



# Moratorium on Toronto Data Centres: Public Health Impacts

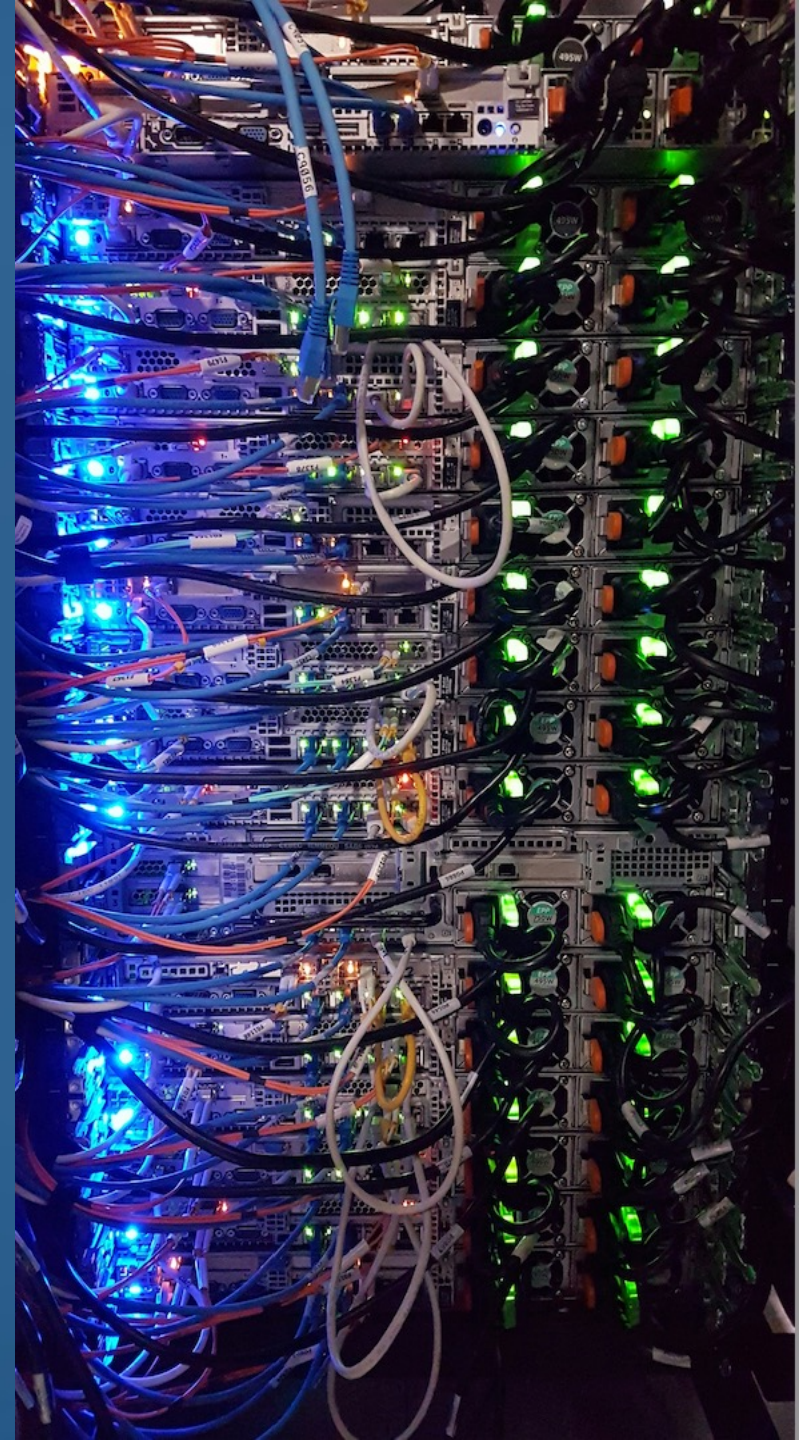
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Disclosures: None

