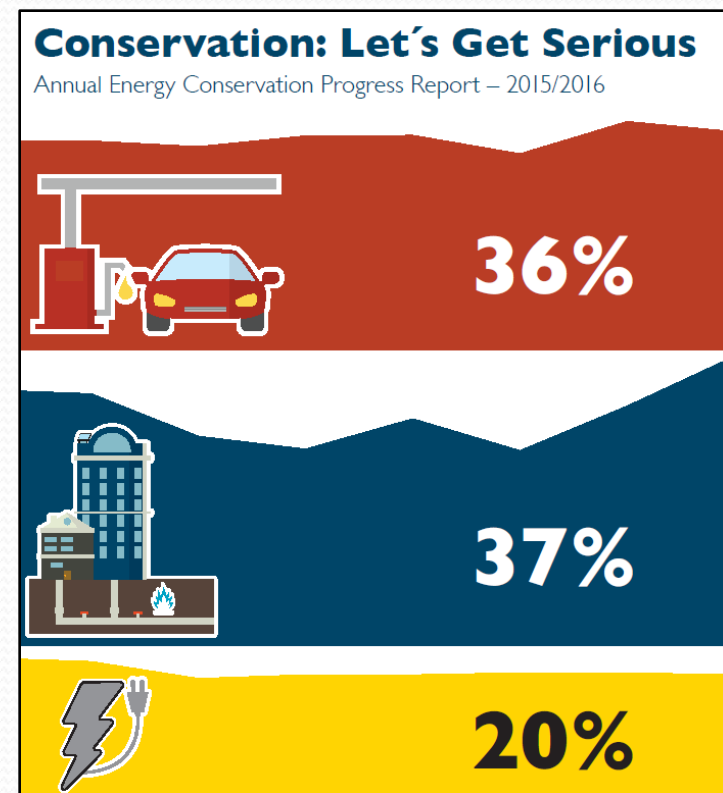


# Conservation: Let's Get Serious

*June 1, 2016, Presentation to the Ontario Energy Association*

***Dianne Saxe***

**Environmental Commissioner**

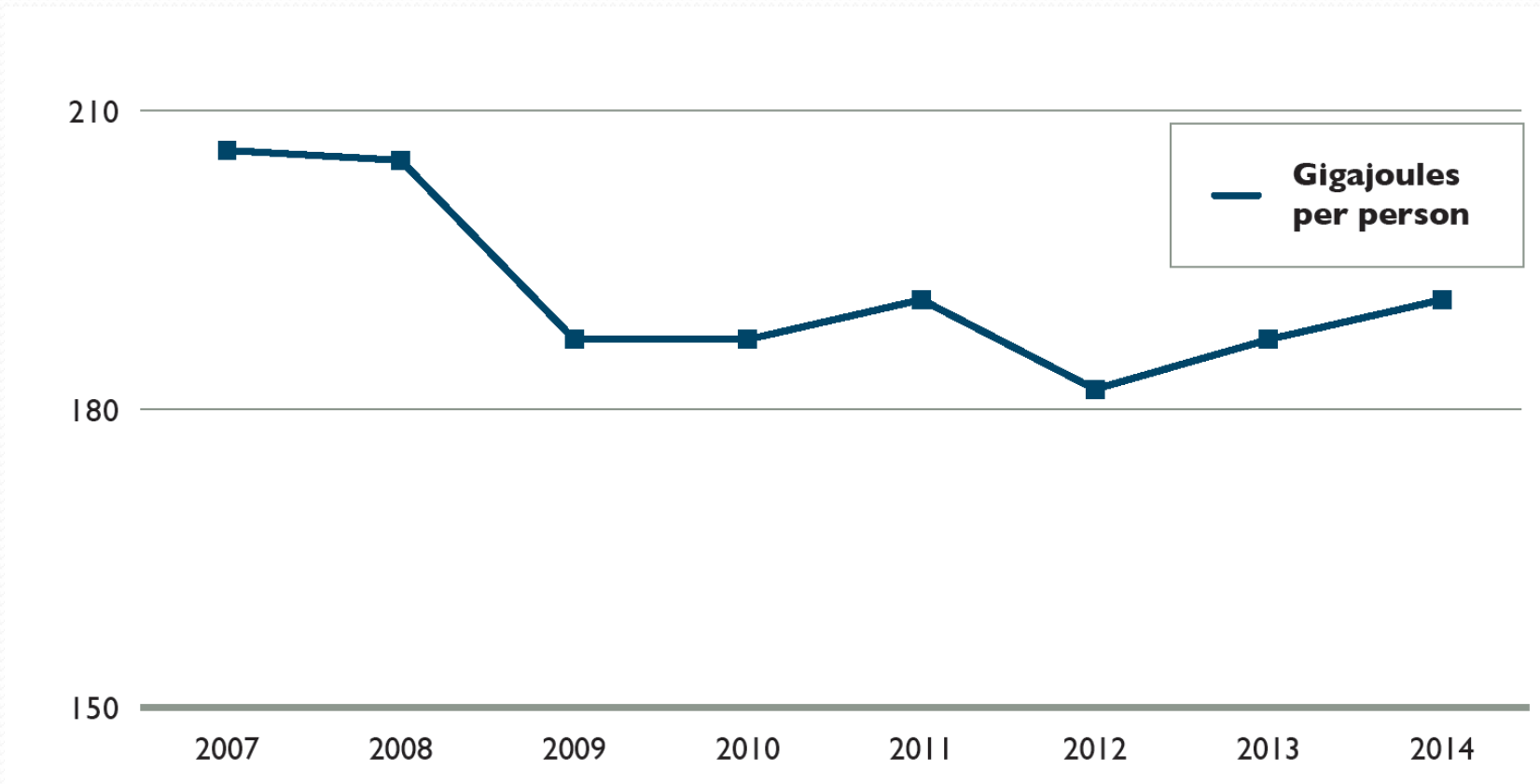




# Overview

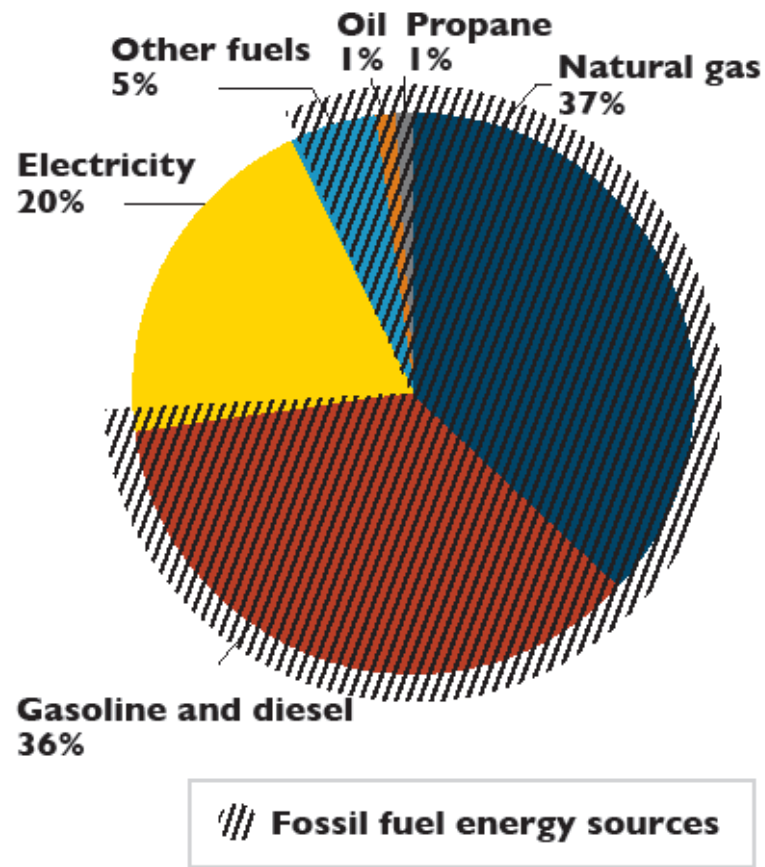
- *A level playing field for a sustainable economy*
- Is conservation a good deal?
- Getting there from here: the role of the energy industry

# The big picture



- Energy use per capita (all fuels) down 7% from 2007 to 2014

# Are we focusing on the right things?



**Ontario's energy use by fuel type in 2014**

# Electricity

- Use down 6% from 2007 (8% excluding embedded gen.), summer peak down 17%
  - 91% low emission
- Utility spending: \$421M in 2014
- LDCs: 109% of energy target, 70% of peak demand target

