

# Building Emissions Performance Standards & the TransformTO Net Zero Strategy



Prepared for:  
Toronto City Council  
Infrastructure & Environment  
Committee

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CO-CHAIR, OCEC (ONTARIO CLIMATE EMERGENCY CAMPAIGN)

# Introduction to CAPE

The Canadian Association of Physicians for the Environment (CAPE) is a physician-directed non-profit organization, working at the unique intersection of health and environment to enable health for all through environmental protection.

CAPE engages with governments and in policy work, campaigns, education, media, and research



**CAPE Ontario**  
**Canadian Association  
of Physicians  
for the Environment**

# Introduction to OCEC

- ▶ Non-partisan environmental democracy campaign promoting awareness on environmental issues and urging political leaders to drive climate policy change through our democratic voice
- ▶ Multi-sector coalition structure including individuals and over 275 organizations collectively representing around 850,000 Ontarians
- ▶ Collaborative actions based on an evidence based 12 Point Climate Action Plan



# Recommendations regarding Building Emissions Performance Standards (BEPS)

- ▶ CAPE Ontario strongly supports inclusion of BEPS in the TransformTO Net Zero Strategy
- ▶ CAPE commends city staff who have worked to draft a BEPS Policy already
- ▶ Recommend this be brought forward and operationalized without delays

# Rationale to include BEPS in Toronto's climate plan

- ▶ Buildings are the single largest source of greenhouse gas (GHG) emissions in Toronto (~56%)
- ▶ Toronto's updated GDS are commendable but only address new buildings
- ▶ Without BEPS to address existing building stock, Toronto cannot meet its emissions targets
- ▶ BEPS will create many associated co-benefits:
  - ▶ Environmental
  - ▶ Health
  - ▶ Energy independence & resilience
  - ▶ Economic & employment opportunities

Burning methane gas in buildings harms environmental health by two primary pathways:



Carbon Pollution



GHGs/Planetary heating  
Climate Change



Air Pollution



Particulate matter (PMs)  
Toxic gases – especially NO<sub>x</sub>

# Health Impacts of Climate Change

- Extreme weather
  - Heat, flood, storms, wildfires
- Food, water, housing insecurity
- Infectious diseases
- Antibiotic resistance
- Mental health impacts

“Climate change is the biggest threat to health in the 21<sup>st</sup> century and our very survival is at stake”

- Dr Vanessa Kerry, 2023, WHO  
Director-General, Special Envoy for  
Climate Change & Health



# Health Impacts of Air Pollution

# Air pollution Related Deaths & Health Costs

Total premature deaths globally due to air pollution:  
8.1 million / year in 2021 (impact > US\$5 trillion in 2013)

Ref: UNICEF 2024

17,400 premature Canadian deaths annually  
(impact \$114 billion nationally)

6600 premature Ontarian deaths annually  
(impact \$49 billion provincially)

Ref: Health Canada 2021 (2016/2018 stats)

# The health harms of air pollution



Skin ageing



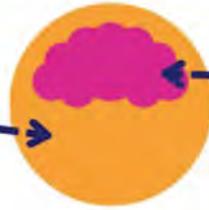
Lung diseases  
Asthma  
Lung cancer  
Lung development  
Pneumonia



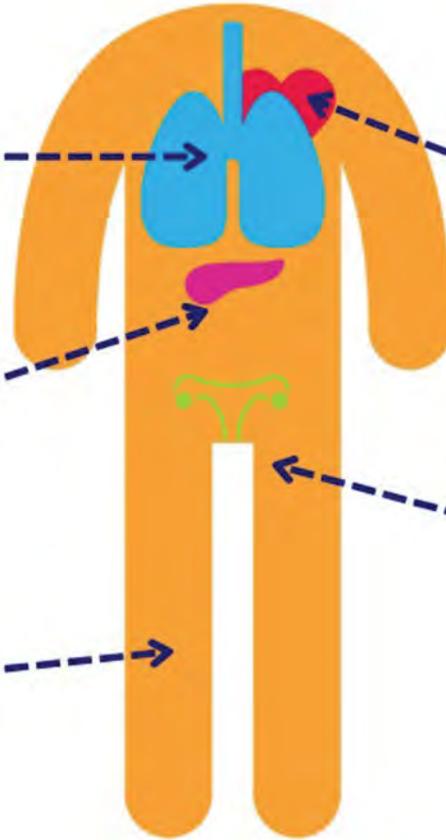
Insulin resistance  
and diabetes



Blood clots



Stroke  
Brain development  
Mental health  
Dementia



Heart disease  
High blood pressure



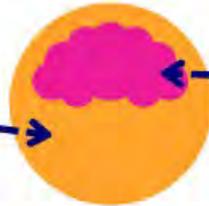
Premature birth  
Low birthweight  
Decreased sperm quality  
Illness during pregnancy



