



Electricity Prices Panel

Presentation to CCRE Roundtable

Hockley Valley March 27, 2014

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Today's Journey to Residential Bills

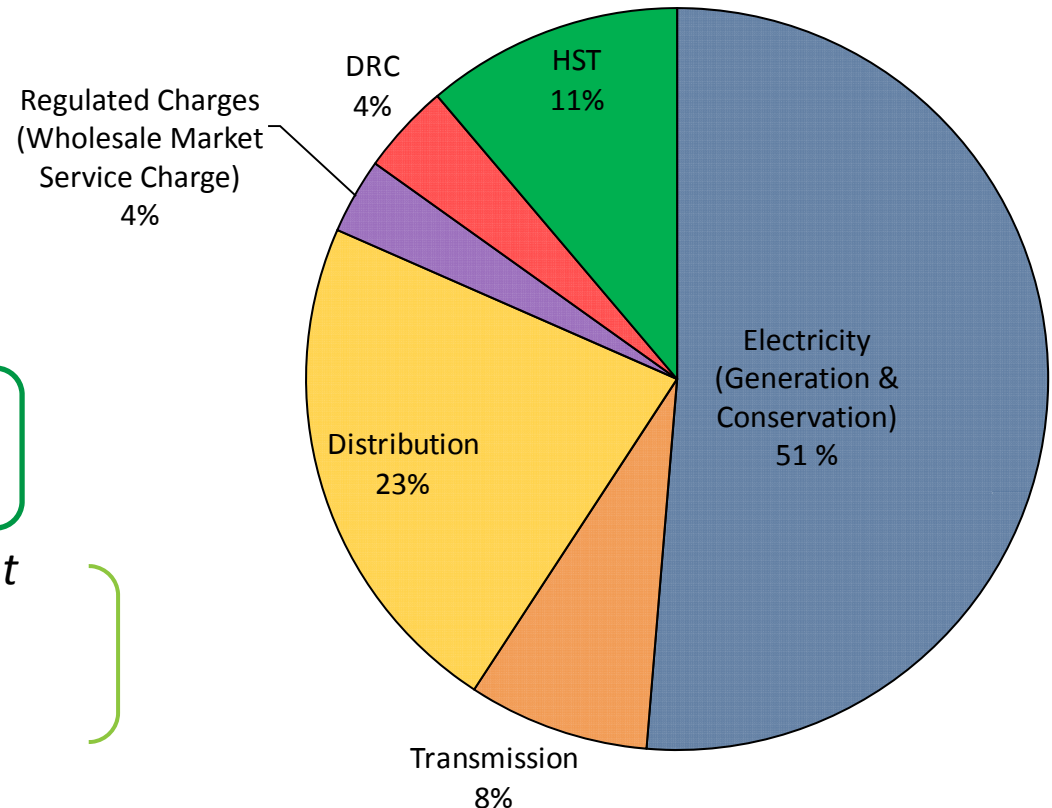
Part I: Electricity Service Components & Costs

- *Starting portfolio*
- *Policy*
- *Investments: MWh*
- *Prices: \$/MWh*
- *Demand: TWh*
- *Dispatch*
- *Cost: \$Billion*

Part II: Who Uses the Products & How it is Paid for

- *Allocation: Global Adjustment*
- *Location*
- *Usage*
- *Bills: \$/Month*

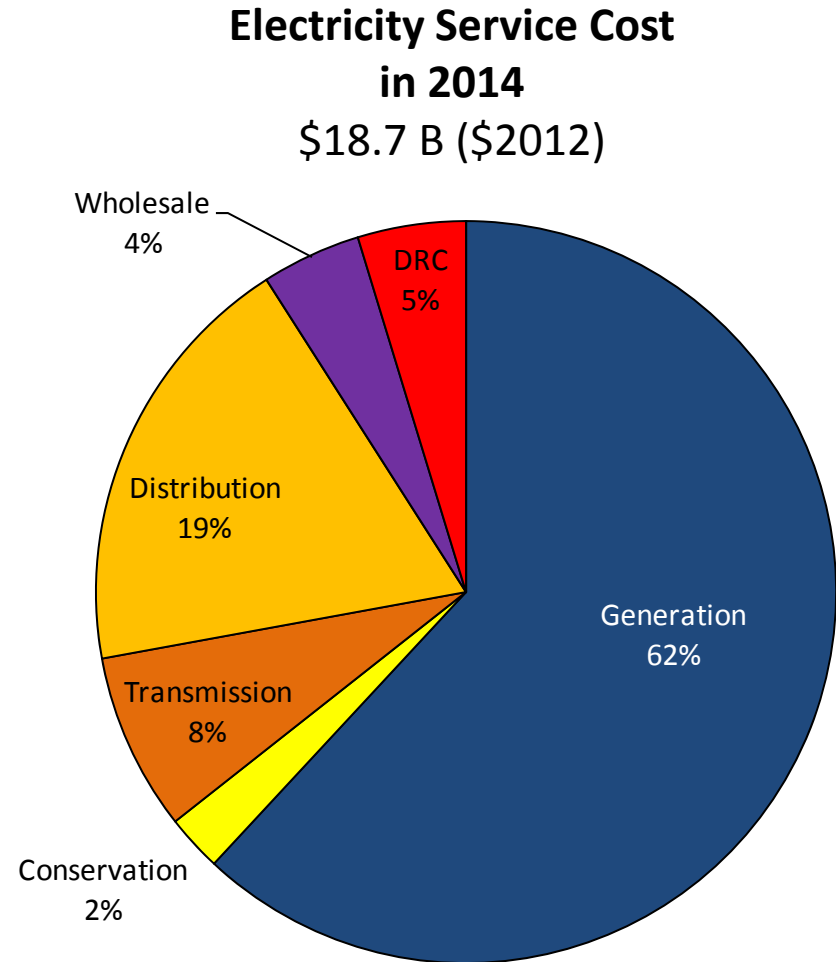
Residential Bill in 2014
\$ 152 per month*