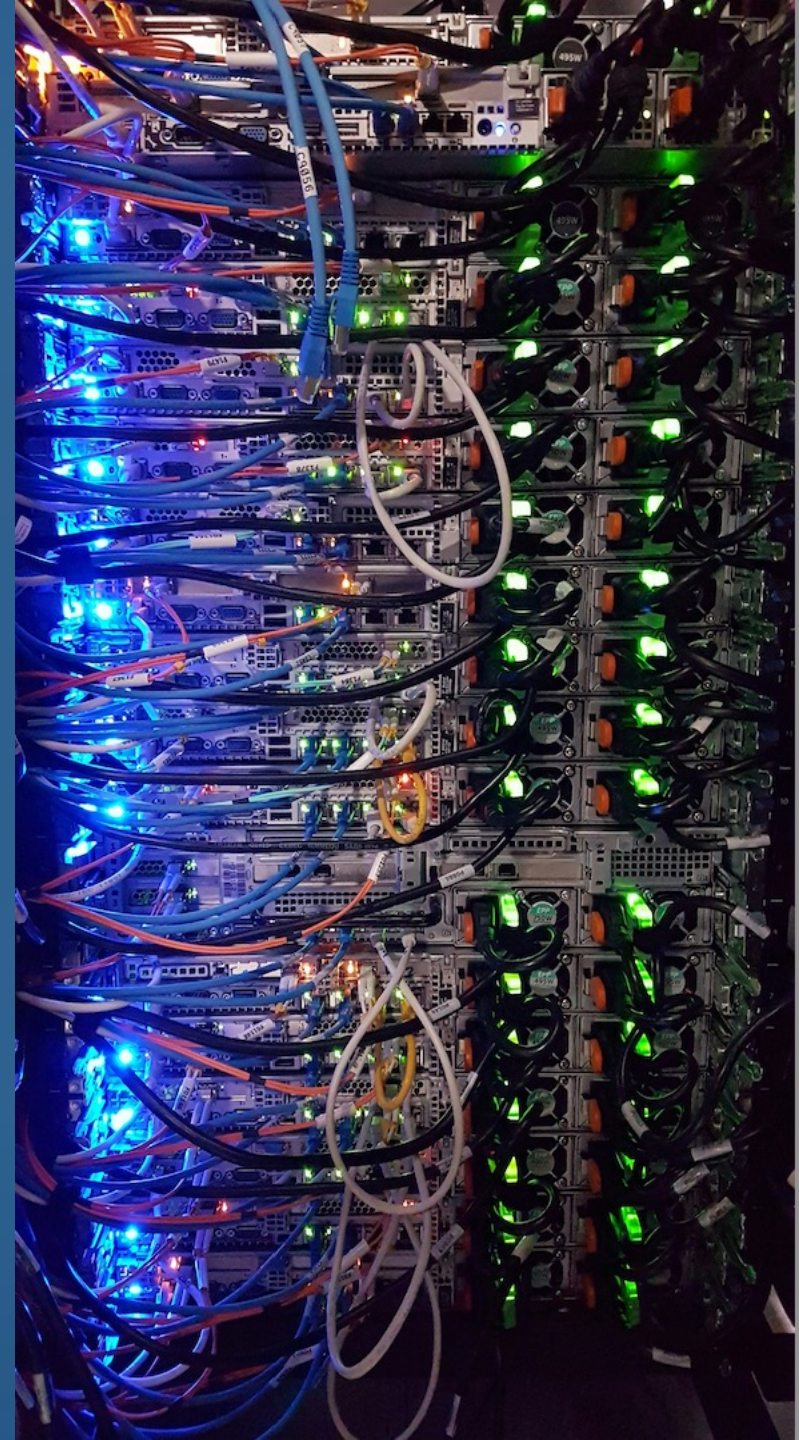
# Introduction

- I am a GTA resident, a parent, and a physician advocate in planetary health affiliated with the Faculty of Medicine, University of Toronto
- I support both motions for **moratoriums on further data centre development in Toronto:** Assessing the Impact of the Data Centre located at 48 Lowe's Place, and Ensuring Due Diligence on Data Centres in Scarborough Southwest



