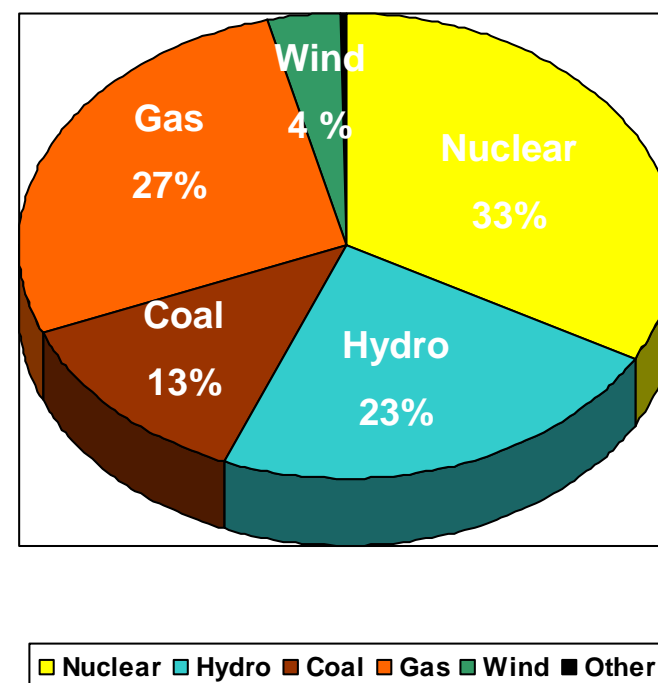
- Mission
  - The achievement of an economically and environmentally sustainable electricity sector in Ontario that supports the business interests of electricity generators and the provincial economy.
- Objectives
  - Encourage efficient and timely investment in Ontario's power system to ensure adequacy and reliability;
  - Deliver good value to consumers and to the Ontario economy in the supply of electricity;
  - Be a leading source of ideas, solutions and policy advice in the Ontario electricity sector.



