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# THE FUTURE OF ENERGY CONSERVATION IN ONTARIO

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Challenge what is. Imagine what could be.

Ontario Climate Consortium “Just Transformations – The  
Next 150

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# PRESENTATION OUTLINE



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- Background on Energy Conservation
- Role for Government
- Role for Private & Public Sector
- Role for Individuals
- The Future
- Questions & Answers

# CLIMATE CHANGE IN CANADA



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**81%** of Canada's man-made GHG  
from production and use of energy

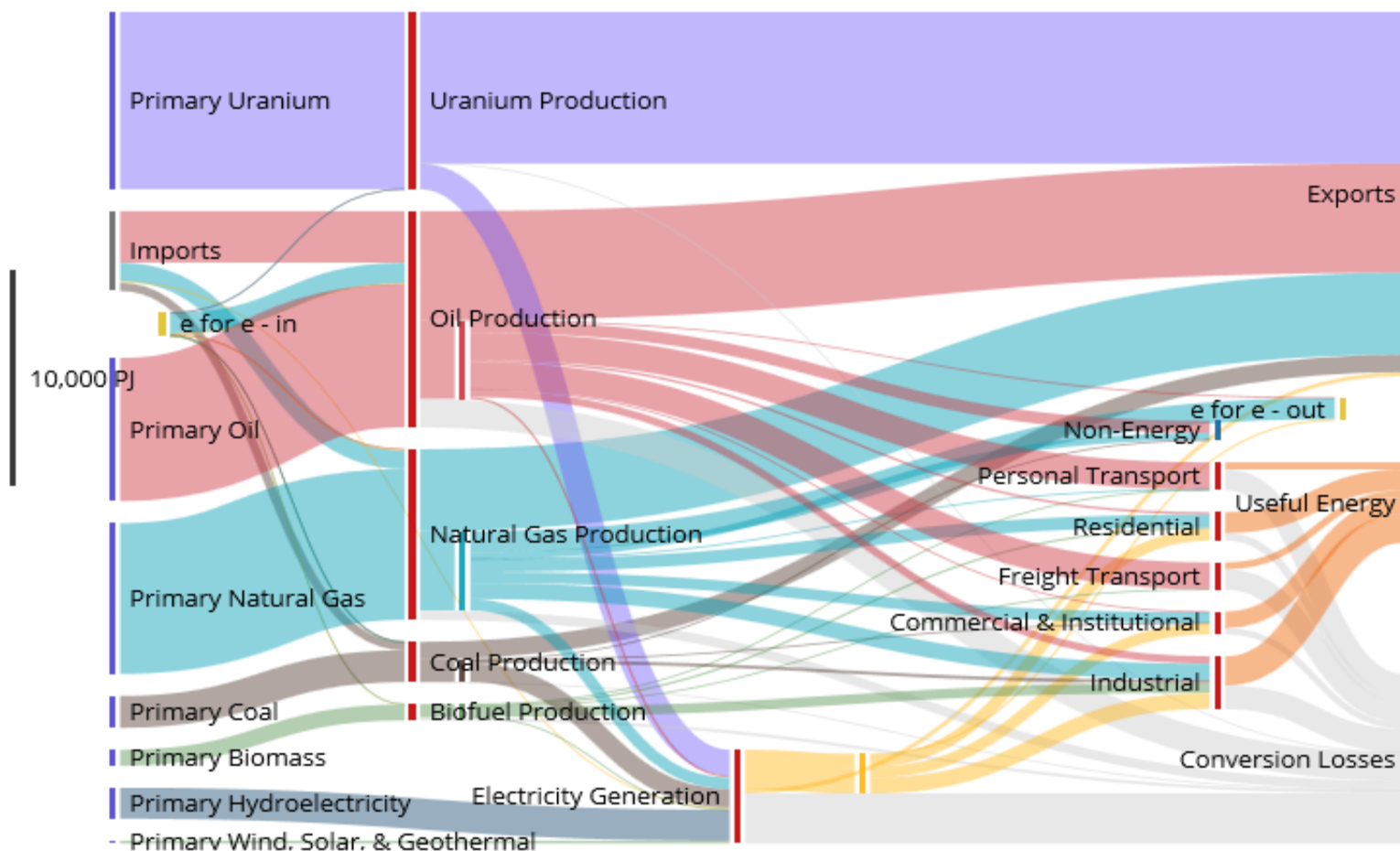
# 2/3 ENERGY WASTED!