# The health harms of air pollution



Skin ageing



Stroke

Brain development

Mental health

Dementia



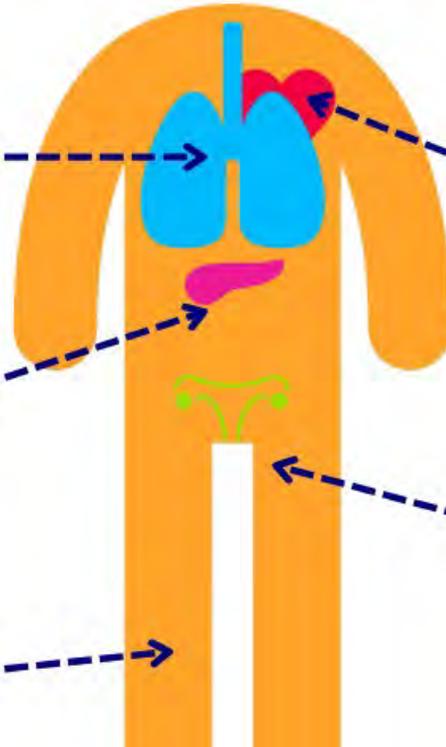
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Heart disease

High blood pressure



Insulin resistance  
and diabetes

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Low birthweight

Decreased sperm quality

Illness during pregnancy



Blood clots

Health harms occur when PM2.5's and Nox pass through the lungs into the bloodstream to cause disease in multiple body systems



# The health harms of air pollution



Skin ageing



LUNGS:

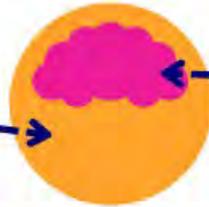
- ASTHMA
- COPD
- EMPHYSEMA
- BRONCHITIS



Insulin resistance  
and diabetes

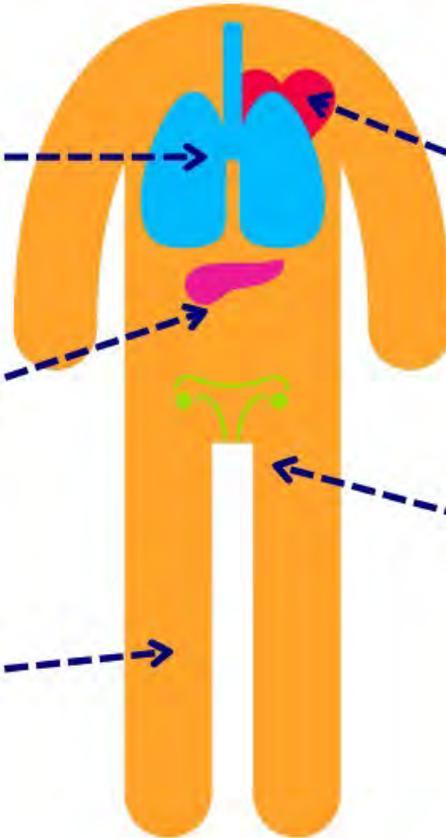


Blood clots



Stroke

Brain development  
Mental health  
Dementia



Heart disease  
High blood pressure



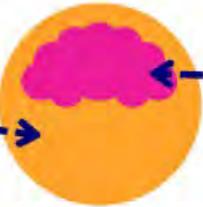
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# The health harms of air pollution