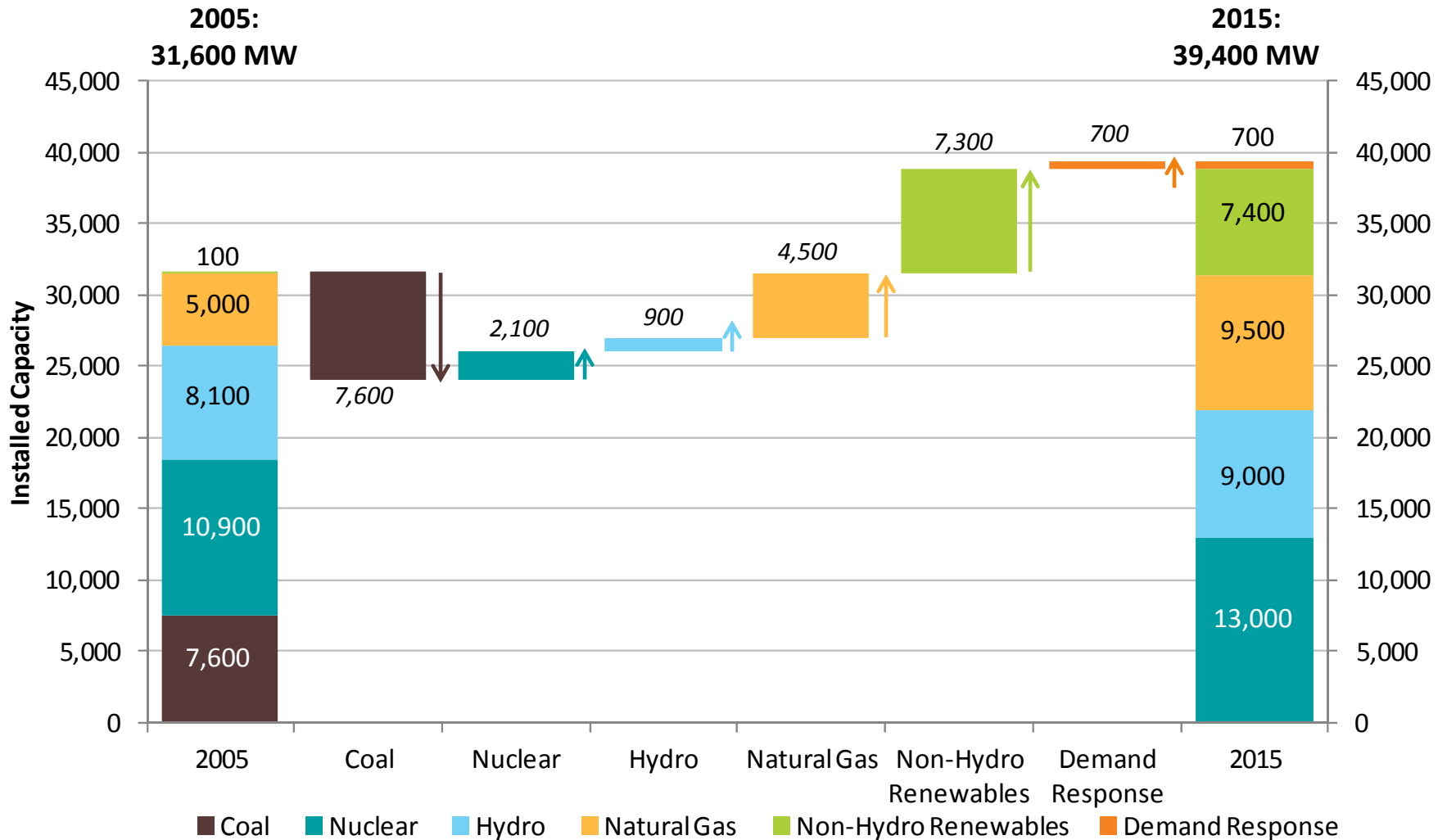
* In nominal dollar, before credit from Ontario Clean Energy Benefit (OCEB) based on 800 kWh per month of electricity consumption

Part I : What are the products, what do they cost

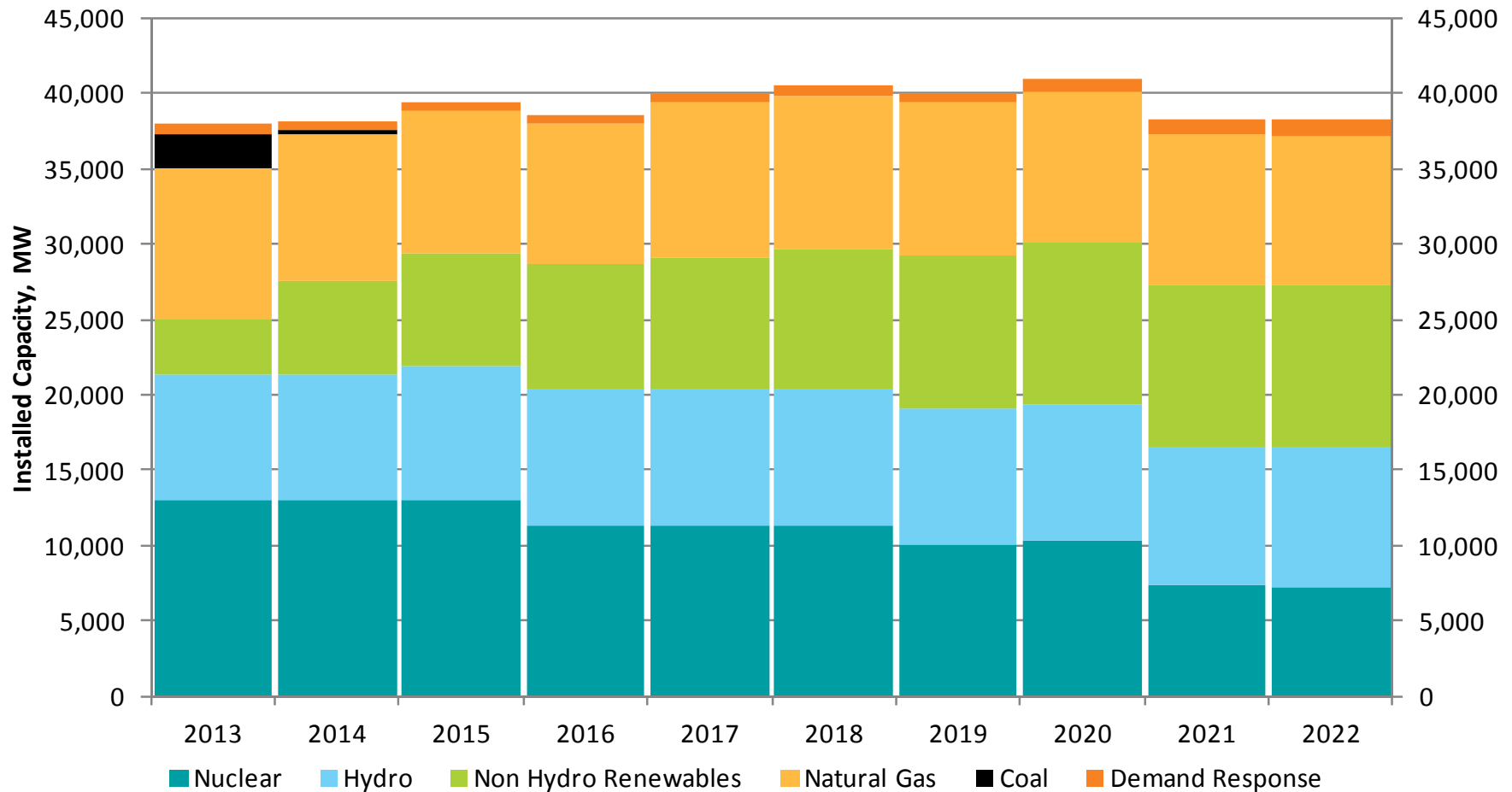
- Generation makes up 2/3 of the total costs (\$12/19 Billion) so I will focus on it
- Capacity changes (adding 15 GW) over ten year were primarily policy driven
- This capacity generates 160 TWh/year
- Demand in Ontario is about 140 TWh/year