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## Canada's Energy Systems in 2010



redefine THE POSSIBLE.

# CONSERVATION



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## Five Types

- Behavioural Conservation (no change in technology)
- Energy Efficiency (technical improvements)
- Demand Response (time of use)
- Fuel substitution (increases use of other fuel)
- On-site generation (excludes FIT contracts in Ontario)

# CHALLENGES OF CONSERVATION - HARD TO SEE



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# HARD TO MEASURE



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# REQUIRES ALL IN



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# BENEFITS OF CONSERVATION IN CANADA

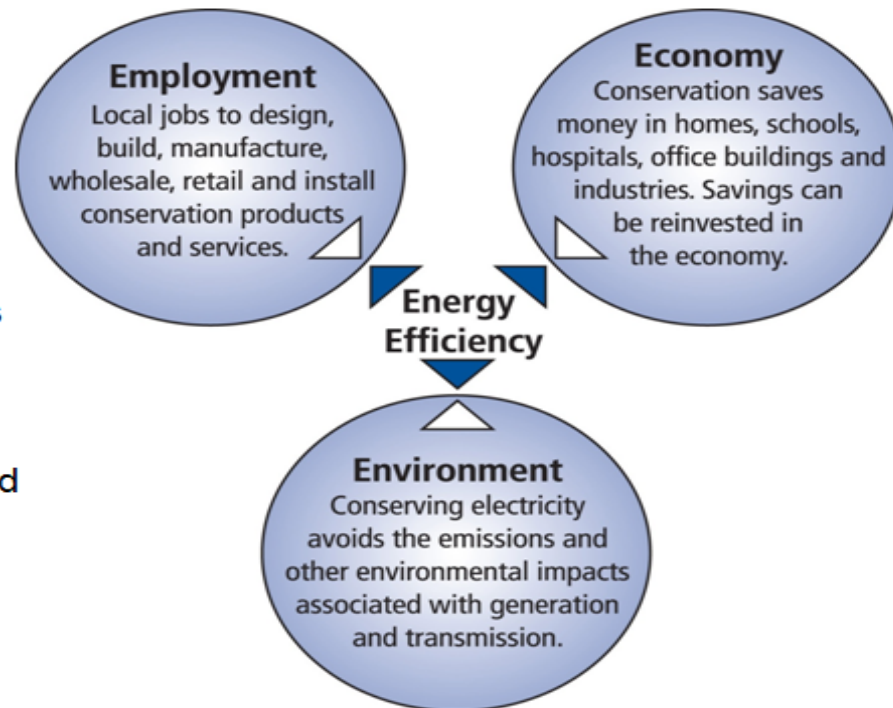


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## Benefits of Conservation

### The Three “Es”:

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



1

**OPA**  
Ontario Power Authority

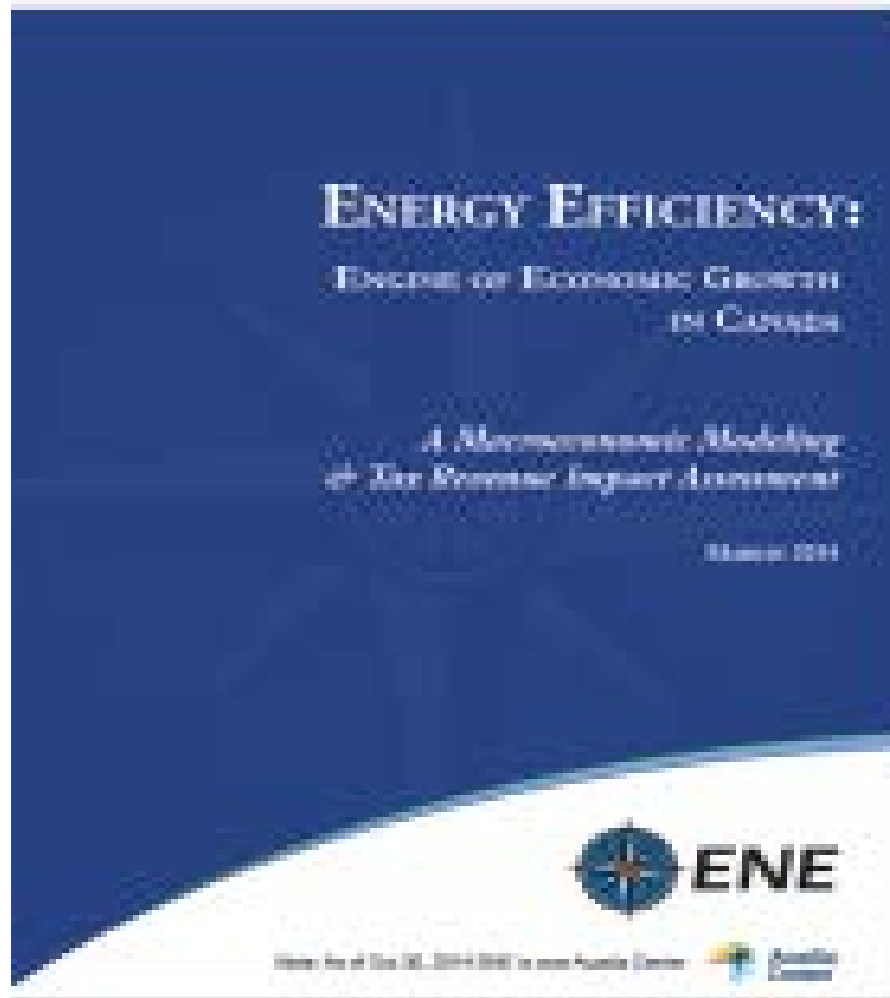
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redefine THE POSSIBLE.

# ECONOMIC BENEFITS FOR CANADA



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Over 15 years  
Inc GDP by \$582 billion  
305,000 to workforce  
Prov tax rev \$2.7 bil  
Cut 92 MT/yr CO<sub>2</sub>



ENERGY SERVICES  
ASSOCIATION  
OF CANADA

PROMOTING  
PERFORMANCE  
BASED SOLUTIONS

# ROLE FOR GOVERNMENT



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- Establish/enforce minimum energy performance standards for buildings and appliances
- Require utilities to fund voluntary ee programs
- Enable/encourage PACE, ESCOs, etc
- Place price on carbon
- Remove fossil fuel subsidies
- Invest in innovation, R&D
- Show leadership with own buildings/fleets



# ROLE FOR BUSINESSES/ ORGANIZATIONS



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- Benchmark against best practice