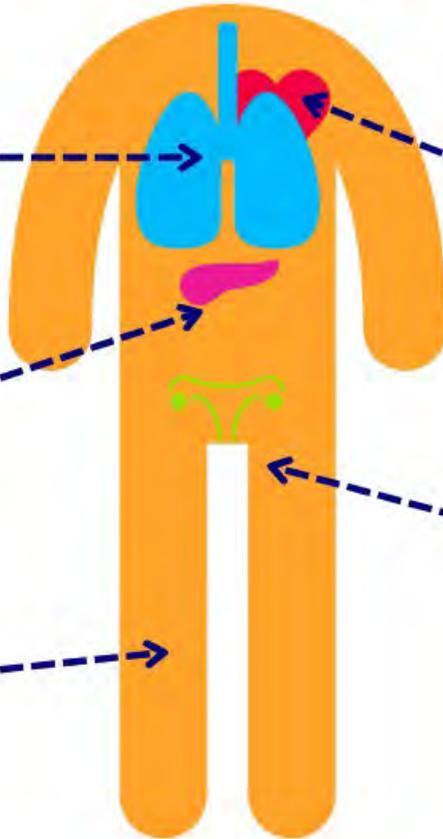
Skin ageing



Stroke  
Brain development  
Mental health



Lung diseases  
Asthma  
Lung cancer  
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Pneumonia

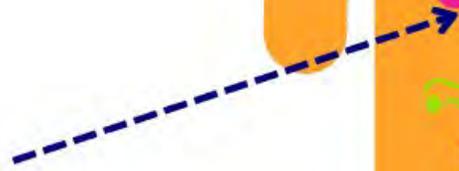


## CARDIOVASCULAR:

- HEART ATTACKS
- ARRHYTHMIAS
- HYPERTENSION
- BLOOD CLOTS



Insulin resistance  
and diabetes



\* Hospital admissions higher  
when SO2 higher



Low birthweight  
Decreased sperm quality  
Illness during pregnancy



Blood clots



# The health harms of air pollution



Skin ageing



Lung diseases

Asthma

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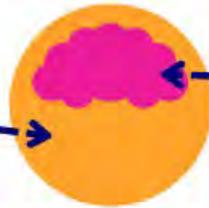
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Insulin resistance  
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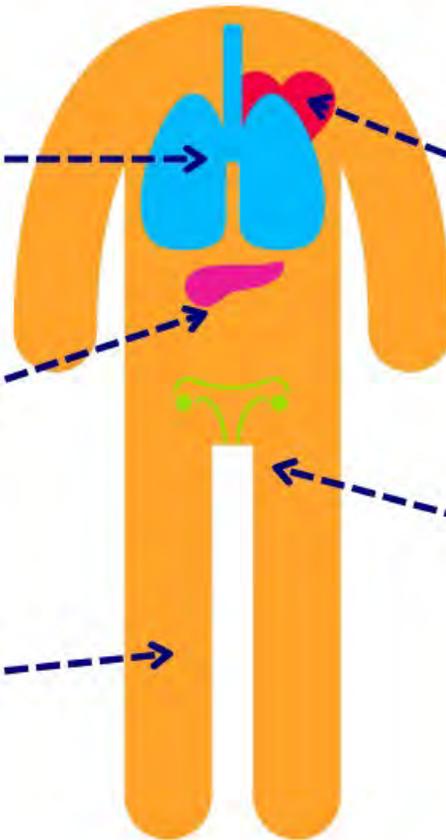