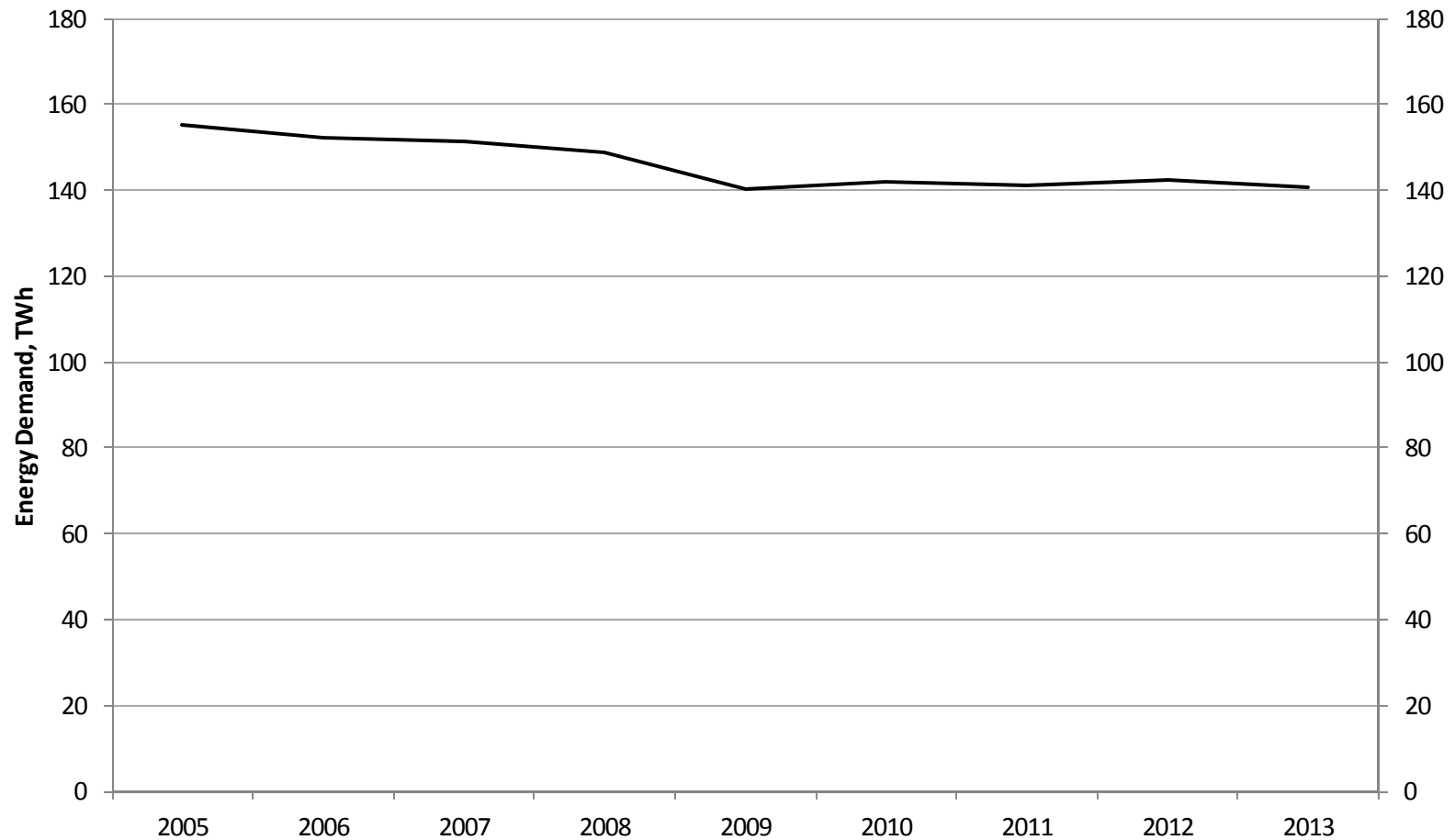
Investments in generation from 2005 to 2015