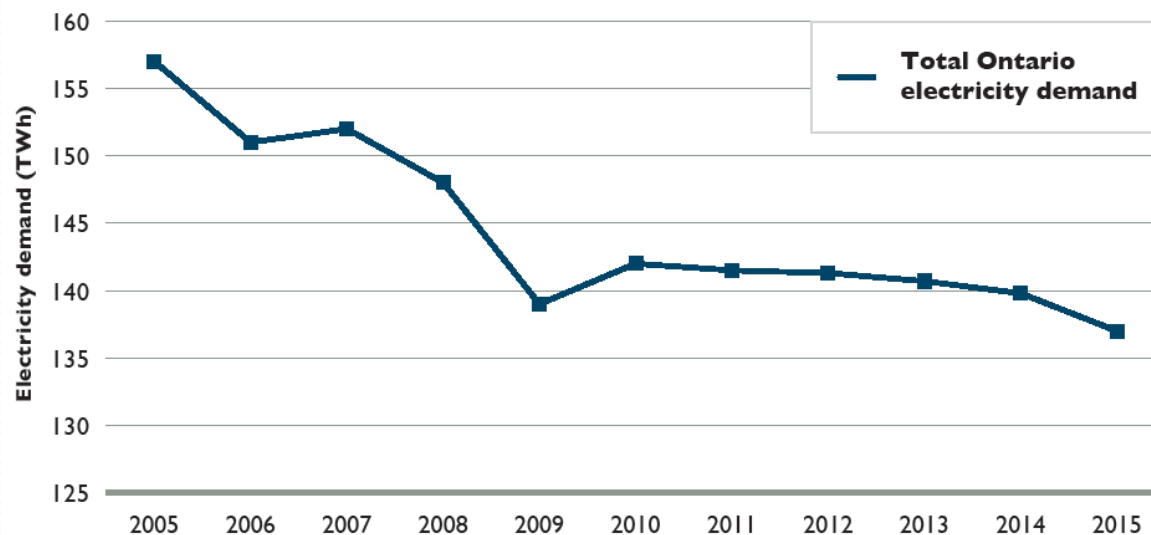
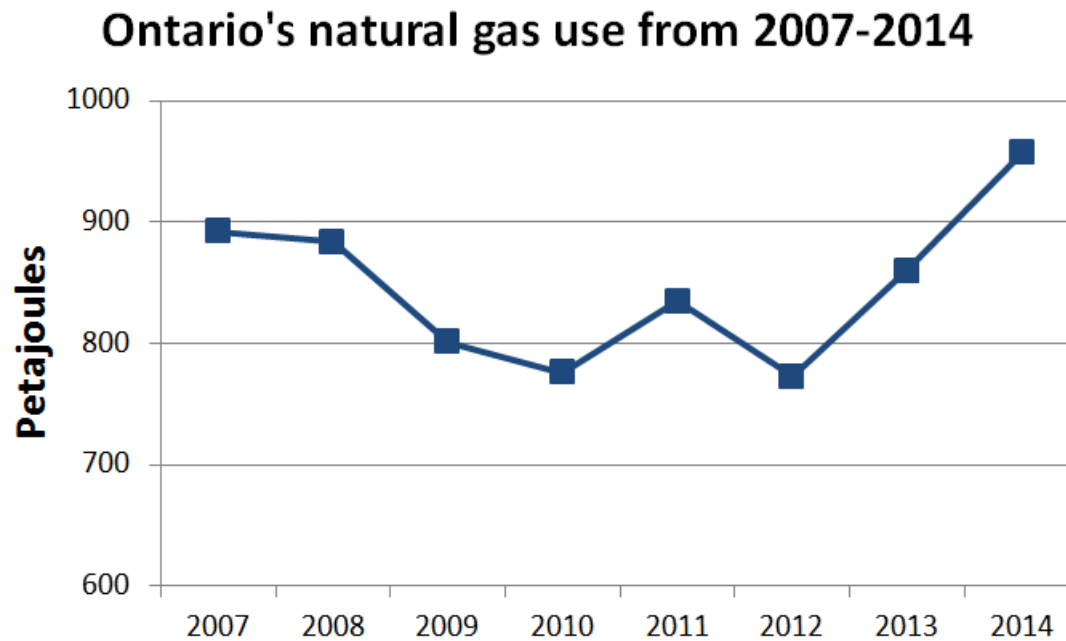


Figure 2.13: Ontario annual electricity demand, 2003-2015

Source: IESO

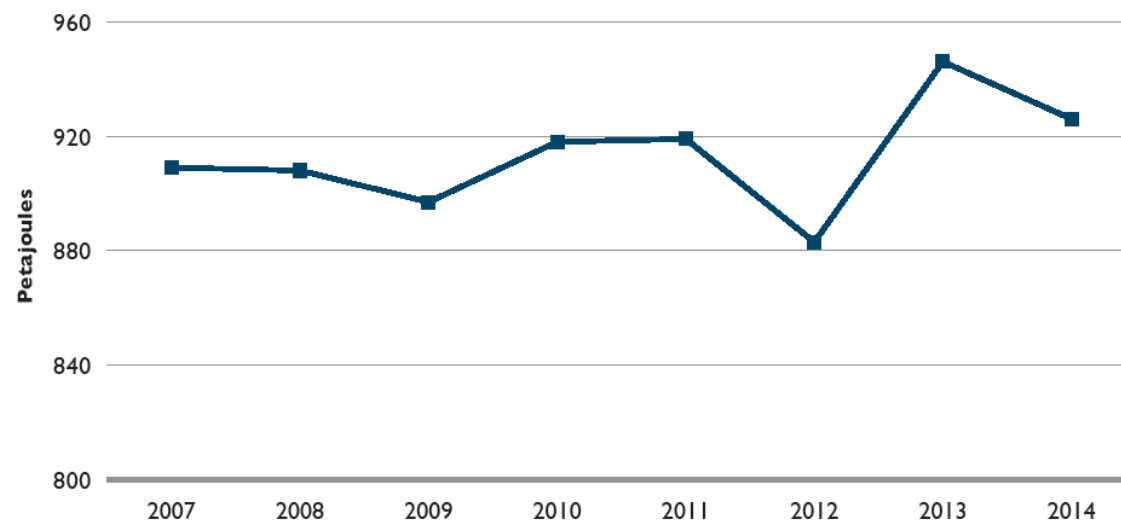
## Natural gas: use is up

- Twice as much energy use as electricity, but 1/6 the conservation spending (\$66M in 2014)
- Weather impact (e.g. 2014 “polar vortex”)
- Good conservation performance by Union/Enbridge



## Transportation fuel: use is up

- No dedicated conservation funding
- Government targets: no action (10% Low Carbon Fuel Standard), or poor performance (land use; only 1% of the way towards 2020 EV target)



**Figure 2.5: Ontario's transportation fuel use from 2007-2014**

Source: Statistics Canada – Catalogue no.57-003-X.

# Rebalancing conservation

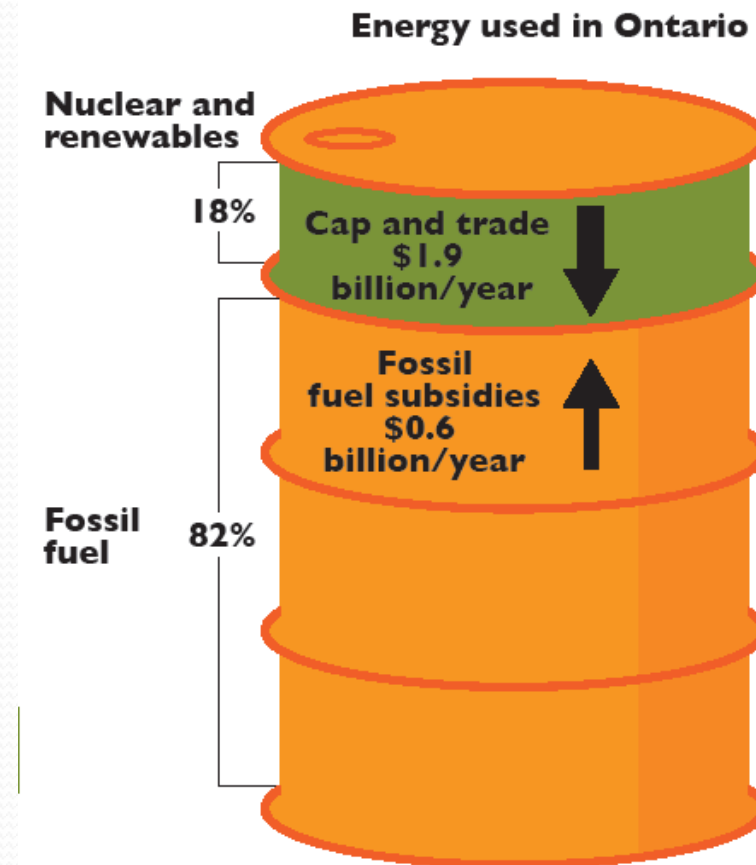
- Need to increase effort on conserving fossil fuels (buildings and transportation)
- Carbon pricing will help, but is it enough?