- Take advantage of incentives

  - \$400 million/year for electricity conservation

  - \$150 million/year for natural gas conservation

  - Enbridge has saved customers \$1.3 billion since program started in mid 90s

- Share successes with employees, customers, suppliers, competitors & community

# ROLE FOR INDIVIDUALS (1)



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# THINK





# ROLE FOR INDIVIDUALS (2)



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# ROLE FOR INDIVIDUALS (3)



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# ACT





# MEETING FULL POTENTIAL



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## Culture of Conservation

- all activities must be designed with this in mind

## Customer/Tenant Engagement

- split incentive/agency problem

## Supply Subsidies

- over \$30 billion/year to fossil alone

## Smart Energy Network

- partial automation of behavior change

# MEETING FULL POTENTIAL (2)



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## Integration of Electricity/Natural Gas Conservation Programs

### Existing Buildings

- 70% of building stock in 2050 built before 2015

### Evaluation, Measurement & Verification

- budget up to 5% of program costs

### Codes & Standards

- often ignored, play critical role

### Transportation

- 43% GHG emission in Ontario

# CULTURE OF CONSERVATION



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We have changed our attitudes on...



# FINAL THOUGHTS



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No one can do everything, but everyone can do something

Dianne Saxe

You must be the change you wish to see in the world

Mahatma Gandhi

Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has.

Margret Mead

# DISCUSSION



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