Further capacity developments are on the horizon

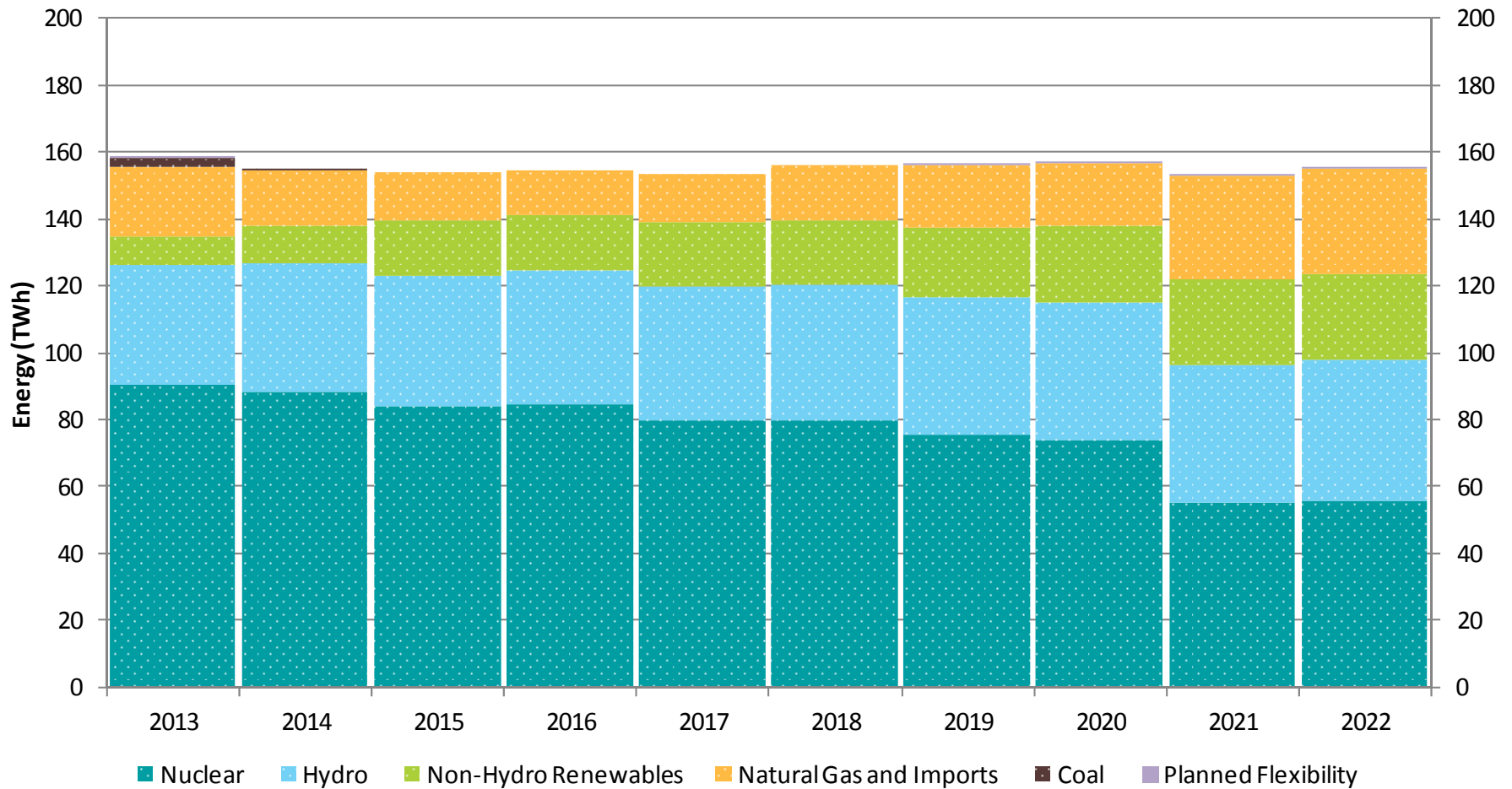


This capacity serves Ontario demand : 140 TWh/year

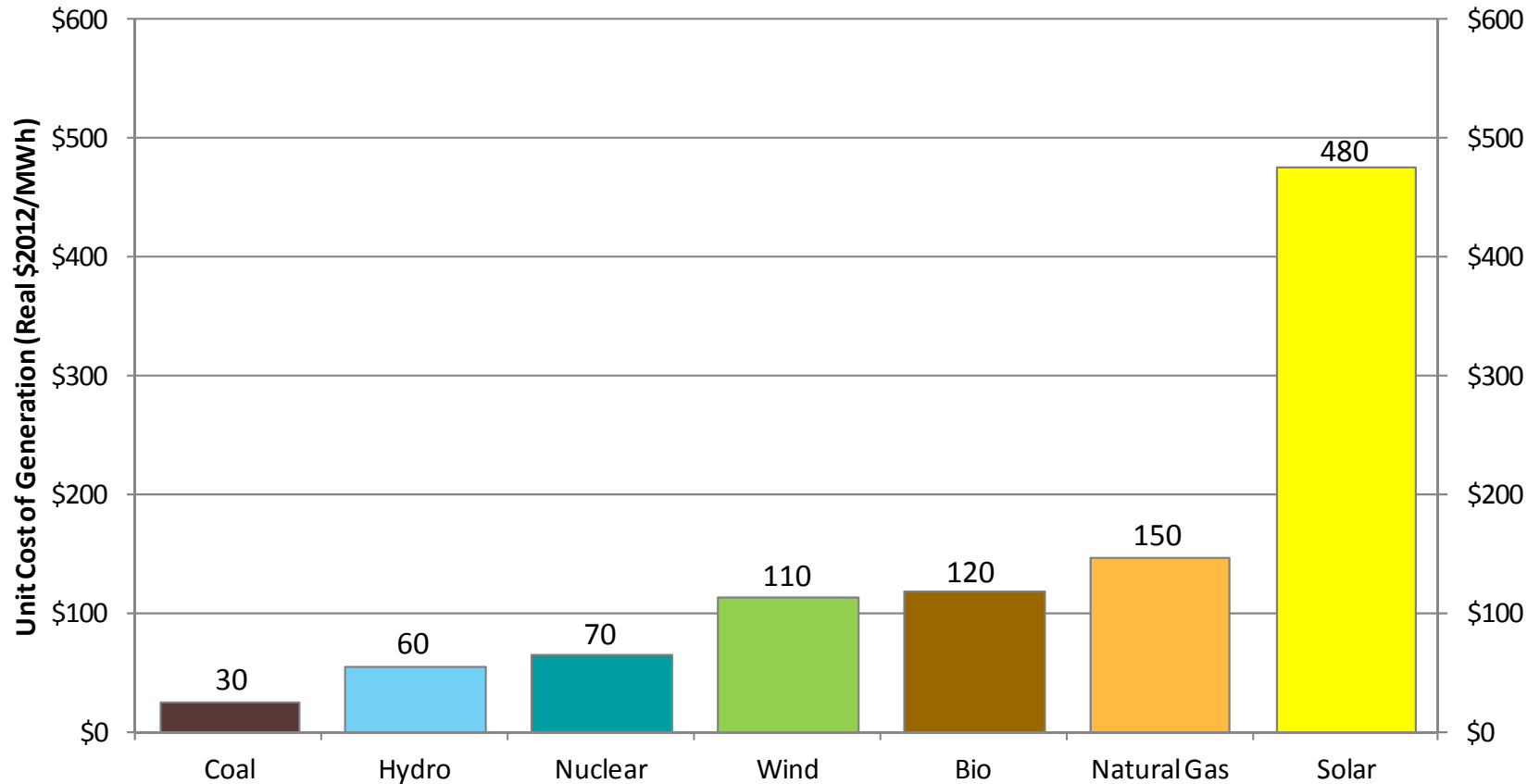


Note: IESO measured energy demand, corrected for weather

Capacity (in MW) produces Energy: 160TWh/year

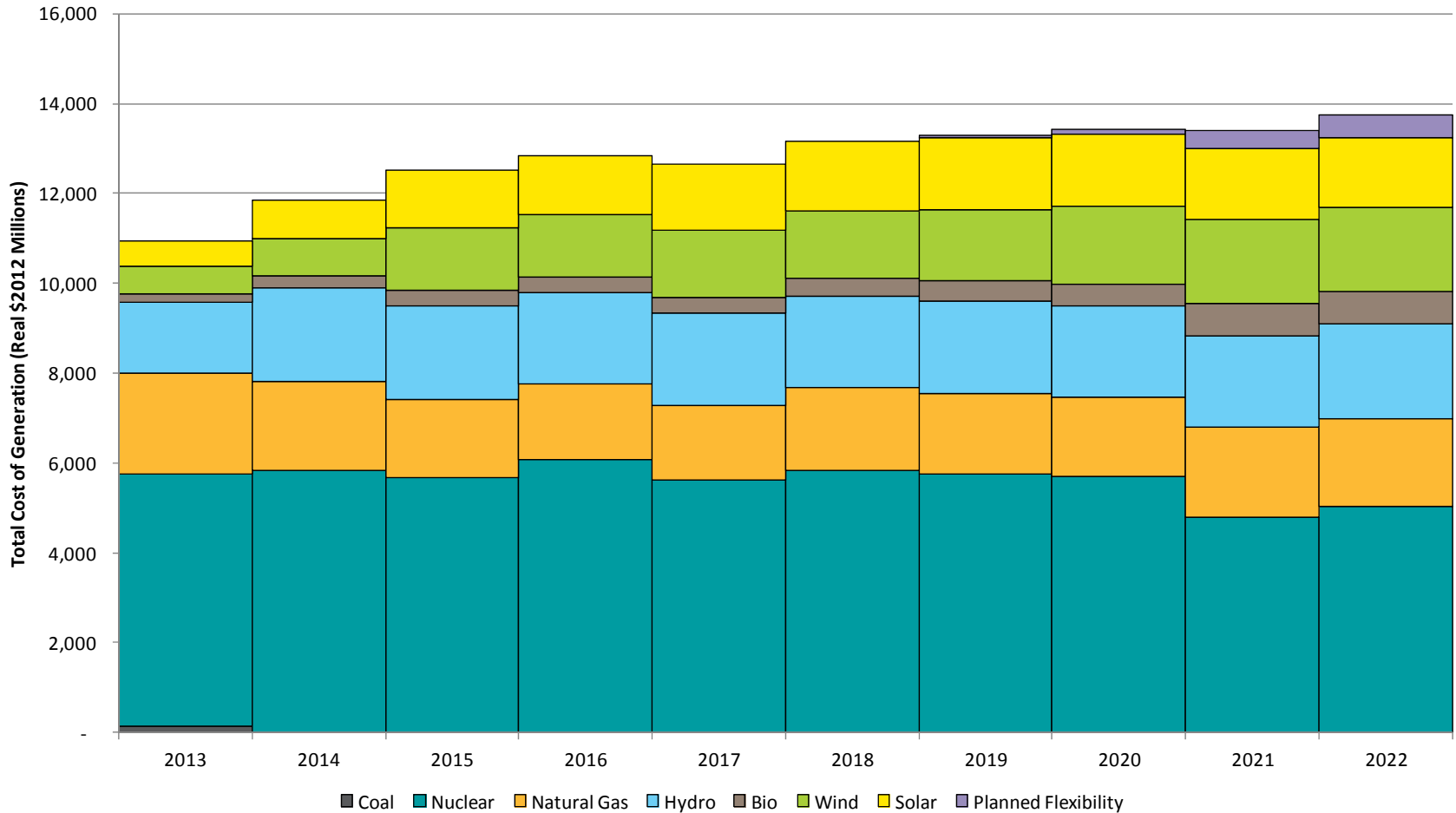


Energy is sold at prices determined by contracts, regulations and markets