# Gas Fired Generation in Ontario

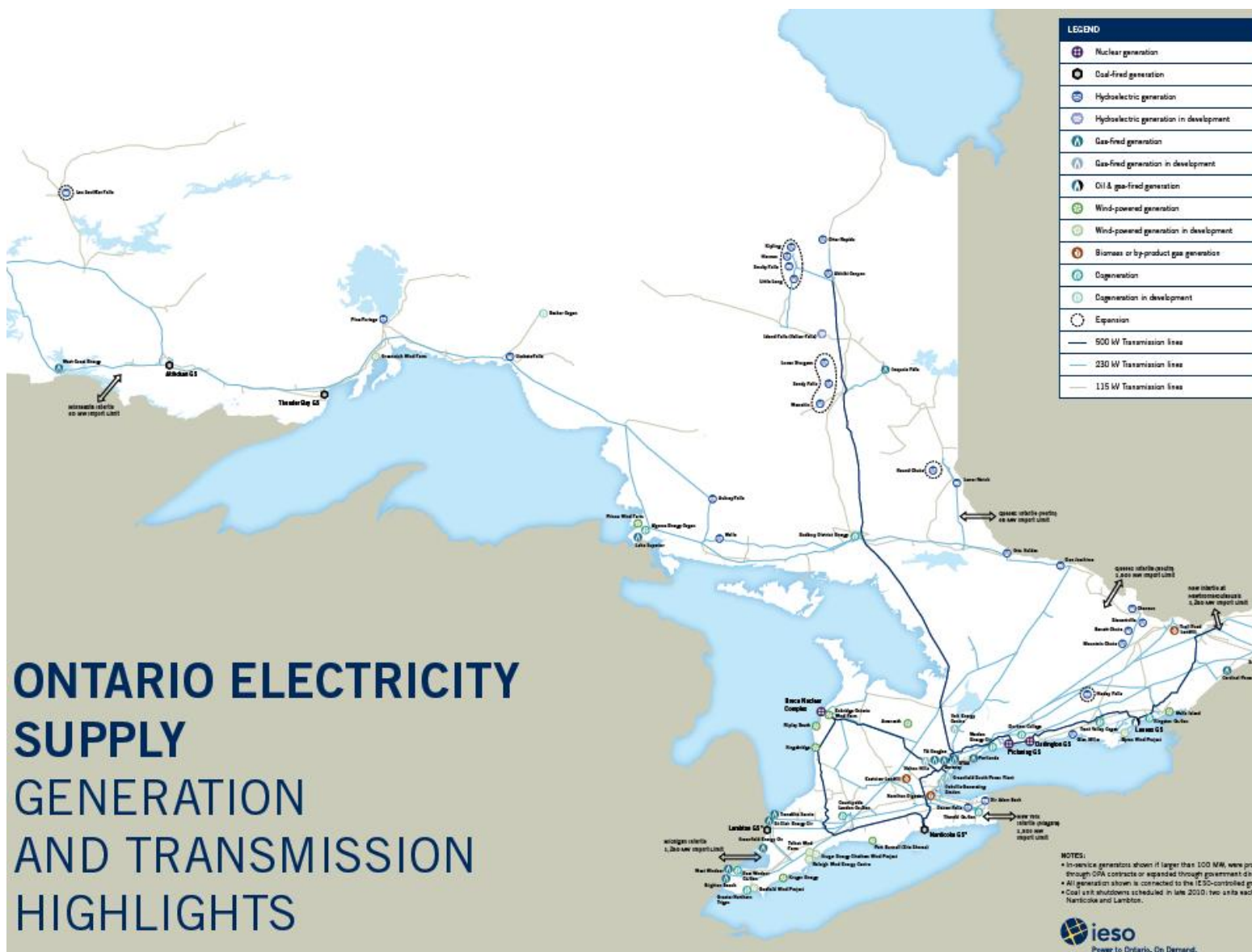
- Ontario's total installed generation capacity ~35,000 MW
  - Gas currently represents 27%
  - Recent gas plants commissioned include: Halton Hills, Thorold Cogen; SWGTA cancelled
  - York Energy Center next to commission (Q4 2011)
  - November 2011 NUG Directive, 1300 MW
  - Future:
    - Kitchener-Cambridge-Waterloo peaker, CHP