# Fossil fuel subsidies

- \$628 M in Ontario tax breaks for fossil fuels
- At cross-purposes to cap and trade
- Good tax policy?



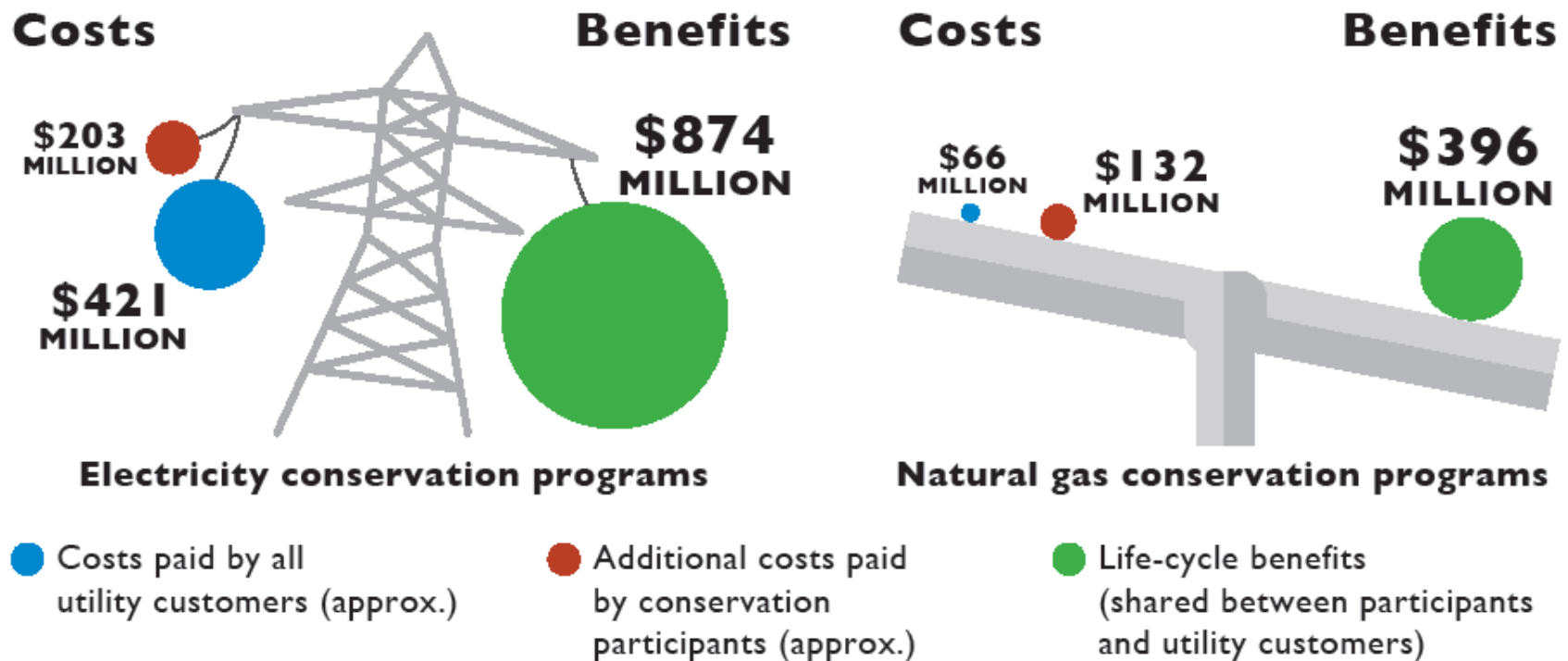
**Figure 7.1. The perversity of fossil fuel subsidies within a cap-and-trade system**



# Overview

- A level playing field for a sustainable economy
- *Is conservation a good deal?*
- Getting there from here: the role of the energy industry

# On the whole, yes...



**Figure 6.2: The costs and benefits to society of 2014 energy conservation programs**

## But isn't it driving rates up?

- \$483M/ yr: a lot of money
- Confusion /resentment over rate increases
- Global Adjustment charges: Legitimate?

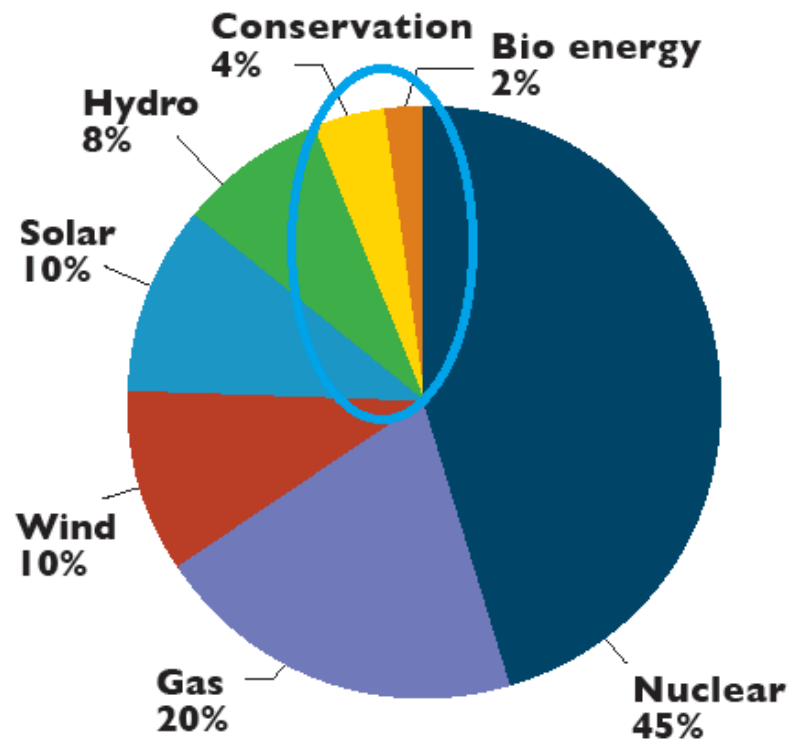
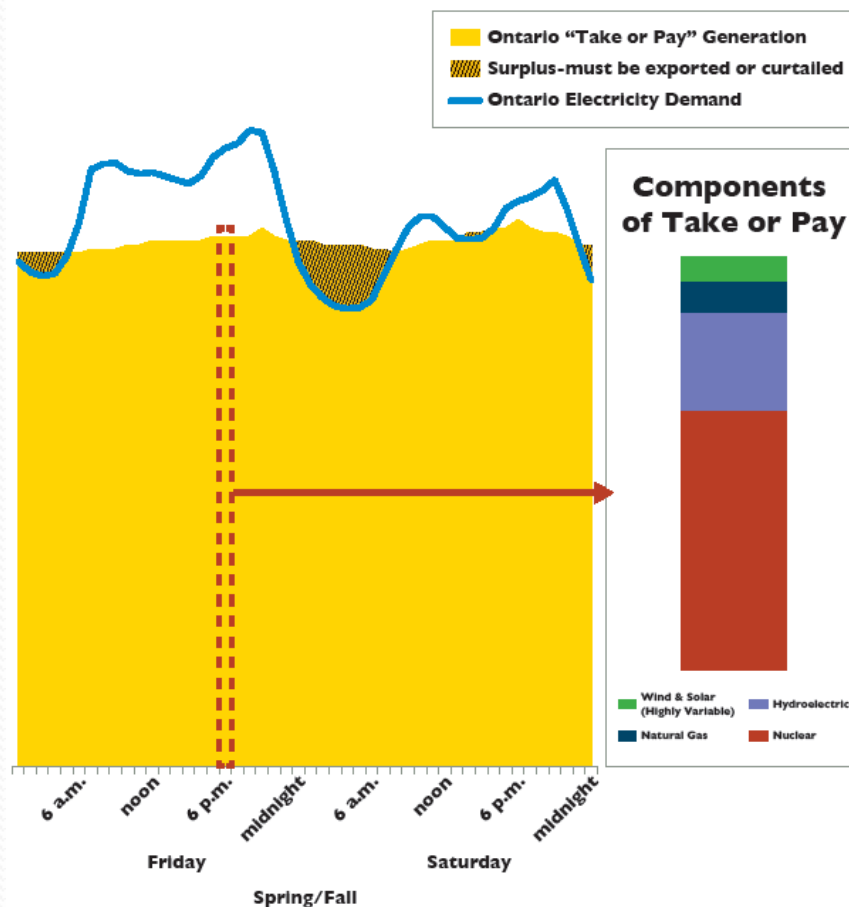