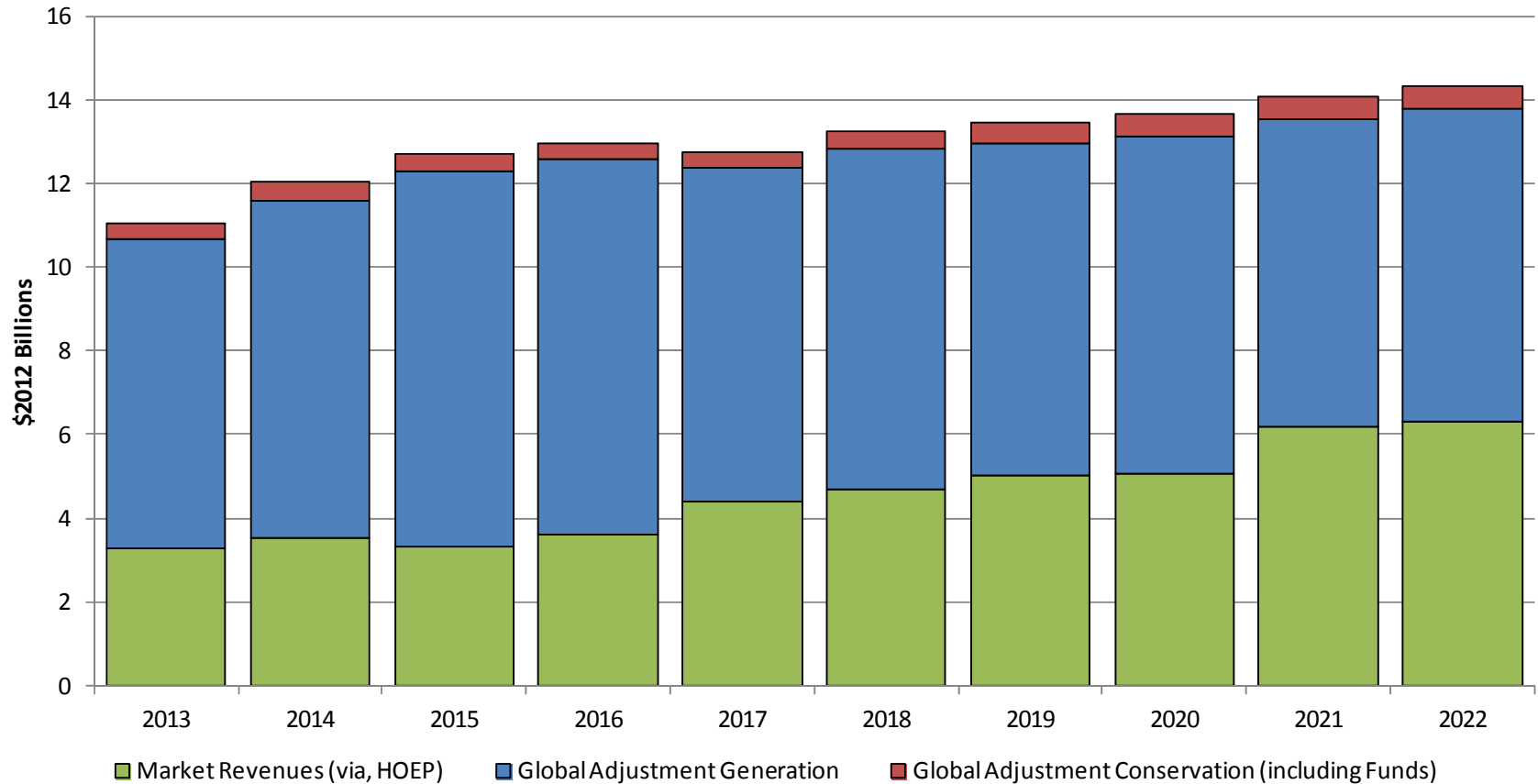
* 2013 LTEP projections

Prices (\$/MWh) times volumes (TWh) Results in the dollar cost of generation (\$12B)



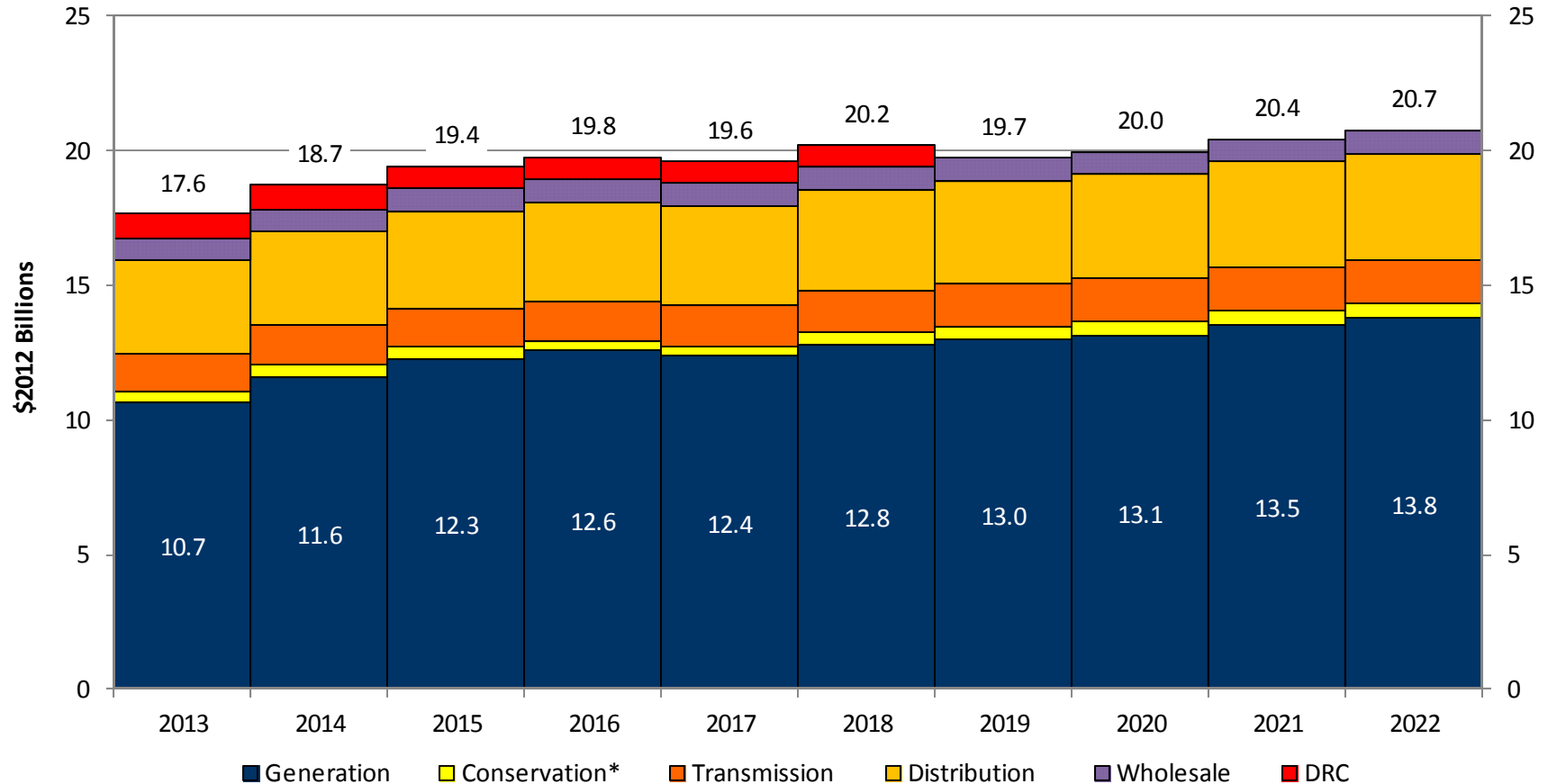
- Figure depicts cost of Ontario's generation production which includes production for domestic use as well as export.
- Cost of conservation is not shown here.