**Existing Installed Generation**





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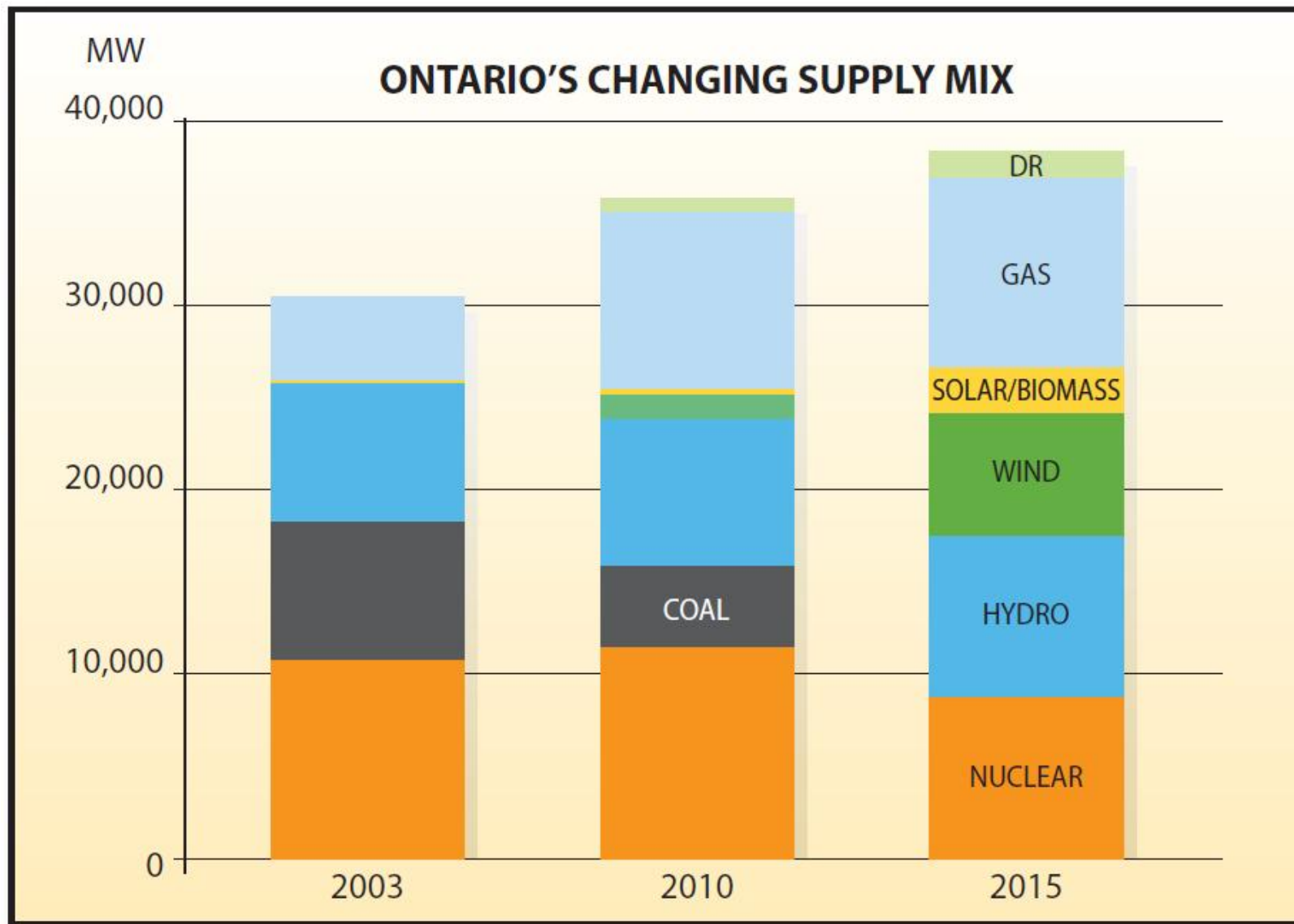
# ONTARIO ELECTRICITY SUPPLY GENERATION AND TRANSMISSION HIGHLIGHTS

3 May 2011





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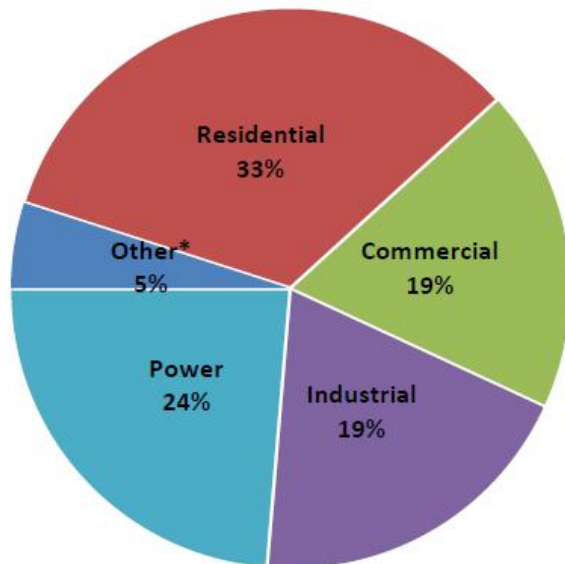
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Source: Feb 2011 IESO The Electricity Insider