# Public Health Impacts of Data Centre Energy Demands

- A single modern AI data center can use as much power as 100,000 homes; while larger ones now being built may consume up to 20 times more (Ref: World Resources Institute)
- Data centers could represent up to 13% of all Ontario electricity consumption by 2035 [Ref: Ontario Data Centre Tracker]
- “Ontario (is) not in a position to accommodate large increases in load based on current electricity grid capacity.” [Ref: TD Report Data Centers in a Grid Constrained World: Challenges and Opportunities for Canada ]
- Filling the power capacity gap with gas-fired electricity +/- diesel backup generators (200-600x higher emissions than gas) creates major public health risks



# Public Health Impacts of Gas-fired electricity: Nitrogen Dioxide

- **Premature death** – proven by meta-analysis
- **Respiratory** – asthma, COPD, inflammation
- **Cardiovascular** – heart attack, heart failure, atherosclerosis, stroke
- **Lung cancer**
- **Diabetes**
- **Pregnancy risks** – low birth weight, prematurity
- **Neurodevelopmental delays** – intellectual disabilities, developmental delays, mental & behavioural disorders



# Public Health Impacts of Gas-fired electricity: Nitrogen Dioxide

WHO 2021 Air Quality Guidelines: annual mean NO<sub>2</sub> limit of <10 µg/m<sup>3</sup>

***But...there is NO safe threshold of exposure for nitrogen dioxide***



# Data centre energy solutions

- **Mandatory renewable energy → ensure data centres do not become a new carbon source further escalating the climate crisis**
- **Applicants bring and fund their own green energy solutions → ensure costs are not passed on to other ratepayers**
- **TD Report: Data Centers in a Grid Constrained World: Challenges and Opportunities for Canada**  
*“Canadian governments should learn from the experiences of jurisdictions in the U.S. where data centers are contributing to rising retail electricity prices. “*  
→ **primary reason for public opposition**



# Public Health Impacts of Data Centre Water Demands

- Mid-sized data centres use up to 300,000 gallons , and large facilities upto 5 million gallons daily — comparable to an entire small town

[REF: World Resource Institute]

- Closed loop water systems also carry specific risks



# Public Health Impacts of Water Demands

- **Research demonstrates data centre water risks:**
  - local water insecurity
  - waterborne diseases
  - dehydration
  - poor hygiene
  - **more research is needed**

[Ref: Global data center expansion and human health: A call for empirical research. 2025]
- **Specific health risks of closed loop systems:**
  - heat rejection → microclimate impacts
  - drinking water contamination → infectious outbreaks
  - groundwater, local waterway & storm drain contamination → outbreaks



# Solutions: Impacts of Data Centre Water Demands

- Advanced cooling techniques
- Use wastewater
- District energy systems – divert & utilize waste heat



# Public Health Impacts of Data Centre Noise Pollution

- Components of data centres such as generators, cooling systems etc can reach noise levels of 85-100 db – potentially harmful to hearing for staff
- Residents near existing facilities have reported:
  - Headaches, sleep disturbance, poor quality of life
  - Light pollution may also be a risk



# Data Centre Noise Pollution: Solutions

- Natural acoustic barriers
- Increased distance from homes/populated areas
- Insulation around generators
- Include noise protection in zoning codes as a lever for monitoring and regulation



# Public Health Impacts of Data Centre Land Use

- Ontario loses 319 acres of farmland every day
- Ontario Data Centre Tracker estimates ~45 facilities at various stages province-wide
- Land loss may be linked to food & housing insecurity – both are social determinants of health



# Solutions: Data Centre Land Use

- Careful decision-making is critical WRT need for, size and siting of facilities
- Essential to managing the dwindling and precious commodity of land in Ontario