The dollars come from Global Adjustment and Hourly Market Revenues



* Figure depicts domestic cost only, excluding exports. Cost of Conservation included here.

Projection of total cost of service



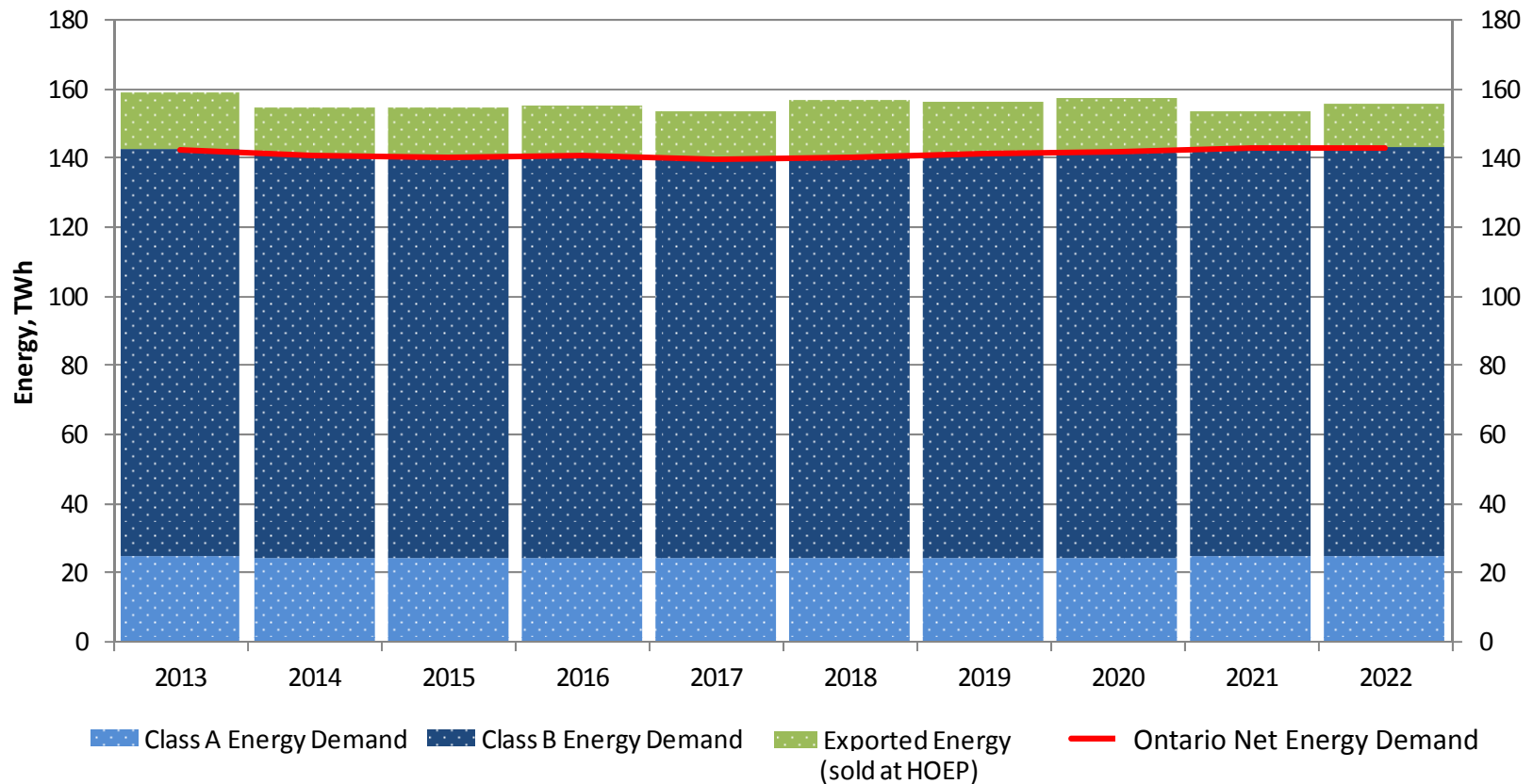
*Includes the Aboriginal, Municipal and Community funds

- The above graph provides information consistent with *Figure 6: Total Cost of Electricity Services*, in the 2013 LTEP.

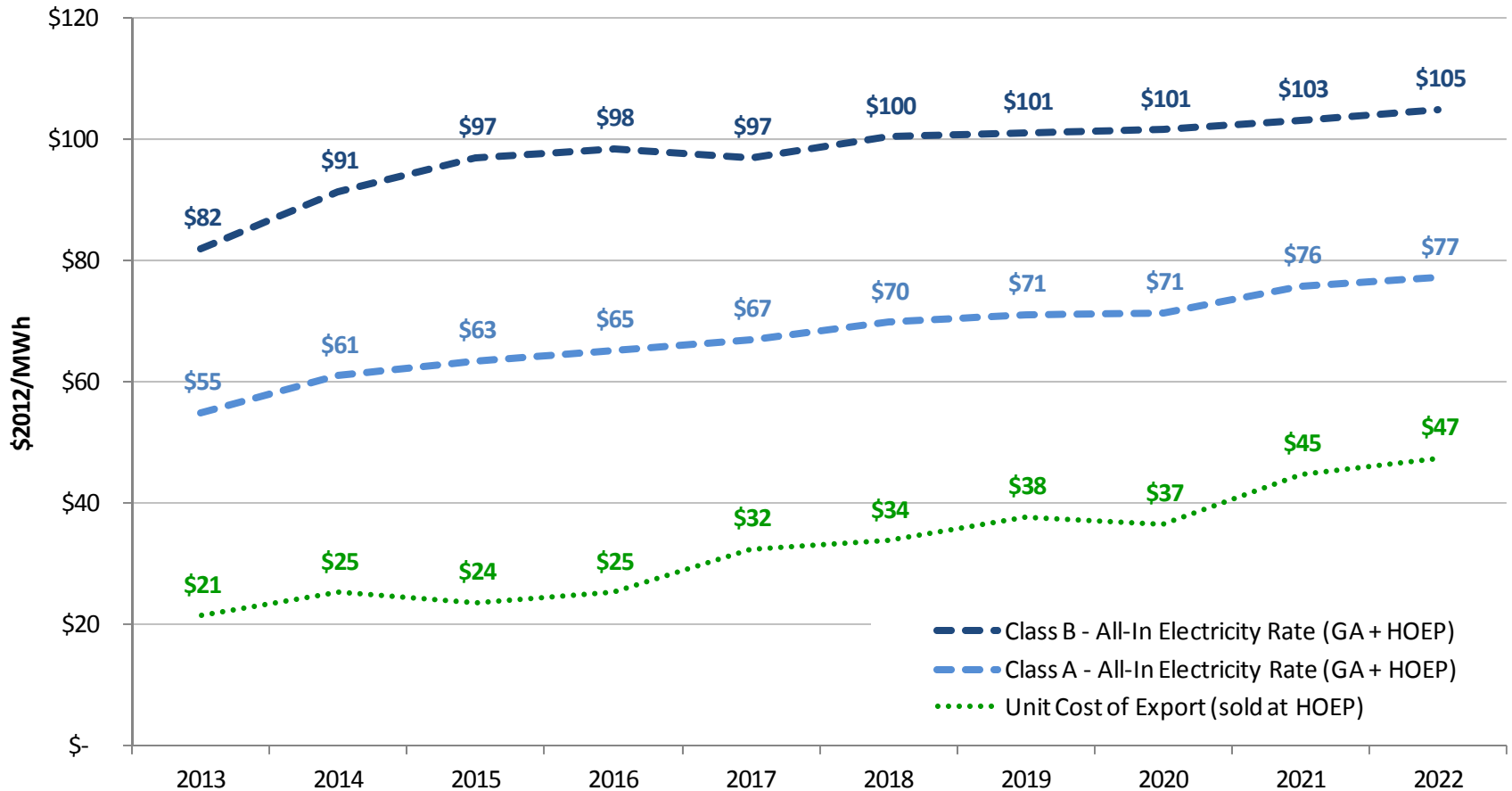
Part 2: Who uses the product and how is it paid for