Figure 6.3: Estimated components of the Global Adjustment based on type of electricity resource

## And why conserve during a surplus?

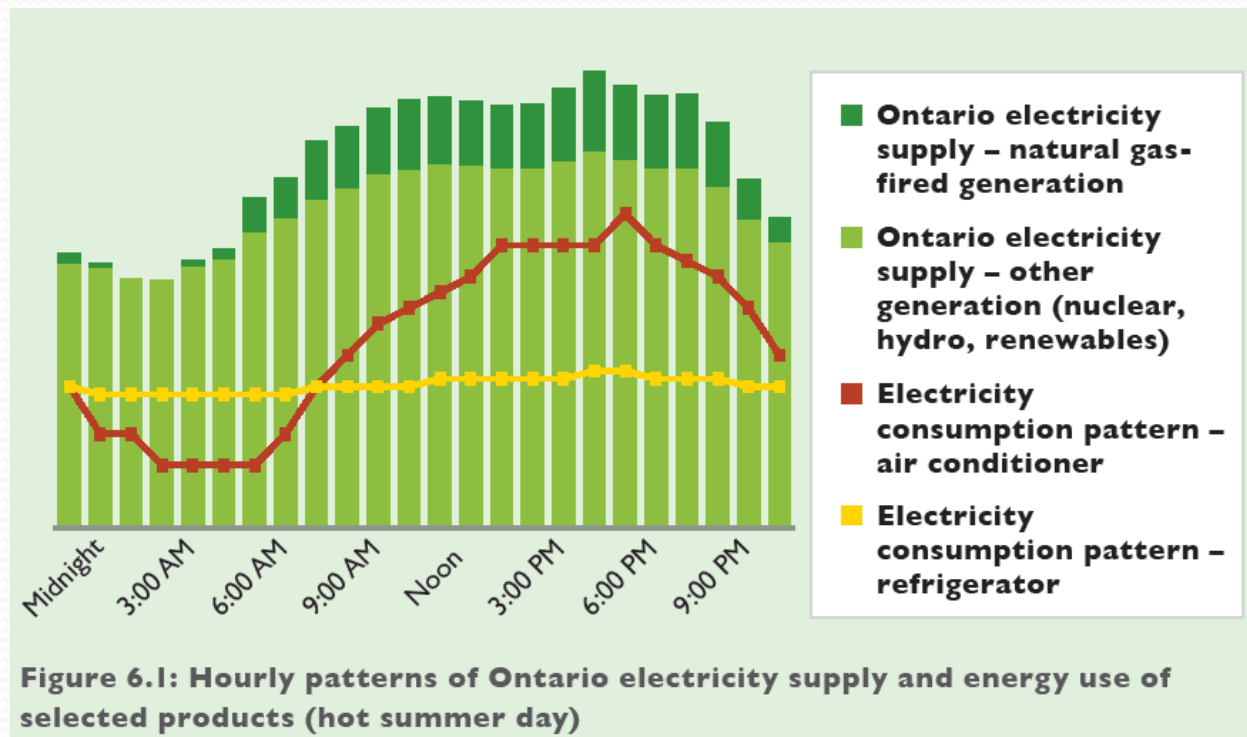
- Take or pay surplus in some hours (usually overnight)
- Will largely disappear with nuclear refurbishment/ Pickering shutdown / NUG expiry
- Conservation pays its way from savings in other hours and in future years

### Ontario Electricity Demand vs. “Take or Pay” Generation



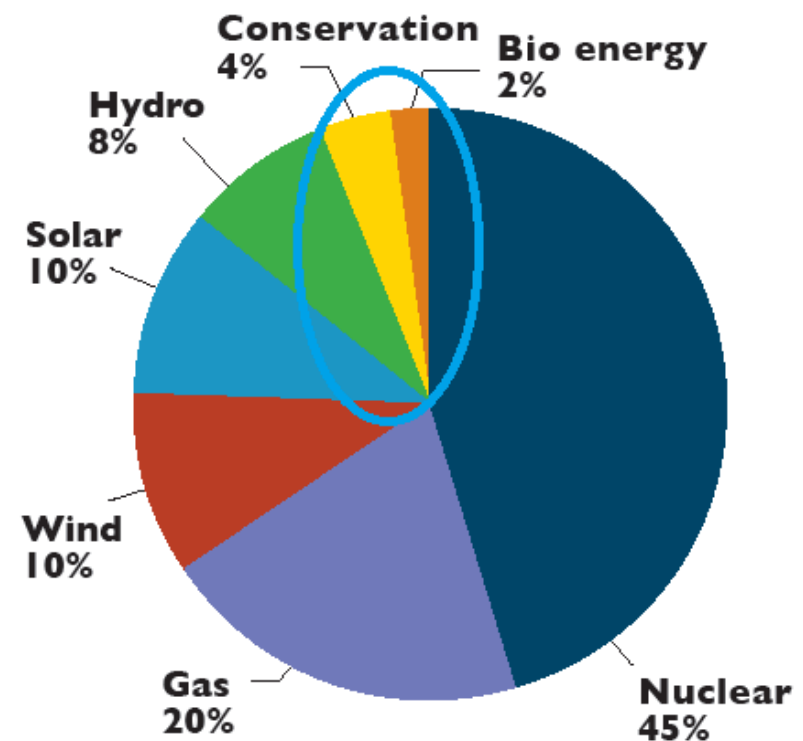
## It matters when we conserve

- Electricity conservation has more economic and environmental value when it displaces gas-fired generation
- Conservation framework needs focus



## Credibility needs transparency

- Relevant data
- Response to critiques
- Coherent explanations
  - Subsidies
  - Off peak “value”



**Figure 6.3: Estimated components of the Global Adjustment based on type of electricity resource**



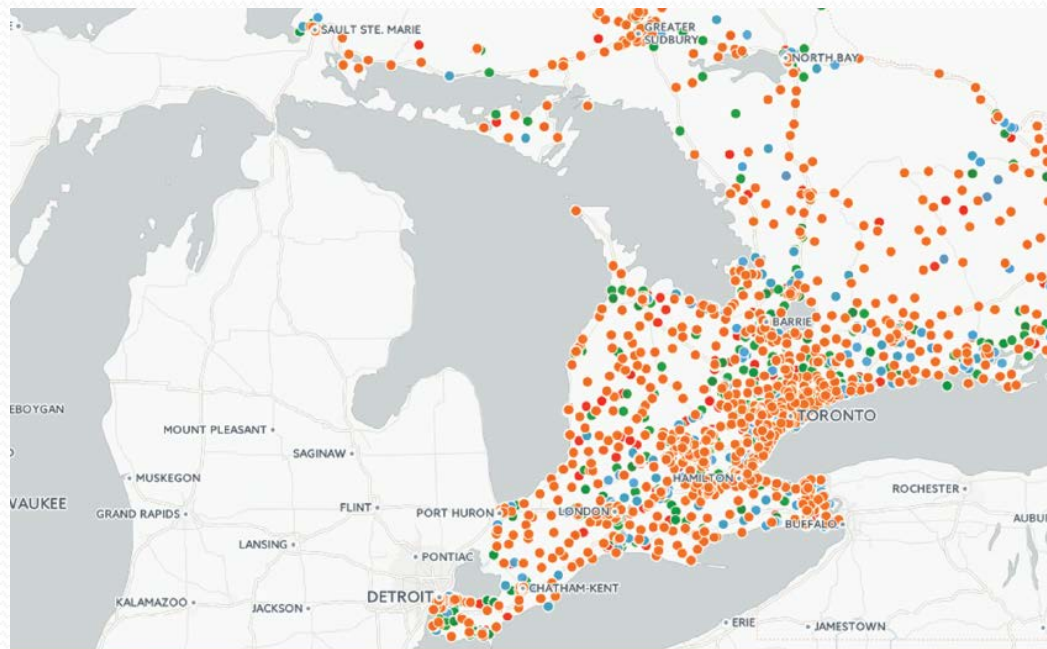
# Overview

- A level playing field for a sustainable economy
- Is conservation a good deal?
- *Getting there from here: the role of the energy industry*
  1. Putting energy data to work
  2. Facilitating electrification of transportation
  3. Clearing the path for better codes and standards