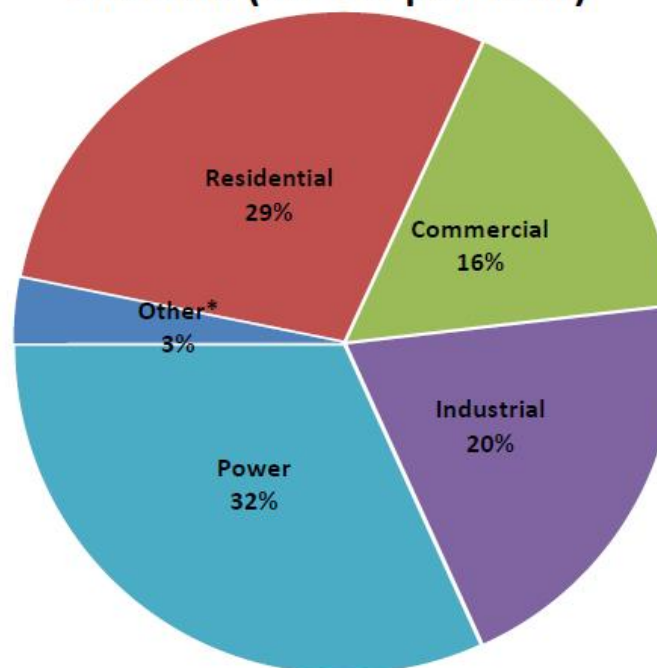


# Ontario Gas Consumption by Sector

**2009:**  
2.8 Bcfd (1.0 Tcf per Year)



**2020:**  
3.6 Bcfd (1.3 Tcf per Year)



\* Other includes Pipeline Fuel and Lease and Plant gas use

Source: ICF



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# The Ontario Power Market

- Ontario has a hybrid market structure
  - A competitive wholesale energy market
  - Significant amounts of centrally procured or regulated supply.
  - The competitive market has been successful in achieving reductions in generation fuel costs, increased unit availability, dynamic regional trade and an efficient dispatch of supply.
  - Central procurement and regulated prices are used to ensure that key government energy policy objectives are achieved
- Contracts and regulated rates mitigate generators' revenue risk and provide a mechanism for fixed cost recovery where energy market revenues have been (or are anticipated to be) insufficient.
- Legacy IPP generation (NUGs) also contracted

# Newer Dispatchable Gas-Fired Plants

- Large projects – up to \$1 billion
  - Rely heavily on debt markets to finance projects
    - Lenders scrutinize fuel procurement practices for risk exposure – these follow revenue flow to ensure lenders are supportive
  - OPA contracts seek to provide effective hedge between Ontario electricity price and Dawn day-ahead gas index
  - Gas delivery and management costs generally covered by fixed portion of OPA contract price



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# Newer Dispatchable GFGs

- OPA contracted clean energy plants to replace coal, address local reliability needs, backstop variable renewables
  - Range between 100 and 1000 MW in capacity, and are dispatchable
  - In service from about 2002
  - Currently ~5700 MW in service



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# Non-Utility Generators (NUGs)

- Developed by various private IPPs in the 1990s with PPAs from Ontario Hydro
  - About 1300 MW of gas-fired NUGs
  - Mostly CHP, and self-scheduling
- 20 year firm gas supply and transportation arrangements required to finance plants
- 20 year PPA - power price generally not indexed to gas transportation
- PPA's are beginning to expire and will need to be re-contracted over the next several years



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# Implications of NUG PPA Expiry

- As NUG PPAs expire recontracting will require dispatchability
- May also have a small baseload component of their load for the steam host
- Under existing arrangements gas supplied under high load factor, long haul arrangements
- Under a more dispatchable arrangement:
  - Likely need access to more balancing services to accommodate generation during peak periods (vs. current very high load factor gas consumption)
  - Will need to access local (i.e. Dawn) competitive supplies (vs. current Alberta based supply)
  - Distribution services may need to recognize new operating mode (NGEIR related services targeted towards new large generation situated in and around GTA)