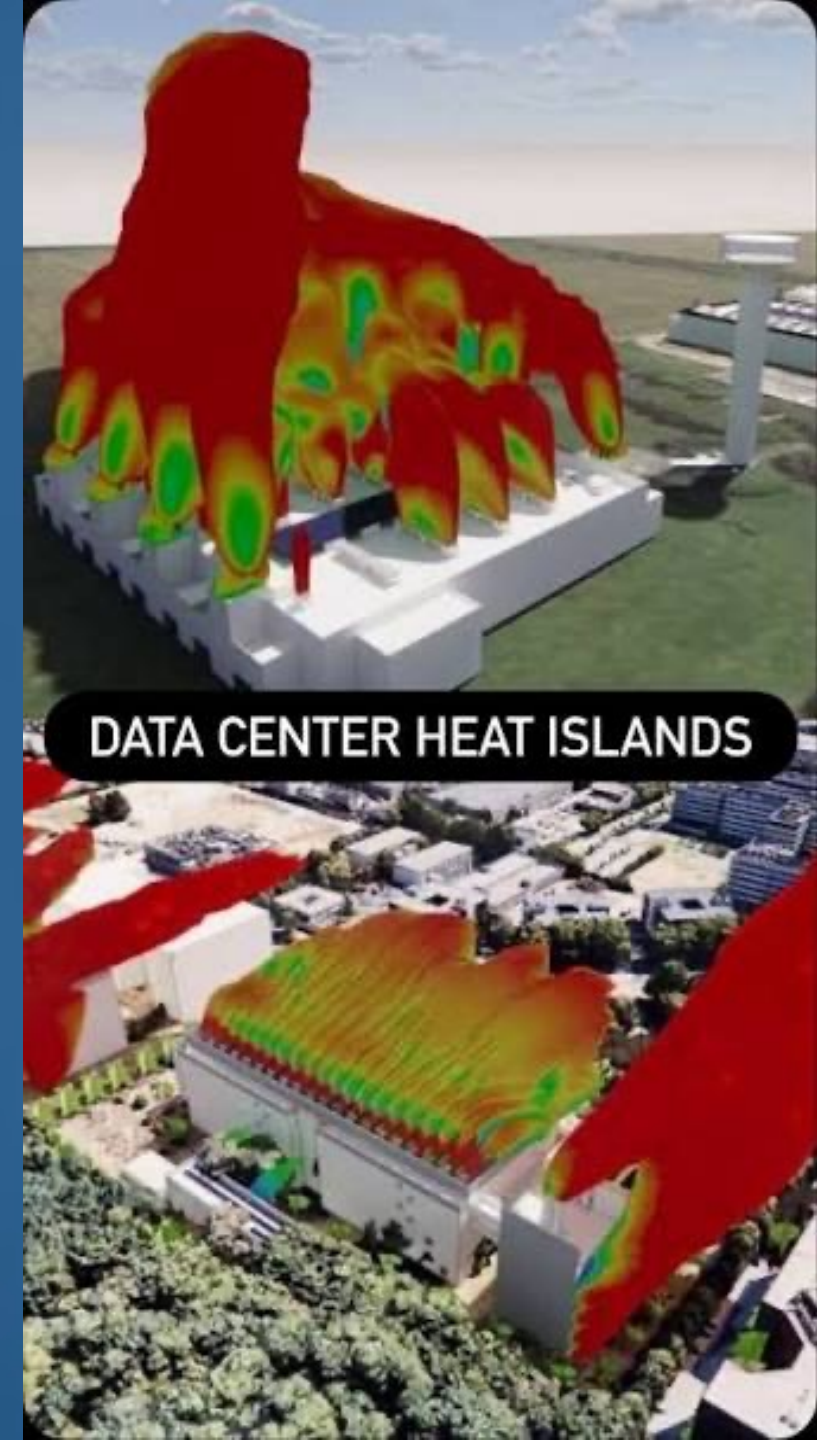


# Public Health Impacts of Data Heat Islands

- Land surface temperature may increase by an average of 2°C around active AI data centre, inducing local microclimate zones
- Results show the data heat island effect could have a remarkable influence on communities and regional welfare

REF: Han Y. et al. 2024.

*The unpaid toll: quantifying the public health impact of AI.*



# Data Centre Impacts on Employment & Equity

- Many US data centres are sited near communities of lower socioeconomic means
- The non-disclosure agreement signed for the Hamilton data centre eliminates critical public transparency, silences local voice, and must be avoided in Ontario data centre development
- A review of >1,200 U.S. data centers found even the largest employ under 150 permanent workers, sometimes as few as 25. [Ref: Business Insider].
- Example: the Mississauga Prologis hyperscale data centre facility is expected to create ONLY around 75 permanent jobs post-construction (VERY low for size of land occupied 220,000 SF)