Blood clots



## NEUROLOGIC:

- STROKE
- DEMENTIA
- PARKINSON'S
- ADHD
- ALS



Heart disease

High blood pressure



Premature birth

Low birthweight

Decreased sperm quality

Illness during pregnancy



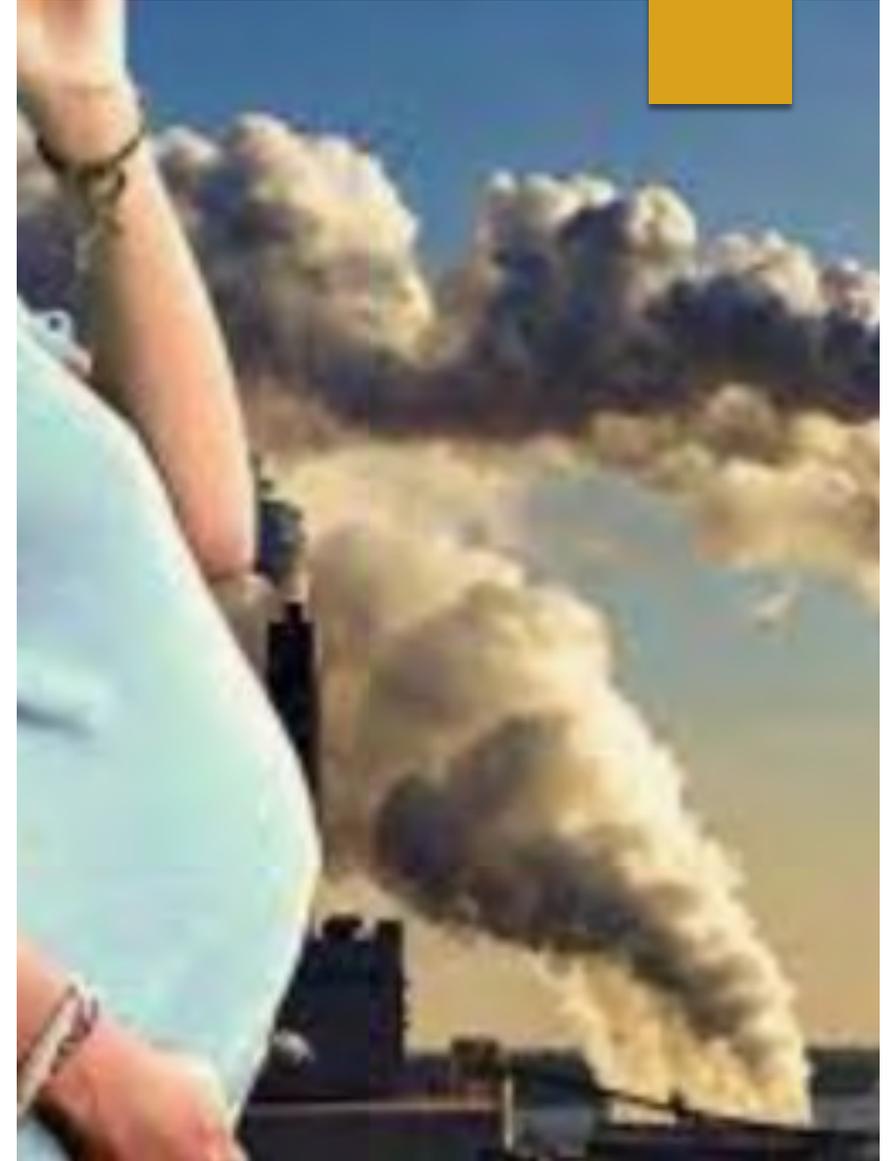
# Air Pollution Causes Multiple Types of Cancer