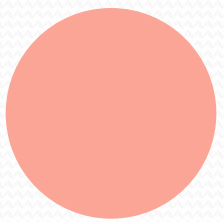
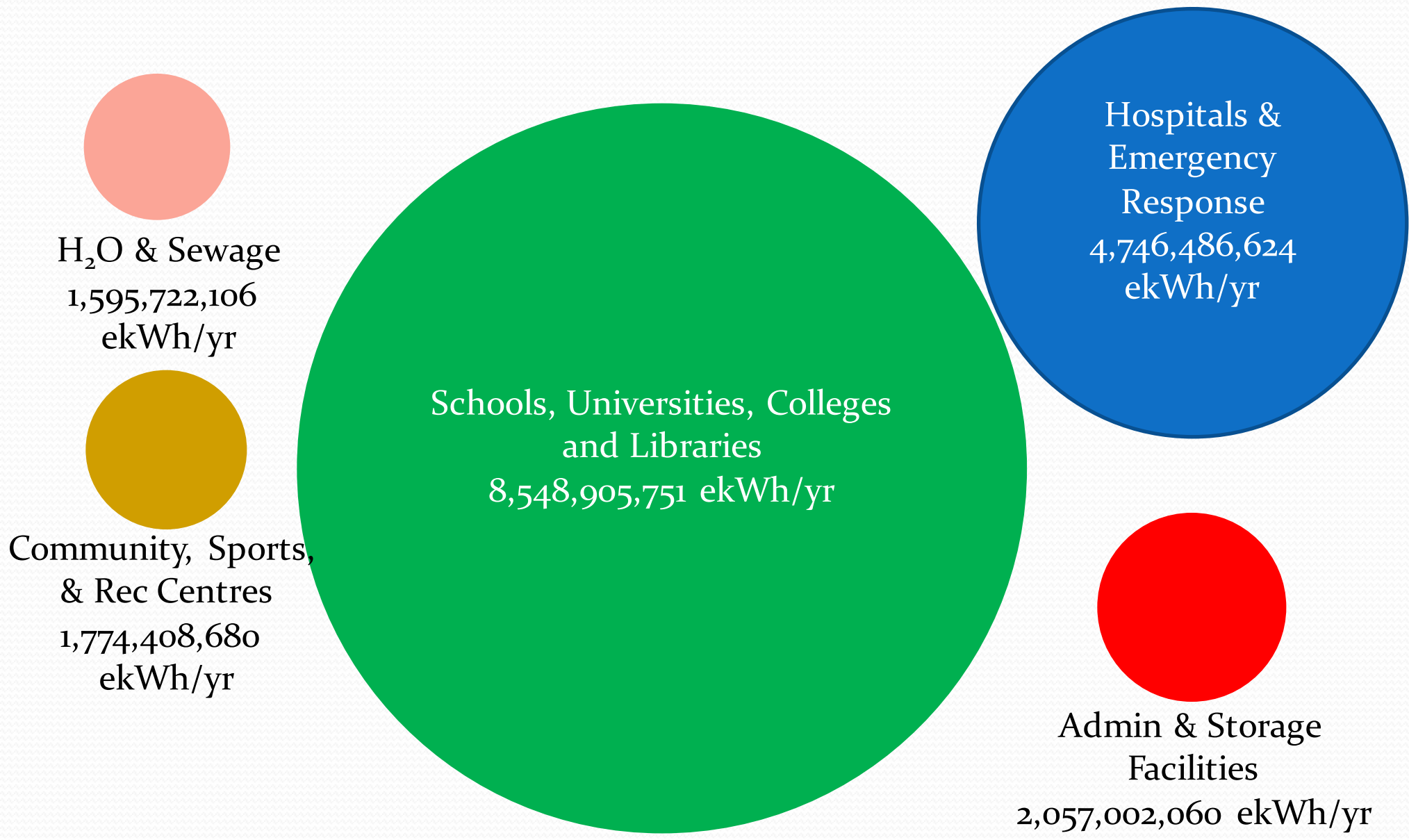


# Energy reporting and benchmarking

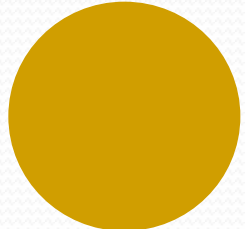
- Mandatory reporting of energy use for 15,000 buildings in the Broader Public Sector (O. Reg. 397/11)
- A treasure chest of data:  
[eco.on/ca/reports/2016-letsgetserious](http://eco.on.ca/reports/2016-letsgetserious)