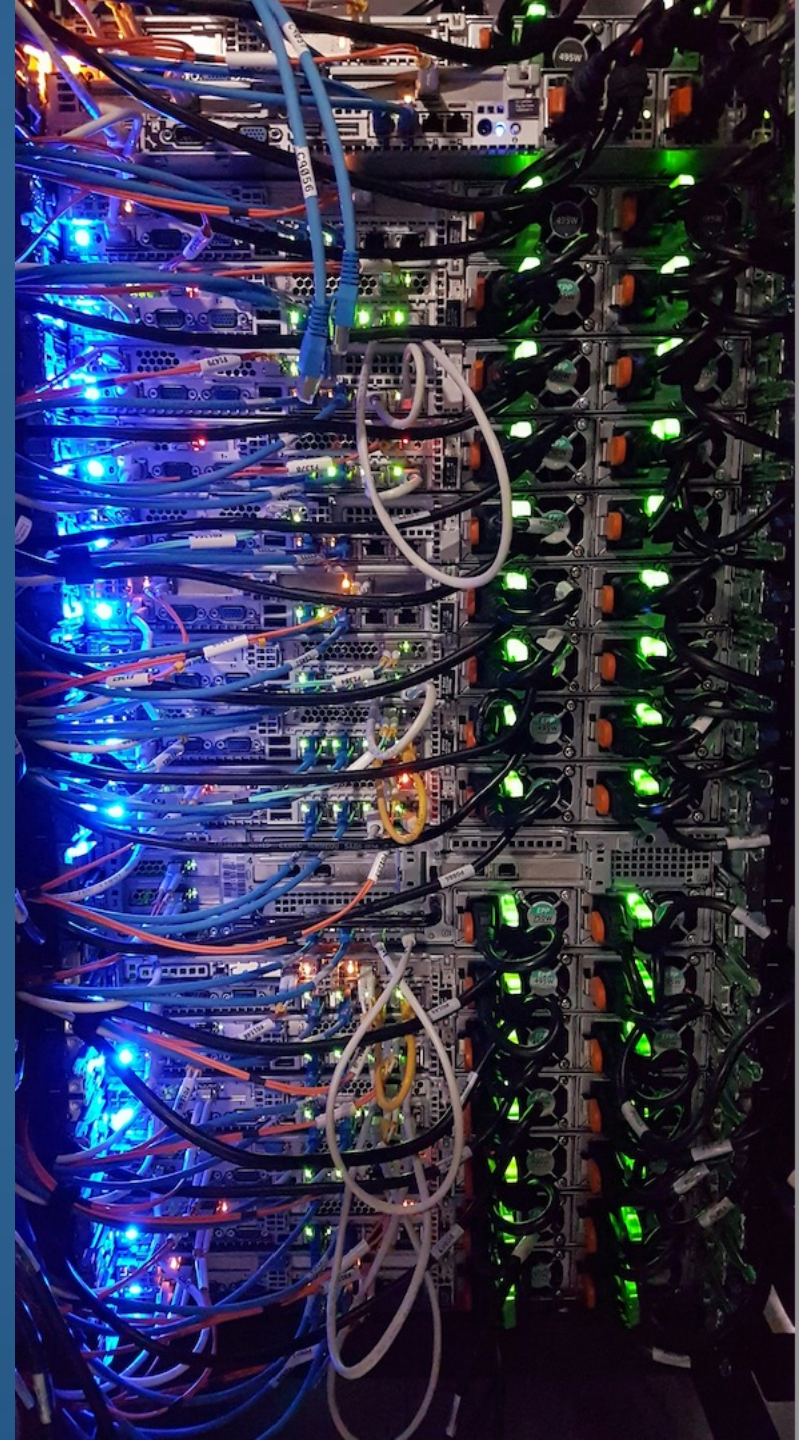


# Conclusions

The following are not currently standardized province-wide but should be, in order to serve the public interest:

- centralized public registry of data centres
- mandatory reporting of energy or water consumption
- uniform environmental or operational disclosure requirements across facilities
- a single mechanism for public tracking of operator commitments
- carbon emissions per facility are almost never disclosed in Ontario