- ▶ Lung
- ▶ Leukemia
- ▶ Breast
- ▶ Other



# Air Pollution Risks to Pregnant Women & Infants

- ▶ Low birth weight
- ▶ Premature births
- ▶ Still births
- ▶ Birth defects



# Air Pollution & Antibiotic Resistance

- ▶ Air pollution is increasing antibiotic resistance



Ref: Lancet Planetary Health, 2023

# Air Pollution impacts Mental Health Independently of Climate Change



- Anxiety
- Depression
- Stress
- Suicide

# Health Impacts of indoor air pollution

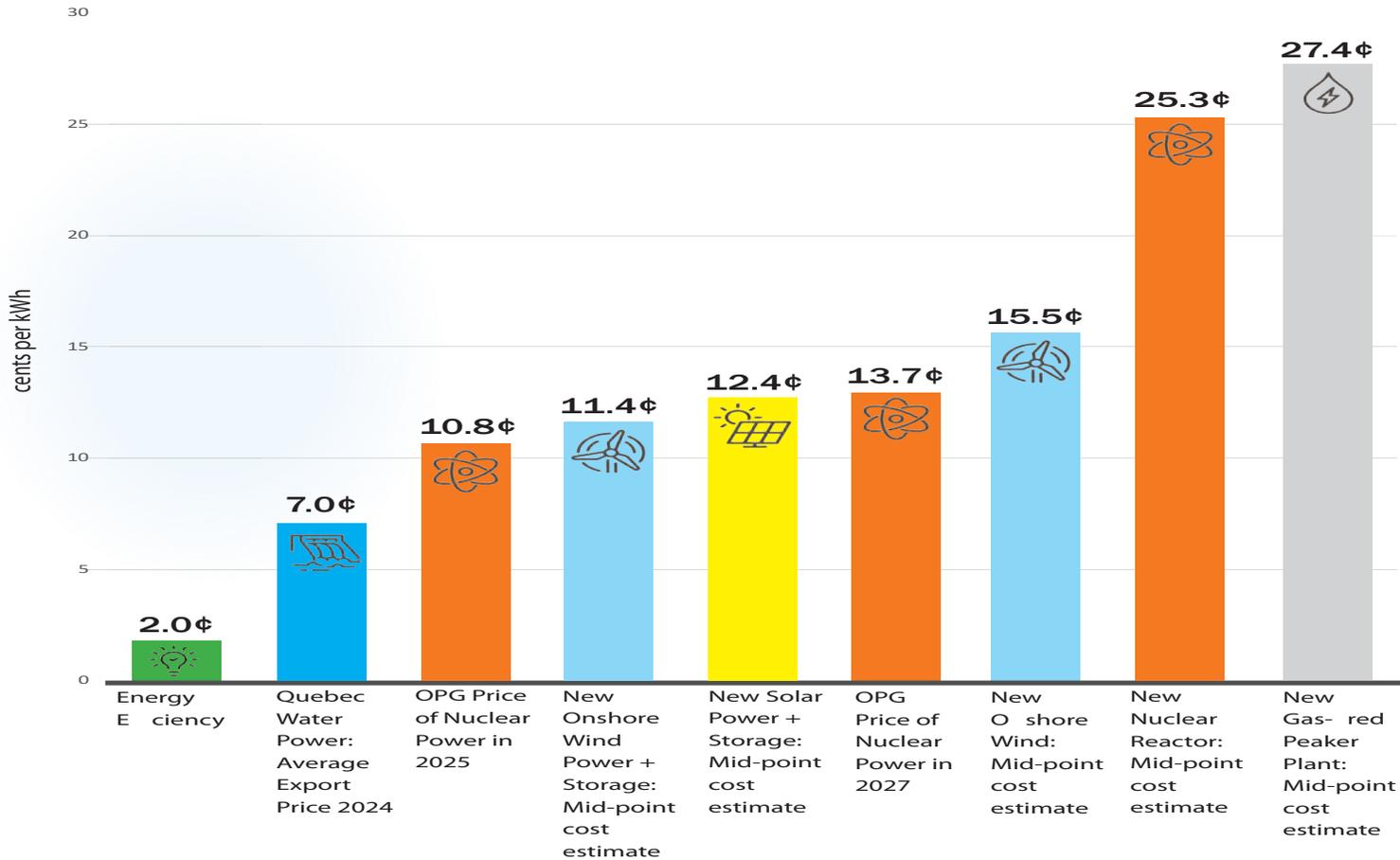
- ▶ In-home gas appliances contribute to both indoor & outdoor air pollution and to climate change
- ▶ Gas stoves significantly increase childhood asthma risks by 42%, equivalent to secondhand smoke
- ▶ Gas stoves release several harmful chemicals like carbon monoxide, nitrogen dioxide (NO<sub>2</sub>), formaldehyde & benzene, some even while stoves are switched off. These are linked to serious health issues including multiple lung diseases and cancer



# BEPS Co-benefits: Energy Independence & Resilience

- ▶ Methane gas in Ontario is approximately 70% sourced from the US
- ▶ Phasing gas out of our buildings reduces US reliance, improving our energy independence
- ▶ Buildings powered by more de-centralized, more local renewable energy sources will be more resilient