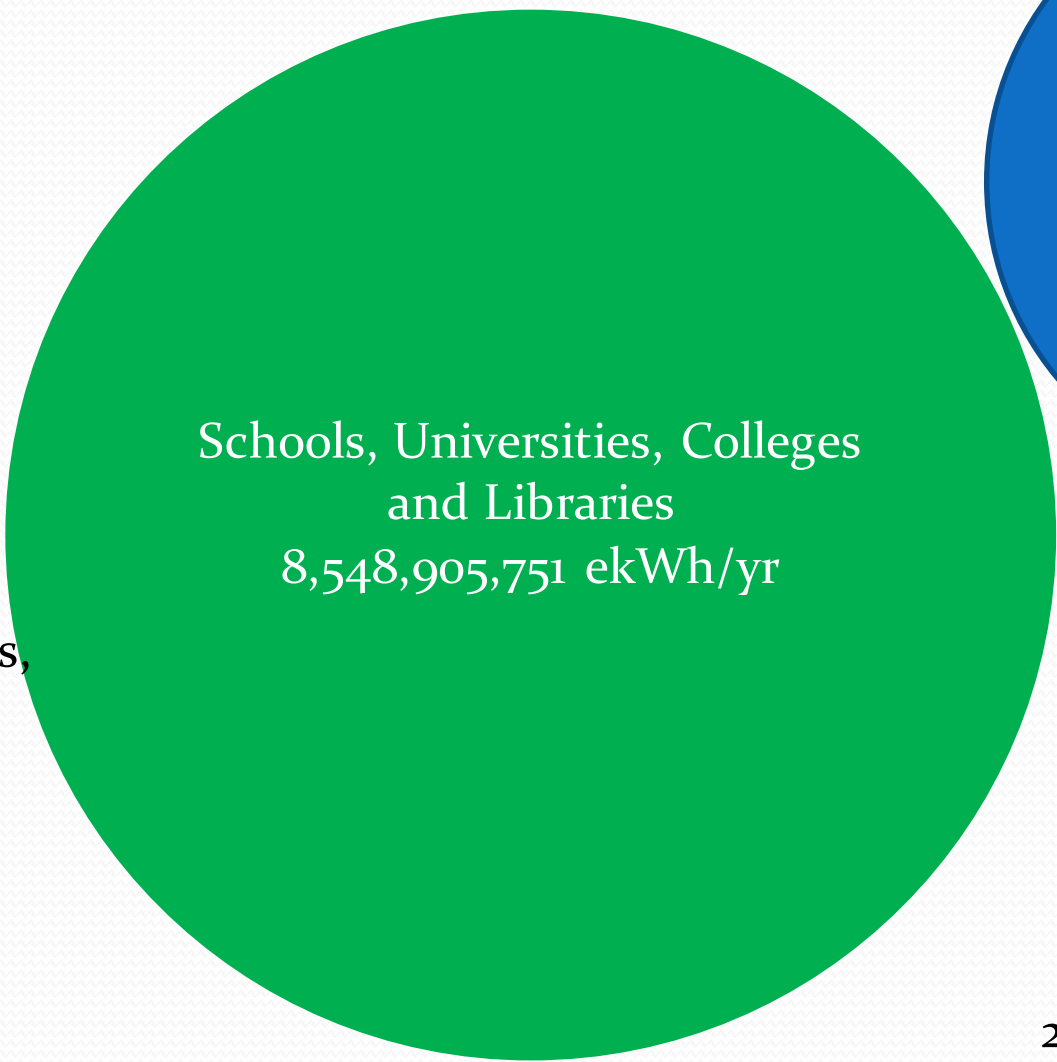
# Where energy is used in the BPS



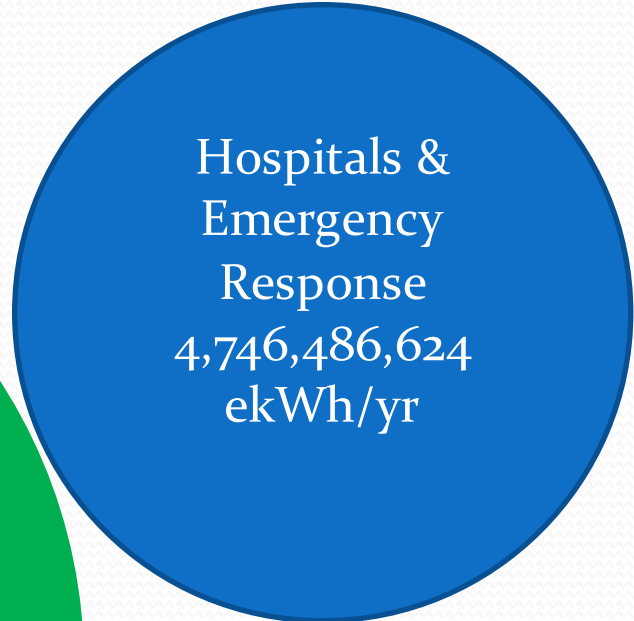
H<sub>2</sub>O & Sewage  
1,595,722,106  
ekWh/yr



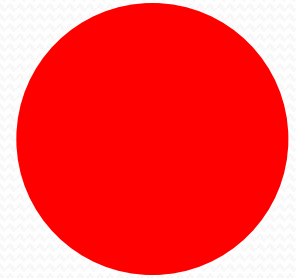
Community, Sports,  
& Rec Centres  
1,774,408,680  
ekWh/yr



Schools, Universities, Colleges  
and Libraries  
8,548,905,751 ekWh/yr



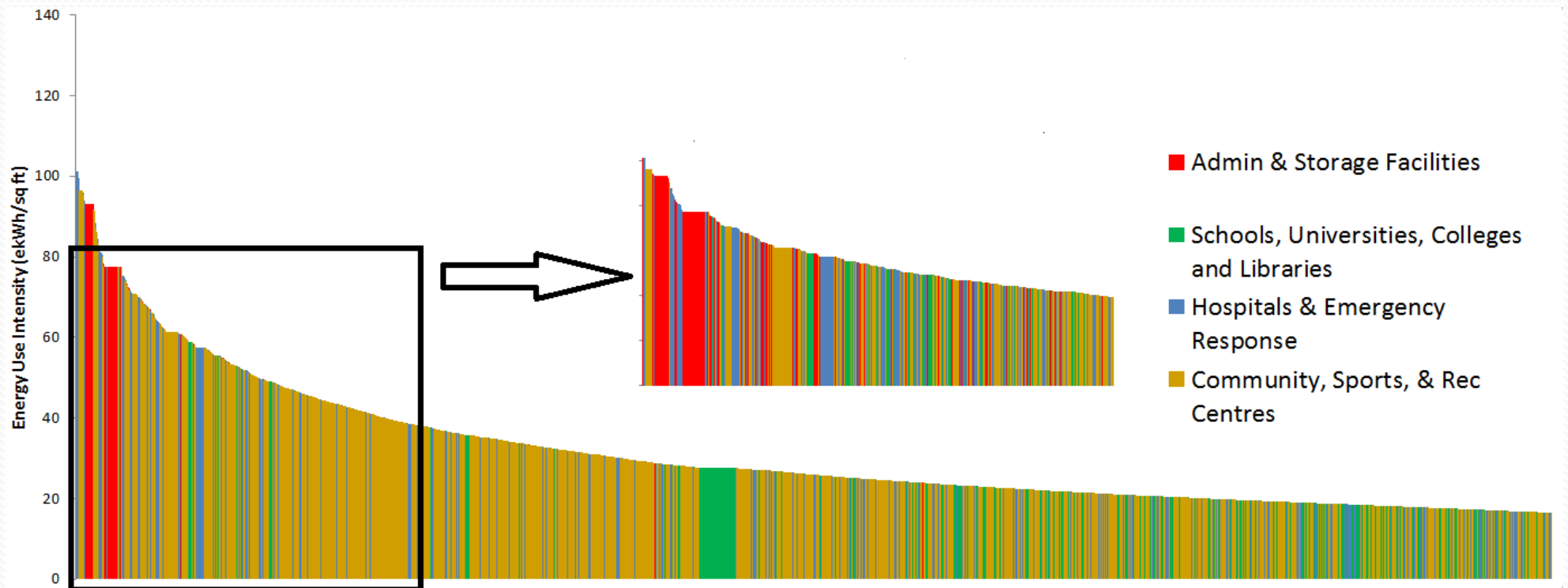
Hospitals &  
Emergency  
Response  
4,746,486,624  
ekWh/yr



Admin & Storage  
Facilities  
2,057,002,060 ekWh/yr

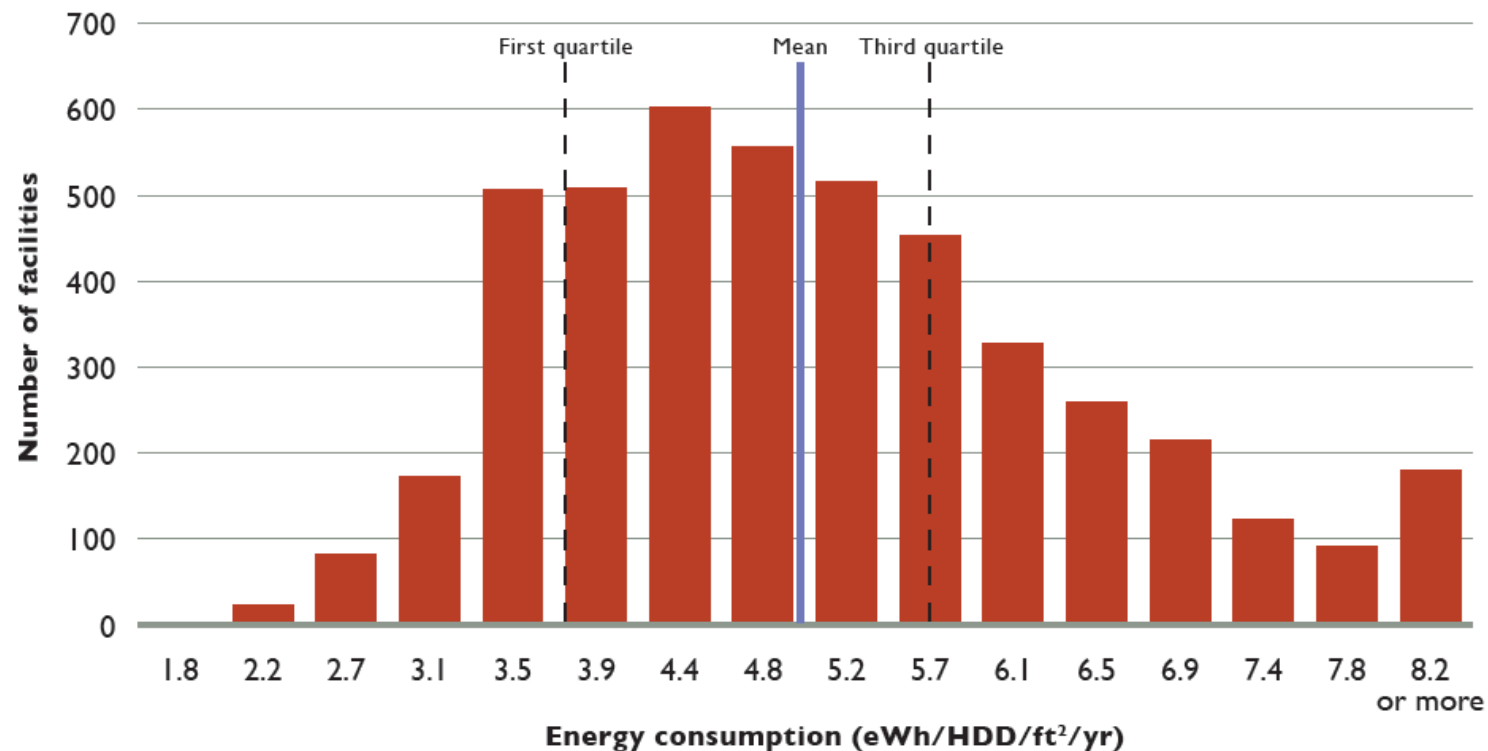
# Energy Use Intensity in BPS Buildings

- Good and bad performers in all categories of buildings.