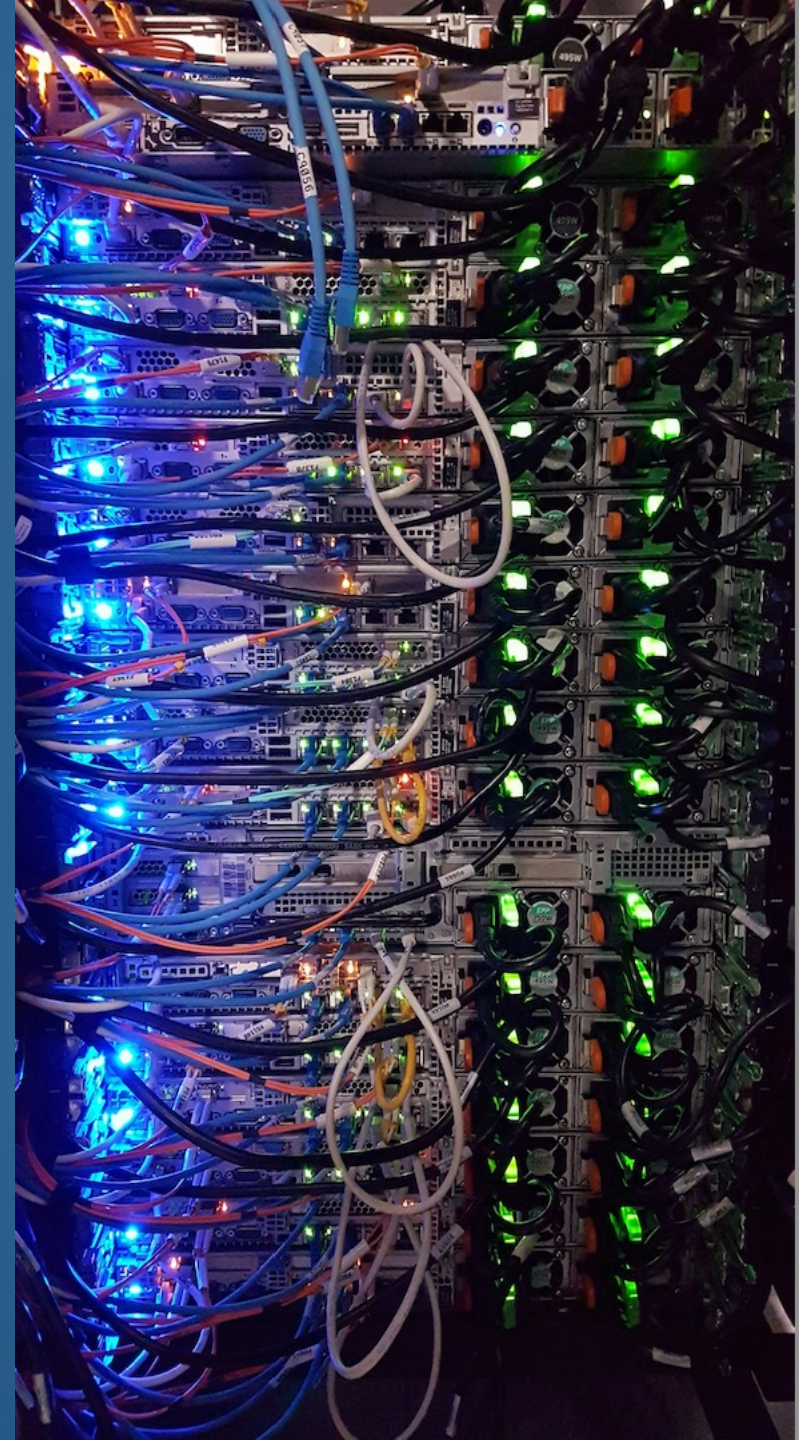
-Ref: Ontario Data Centre Tracker



# Conclusions

**Please vote in favour of both motions currently at Council to finalize a moratorium on Toronto data centre development, allowing for proper assessments, expert input and consideration to guide best-practice regulation of these high impact facilities.**

**Please mandate regulation, monitoring and full public disclosure of energy, water and environmental impacts before any future data centre approval**



***“How data centers are governed will determine whether communities benefit from the digital economy — or bear the brunt of its risks.”***

**- World Resources Institute**

**Thank you**