# Current Issues for Ontario's Gas-fired Generators

- 1) Access to Stable Competitively Priced Gas Supply
- 2) TCPL Mainline tolls





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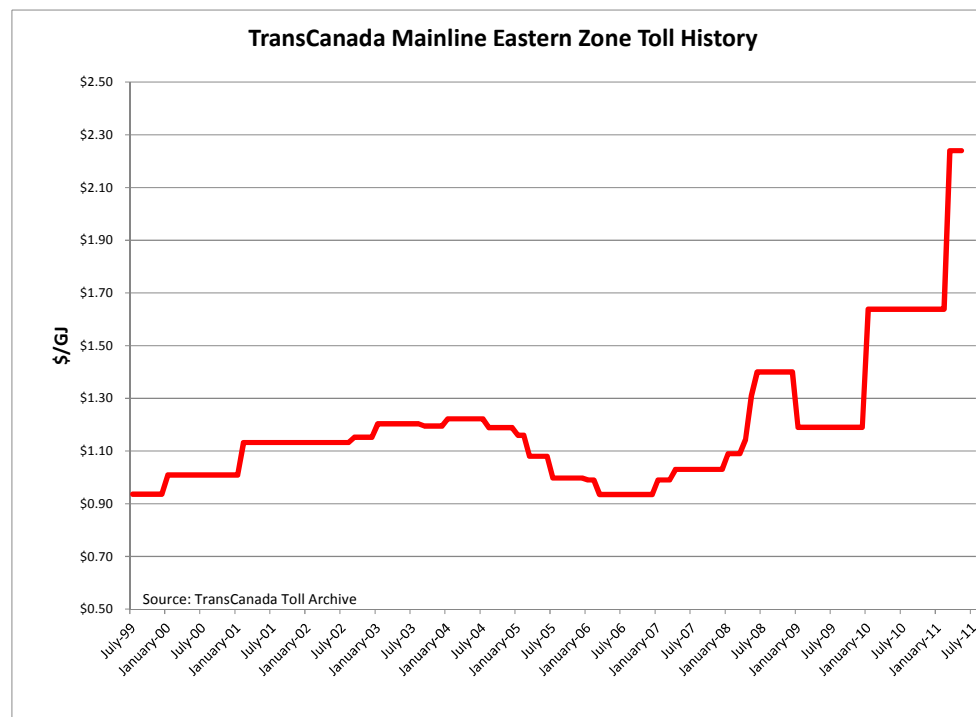
# Access to Gas Supply