- The 160 TWh are sold at three different customer categories with varying firmness and prices
 - 25 TWh to **Class A (>5 MW)** categories which are transmission connected customers which include large industrial, commercial & institutional
 - 115 TWh to **Class B (<5 MW)** which are embedded in LDCs and usually comprised of residential, small commercial & institutional and small industrial
 - 20 TWh exported

Energy sold serves domestic demand (Class A & B) and exports

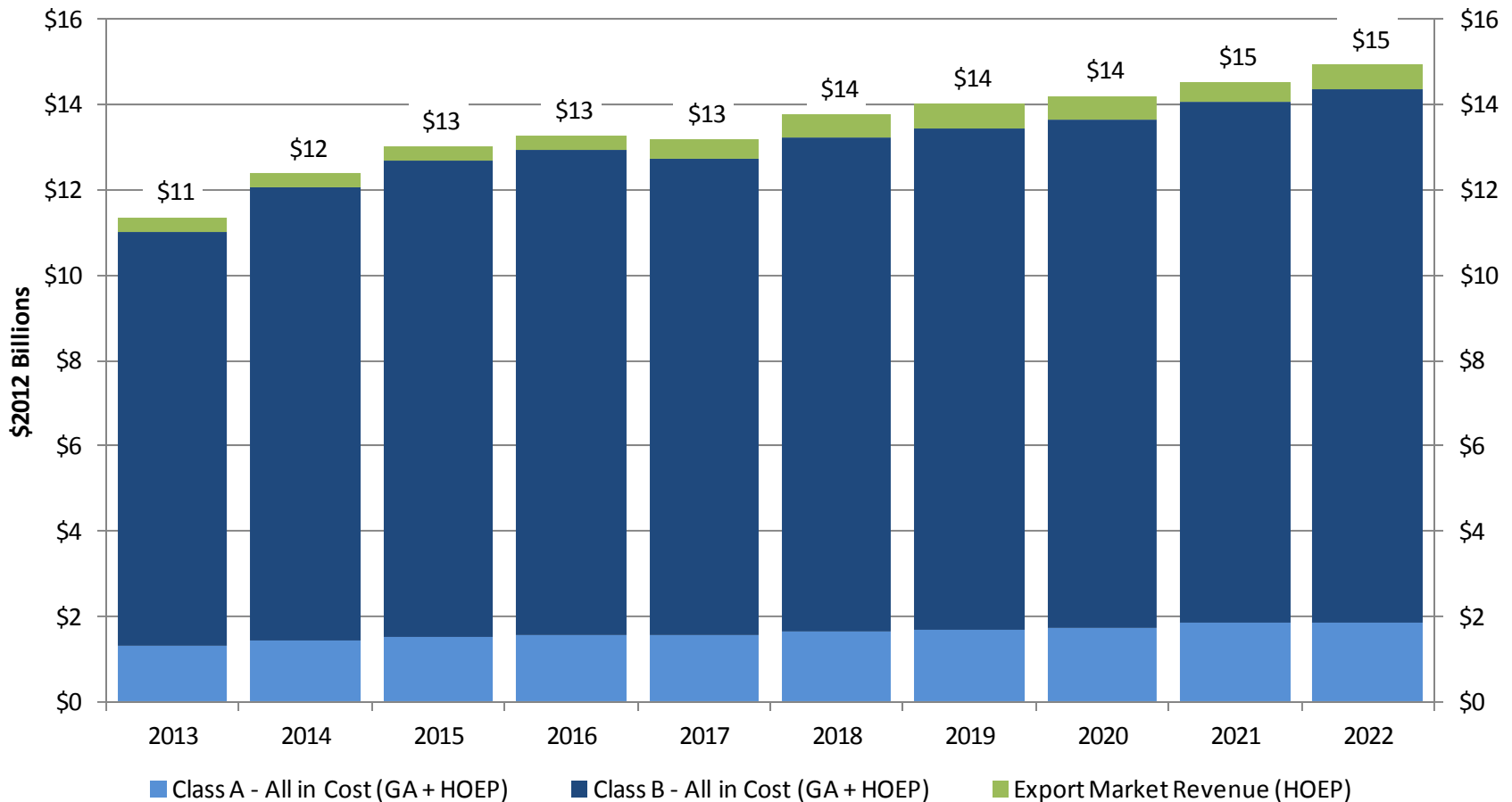


Products are priced differently



- The Class A all-in rate is illustrative of the average rate for Class A, individual Class A customer will pay a GA rate based on their specific usage of the 5 highest hours in the prior year (base period)
- The actual market rate (HOEP) would be based on meter hourly profile, not annual average rate