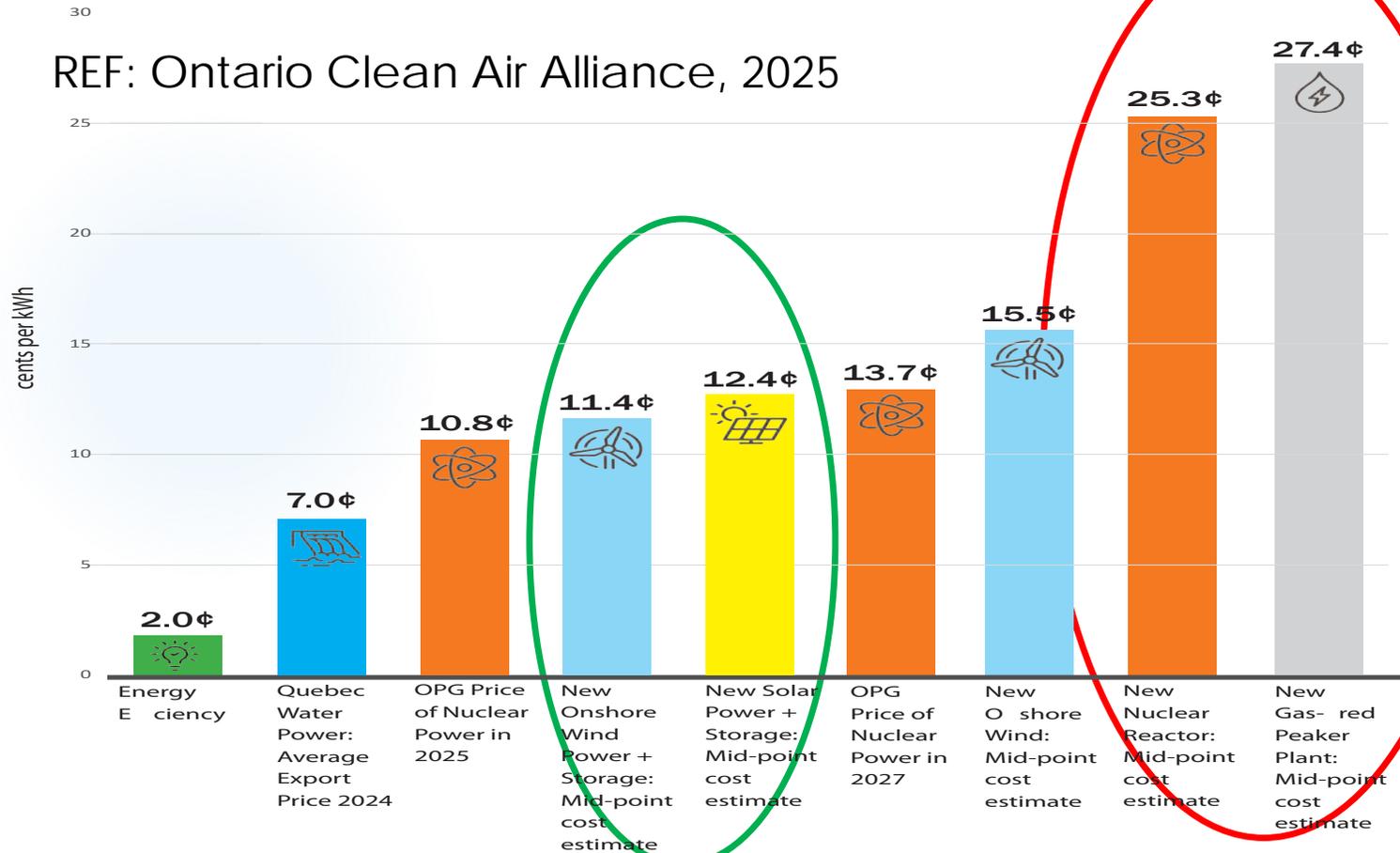
# BEPS Co-benefits: Energy Costs



Cost Comparison of Ontario's Electricity Options

# BEPS Co-benefits: Energy Costs

REF: Ontario Clean Air Alliance, 2025



## Cost Comparison of Ontario's Electricity Options

- New onshore wind & new solar cost LESS THAN HALF of new nuclear or new gas-fired peaker plants
- BEPS reduces energy costs by fuel-switching & retrofits to decrease overall energy needs
- May reduce energy poverty

# BEPS Co-benefits: Employment

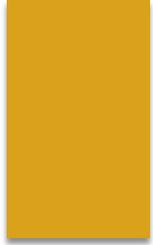
- ▶ Implementing BEPS will produce thousands of jobs
  - ▶ TAF The Atmospheric fund estimates ~7000 jobs
- ▶ For every dollar invested, the renewable energy sector generates triple the number of jobs as the fossil fuel sector (Ref: United Nations) – high ROI

# Conclusions

- ▶ Toronto cannot meet its climate targets without implementing BEPS
- ▶ Meeting our climate targets is non-negotiable – our only evidence-based path to a healthy liveable future
- ▶ Ambitious municipal level action is all the more critical when facing challenges at federal & provincial levels
- ▶ We are counting on IEC to make the right decision



# Imagine the Future We Want ...



Courtesy of Vikas G.



The energy choices we make to power our homes & buildings today are critical to a **healthy, sustainable & liveable future for all generations to come - they will not have a say - we have a historic opportunity now**