# Large variations in energy intensity

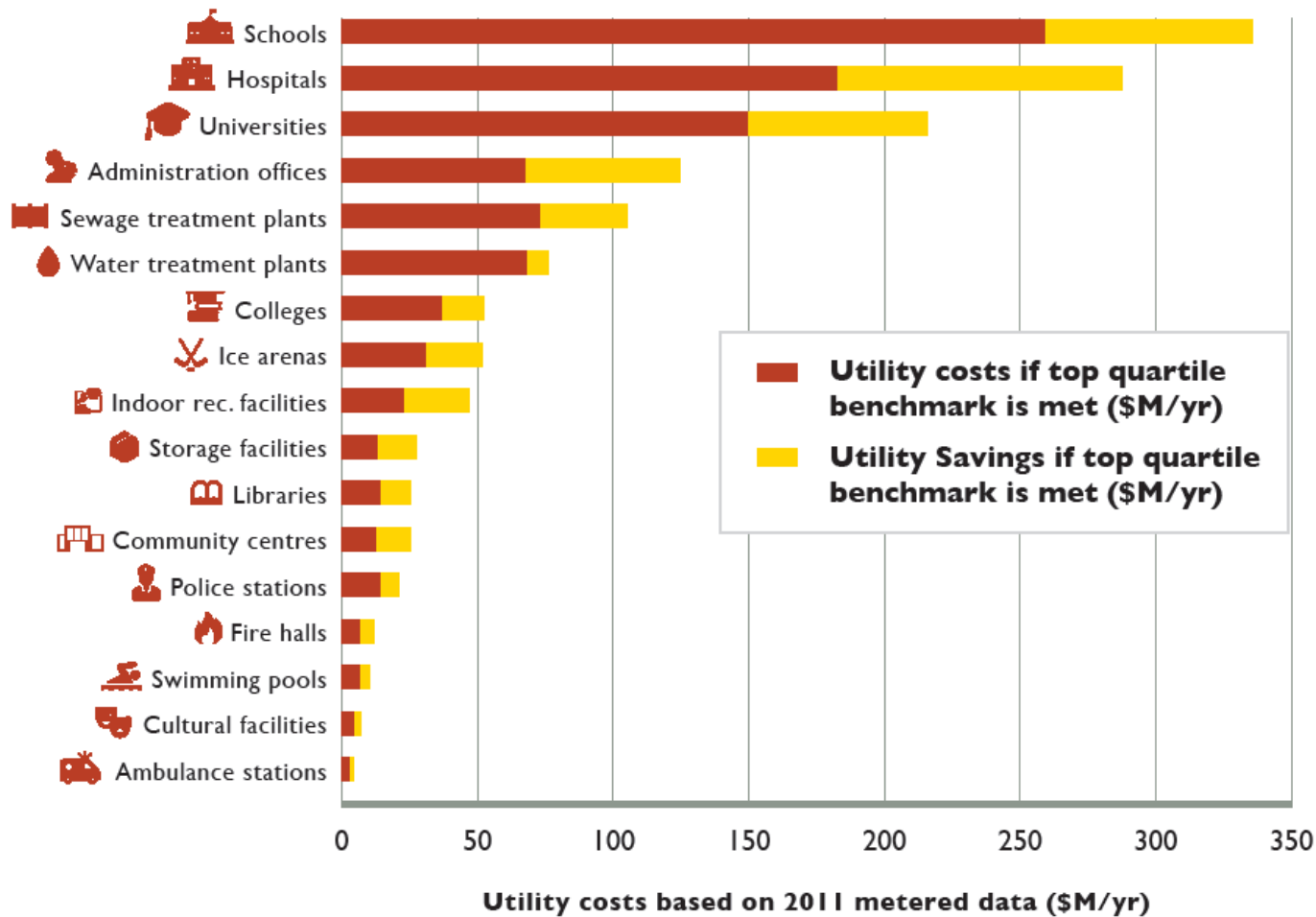
- Buildings with the same function perform very differently...



**Figure 4.3: Energy consumption curve for Ontario schools – 2011**

# Huge potential savings ....

- 35% energy savings; 1 MT/yr GHG reduction; \$450M in utility bills.

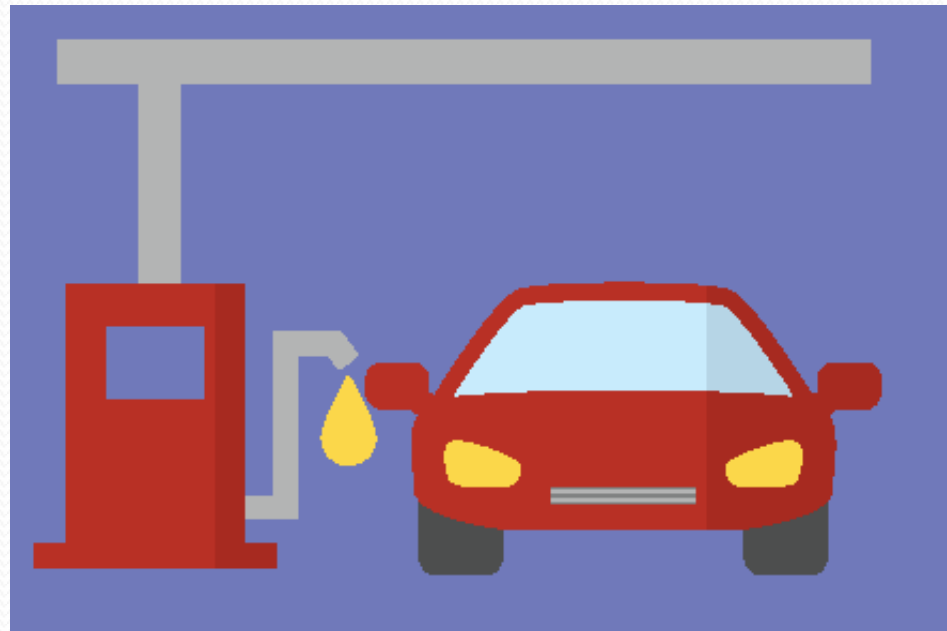


# Buildings: next steps

- ECO recommends:
  - Performance targets for public buildings
  - Reporting by private sector (large buildings and homes)
- Energy industry can help customers:
  - Access data
  - Put data to work:
    - Benchmark
    - Use it to target conservation
    - Financing

# Transportation: a huge challenge

- Largest source of emissions but toughest to tackle
- Key levers:
  - Land use planning (reduce travel distances)
  - Transit/shared transportation (reduce vehicle km per person)
  - Cleaner/more efficient vehicles (reduce energy/emissions intensity)





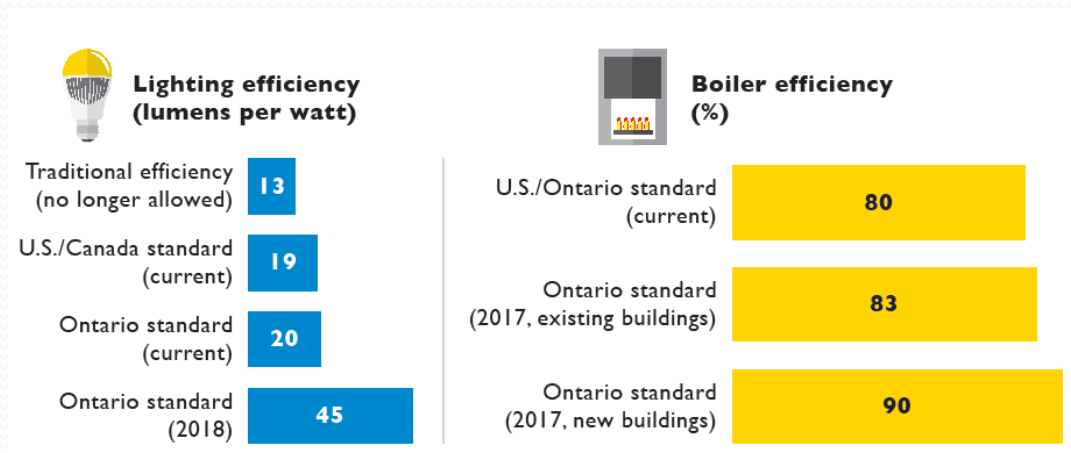
## Electrification?