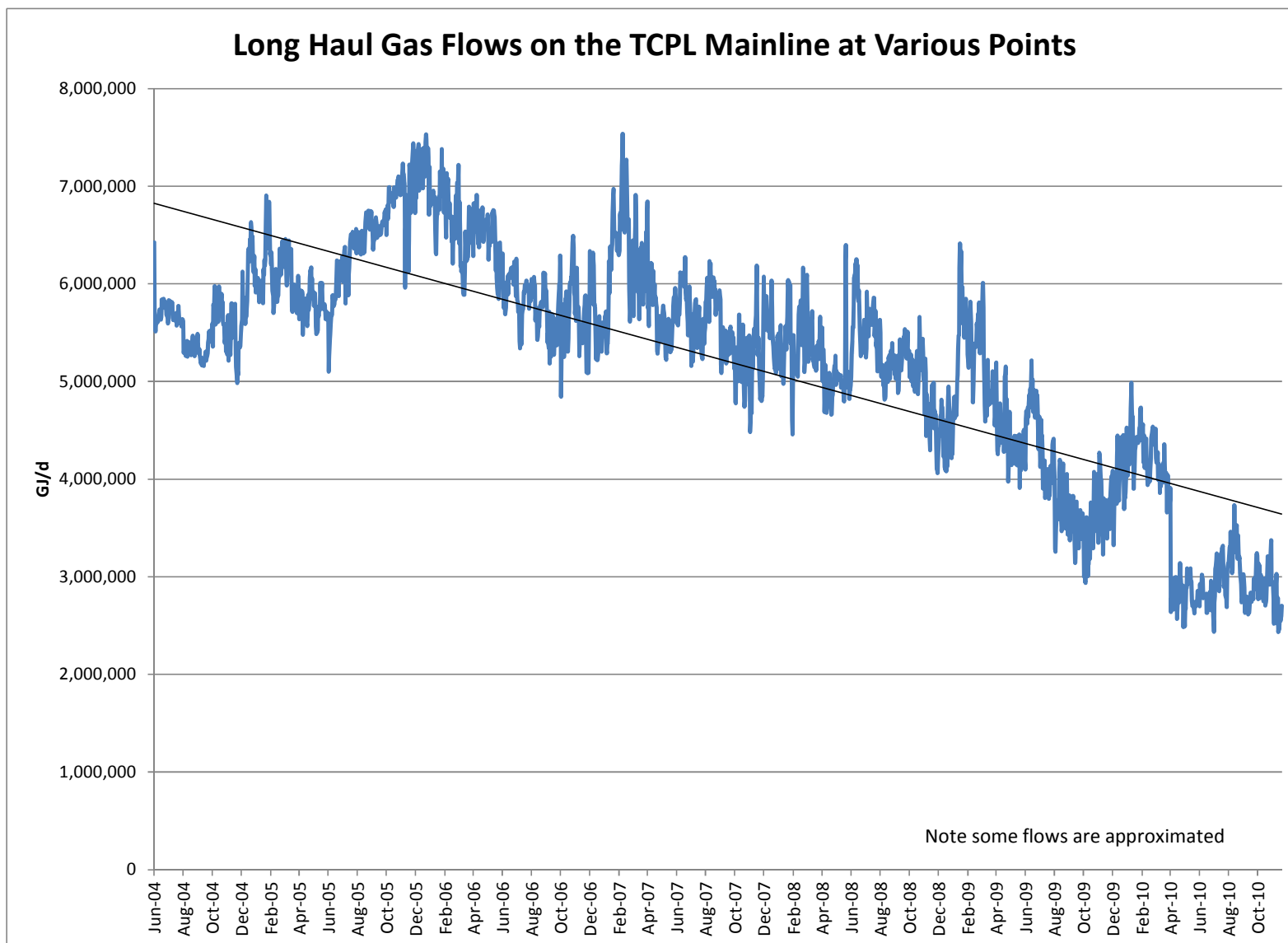
- Gas generators could increase from 24% to 32% of total gas consumption in Ontario by 2020
- With one exception, all gas generators are single fuelled and rely on access to natural gas
- Conventional supplies are declining
- New shale gas supplies are emerging in North America
- Infrastructure needs to be adapted to provide ongoing access to new gas supplies at lowest cost at burner tip