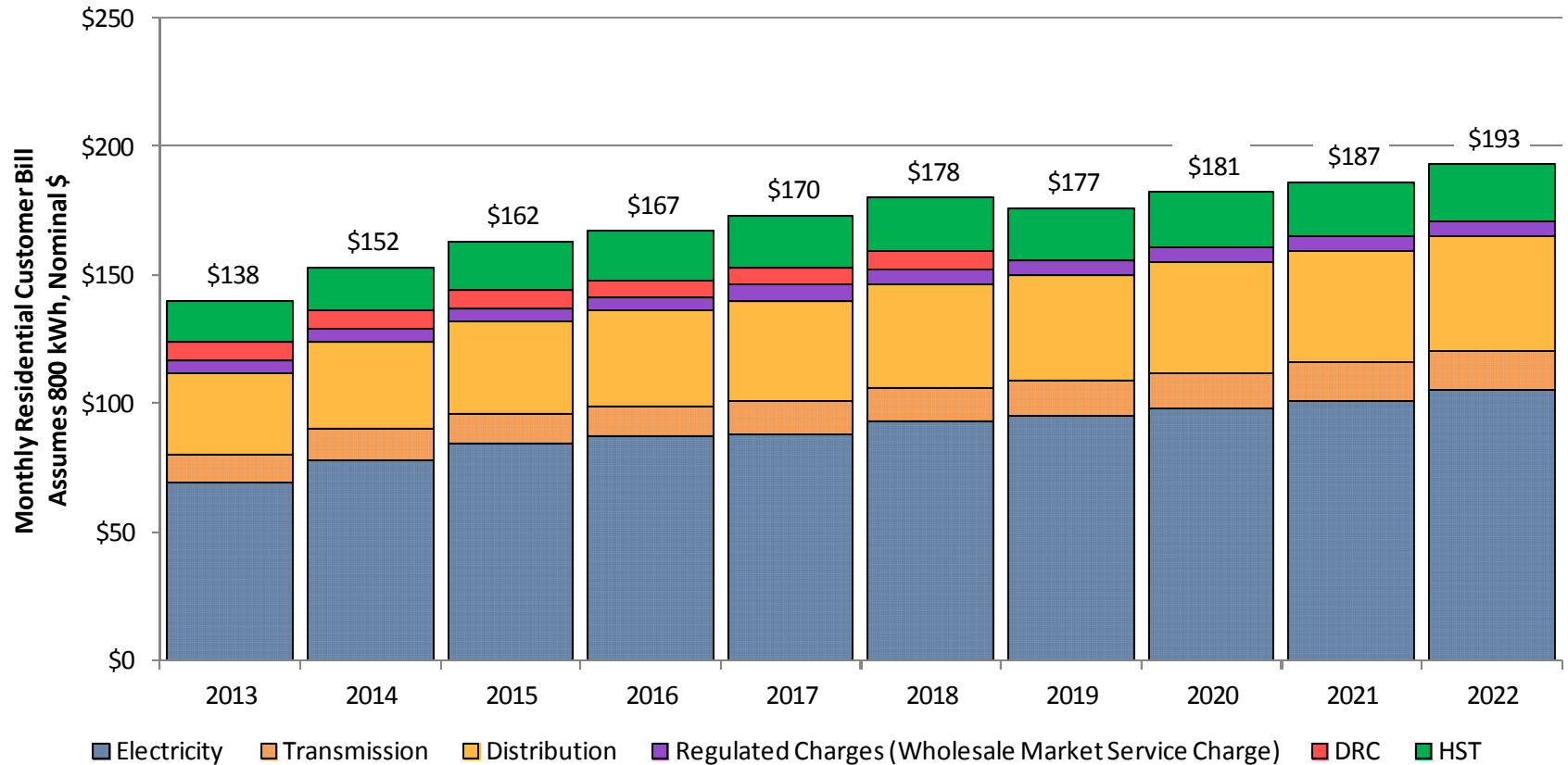
Total amount paid for various products



- The actual market revenue (HOEP) would be based on meter hourly profile, not annual average rate

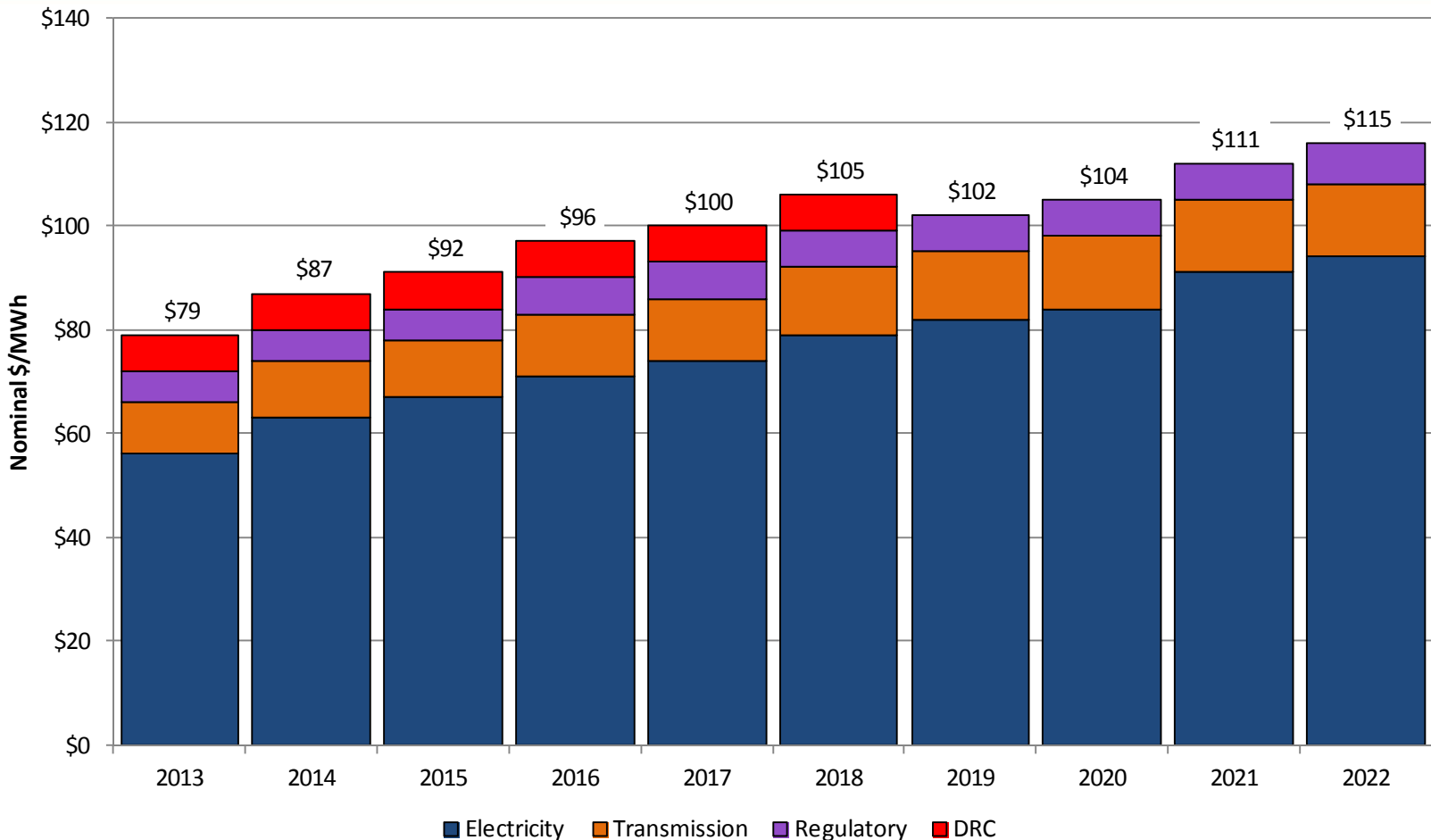
* Figure depicts domestic and exports revenue. Cost of Conservation included here.

Typical Residential Electricity Bill- Before OCEB*



- The above graph provides information consistent with *Figure 7: Typical Residential Electricity Bill Forecast*, in the 2013 LTEP.
- OCEB – Ontario Clean Energy Benefit
- Based on Toronto Hydro’s 2012 annual average residential bill, assuming 800kWh/month
- Inflation rate of 2% assumed to convert real \$2012 dollars to nominal dollars

Large Industrial Electricity Price



- The above graph provides information consistent with *Figure 8: Industrial Electricity Price Forecast*, in the 2013 LTEP.
- Inflation rate of 2% assumed to convert real \$2012 dollars to nominal dollars
- Assumes transmission connected large user, hence excludes distribution cost

More detailed projections of global adjustment allocation used for rate setting purposes

- For purposes of this forecast, the cost share of global adjustment (GA) between Class A and Class B is 10% and 90%, and the volume share is assumed to be 17% and 83%, respectively. These ratios are held constant for the planning period
- As actual Class A and B share values change, the rate and bill outlooks will change correspondingly. An estimate of the monthly GA is prepared by the IESO, for LDC billing purposes: http://www.ieso.ca/imoweb/b100/b100_ga.asp
- Historical monthly data on GA is available at the following links:
http://www.ieso.ca/imoweb/b100/b100_ga.asp
http://www.ieso.ca/imoweb/b100/ga_archive.asp
- The Ontario Energy Board establishes the electricity commodity rates for households and small businesses via the regulated price plan, using higher resolution data that reflect current assumptions and circumstances.
<http://www.ontarioenergyboard.ca/OEB/Industry/Regulatory%20Proceedings/Policy%20Initiatives%20and%20Consultations/Regulated%20Price%20Plan>

More detailed planning data/information is available from OPA

- 2013 LTEP modules provide information on assumptions and details of
 - Demand forecast
 - Conservation
 - Supply
 - Cost
 - Air Emission

<http://powerauthority.on.ca/power-planning/long-term-energy-plan-2013>