- Abundant, low-emissions off-peak electricity:
  - 1 million EVs would increase electricity use only 2%
- Role for energy industry:
  - Match customer charging to electric utility needs
    - Maximize off-peak charging
  - Smart grid technologies/innovative programs



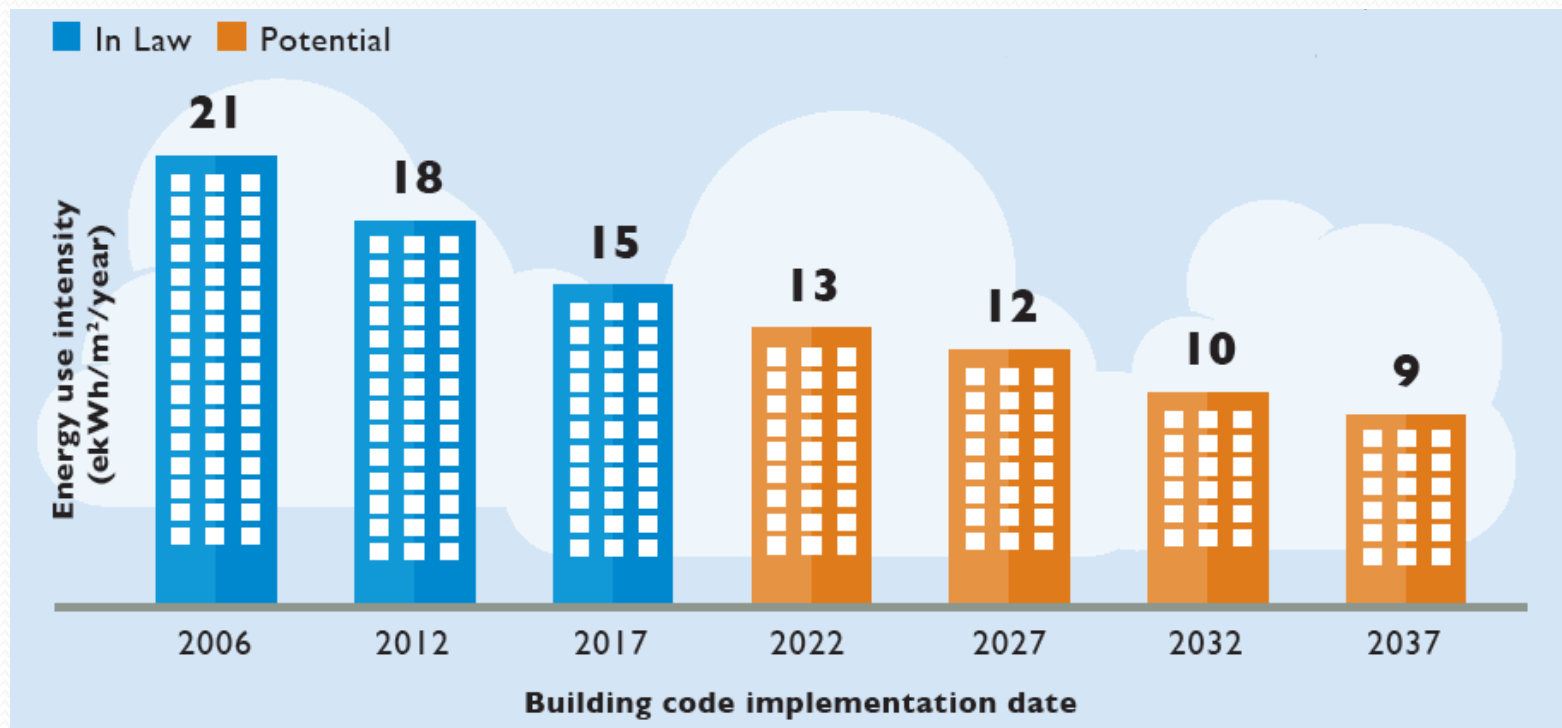
# Product efficiency standards: raising the bar

- Recent Ontario regulatory updates:
  - Harmonize with many U.S. standards;
  - Proposed (stricter) Ontario-specific standards for many HVAC products – most abandoned or watered down
- ECO Recommends:
  - Standards for water fixtures (water = embodied energy)
  - Authority to enforce compliance



# Can utilities pave the way for higher standards?

- Targeted programs to increase market share of high-efficiency technologies in advance of proposed standards?
- Model has worked well for the Building Code (this year's voluntary high-performance home becomes next year's Code minimum).



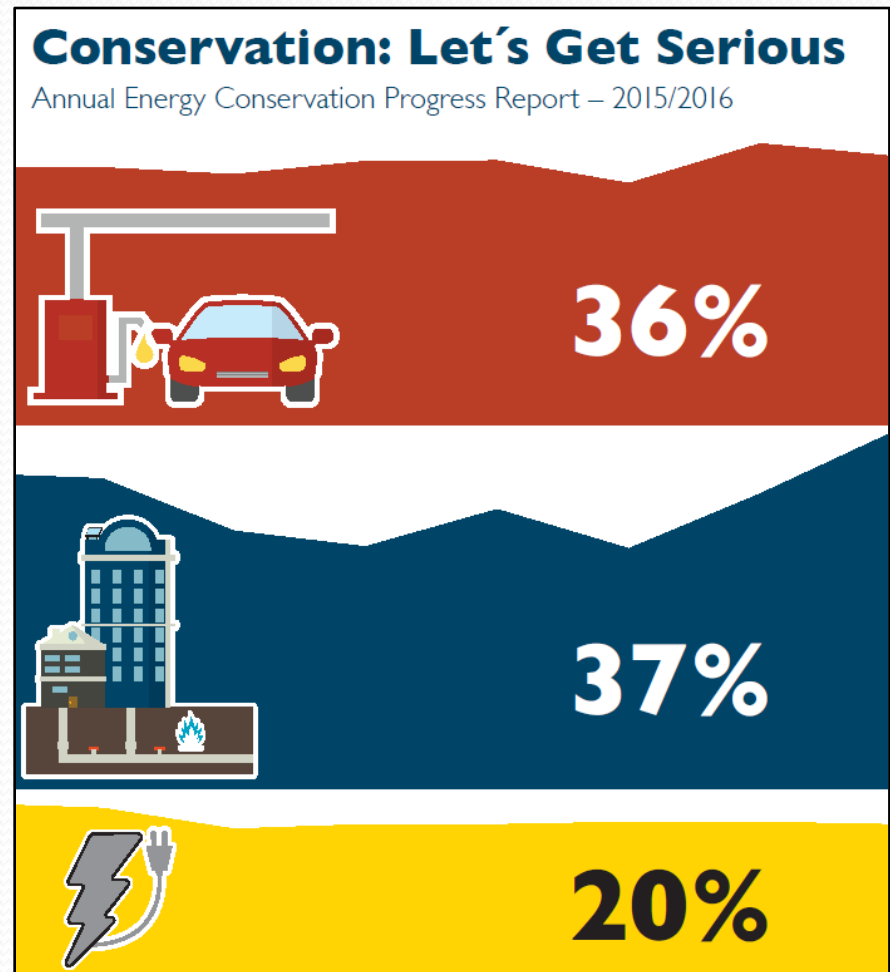


## Conclusions

- A level playing field for a sustainable economy requires attention to what drives fossil fuel use
- Conservation is a good deal, but needs transparency, focus and public support
- The energy industry has a major role in this transition – be a participant, not a victim!

# Continuing the conversation

- Report:  
[eco.on.ca/reports/2016-lets-get-serious/](http://eco.on.ca/reports/2016-lets-get-serious/)
- Further discussion:  
[commissioner@eco.on.ca](mailto:commissioner@eco.on.ca)
- Hot topics for 2017?
- Questions?



Thanks!

Sign up for ECO updates and blog at

[eco.on.ca](http://eco.on.ca)

***Dianne Saxe***

**Environmental Commissioner**



Environmental  
Commissioner  
of Ontario