# Tolls

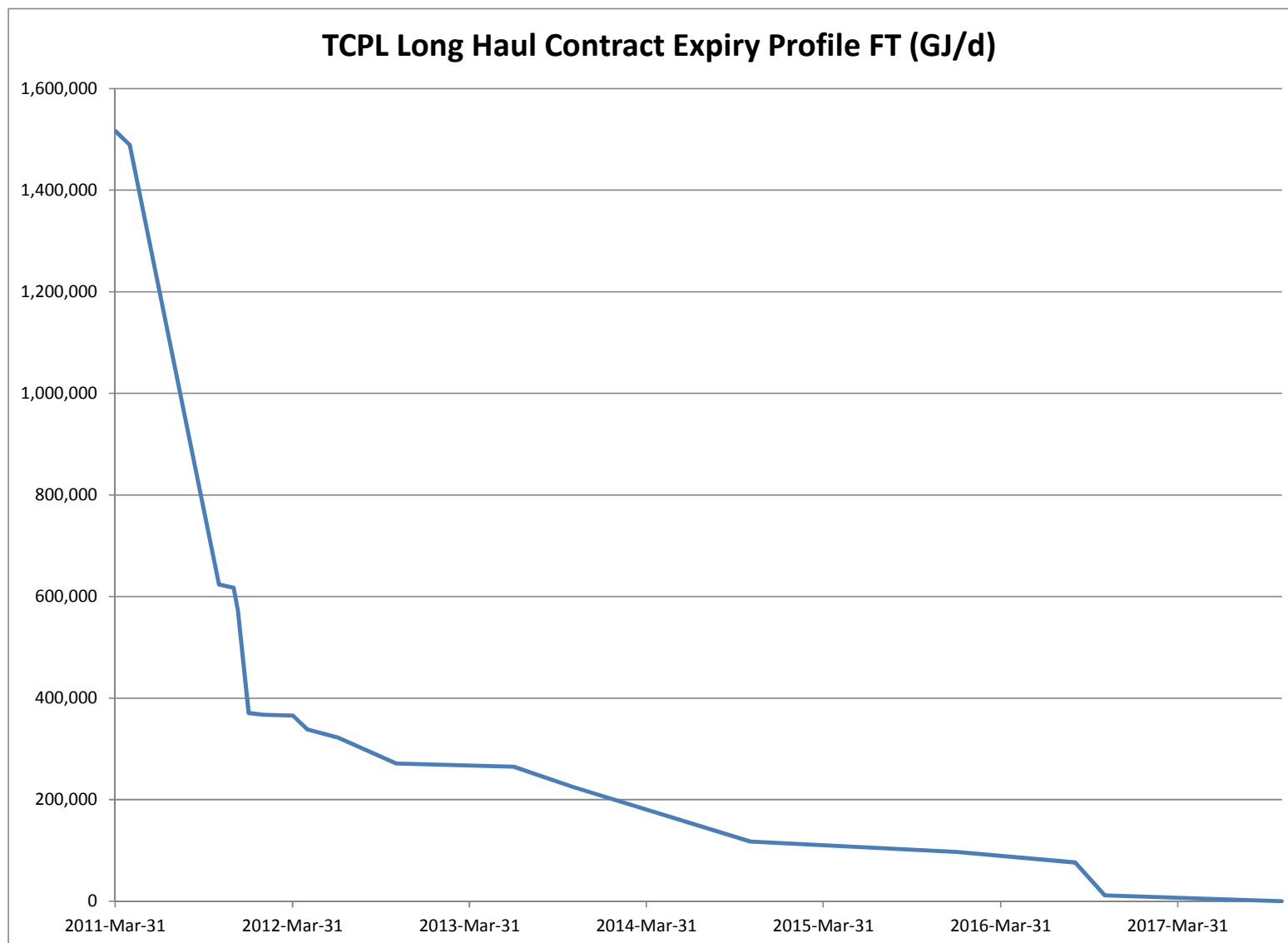
- Rates up over 125% in 5 years
- While electricity consumers benefit from the lower gas costs when gas is on the margin, NUGs and some other generators absorb the higher transportation costs associated
  - \$20 million in 2011 based on current Interim Toll
  - At least \$60 million since 2008
- These costs are both unplanned and significant.
- A long term solution is needed now







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# Challenges

- NUG contracts do not cover transportation escalations: these must come from the owner
  - Over \$60 million in toll increases off bottom-lines since 2007, \$20 million under current TCPL application
- OPA CES-type contracts do not cover full cost of recent toll escalations either
  - These increases are also material (if smaller than NUGs')
- Re-contracted NUGs will be required to buy Dawn gas and contract short-haul from Dawn by OPA contracts



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# Summary

- Gas use by generators could be 1/3 of the total Ontario gas consumption by 2020 – but this is subject to some policy uncertainty
- Needs of generators will evolve over time as NUG PPAs expire and also as longer term plans become clear
- GFGs will be required to meet the Province’s power reliability requirements
- Continued access to sufficient competitive supply will be necessary to meet this need
  - this will be critical for the success of this sector and all consumers of gas in Ontario
- TransCanada tolling needs a long term solution
- APPrO supports market mechanisms for the rational development of upstream infrastructure, but must consider overall public interest in assessing new long term supply arrangements
- Ongoing evolution of storage, distribution and transmission services will be necessary to meet generator needs



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# Questions



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APPrO is a non-profit organization representing more than 100 companies involved in the generation of electricity in Ontario, including generators and suppliers of services, equipment and consulting services. APPrO members produce power from co-generation, hydro-electric, gas, coal, nuclear, wind energy, waste wood and other sources. APPrO's members currently produce over 95% of the electricity made in Ontario.

[www.appro.org](http://www.appro.org)

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