



GEO THERMAL IN THE CITY

Agenda

- Geothermal misconceptions
- Geothermal applications and technology
- Polarizing objectives
- Market ready solution
- What will drive change?



Geothermal Misconceptions

- Geothermal = heat pumps
- Geothermal requires space

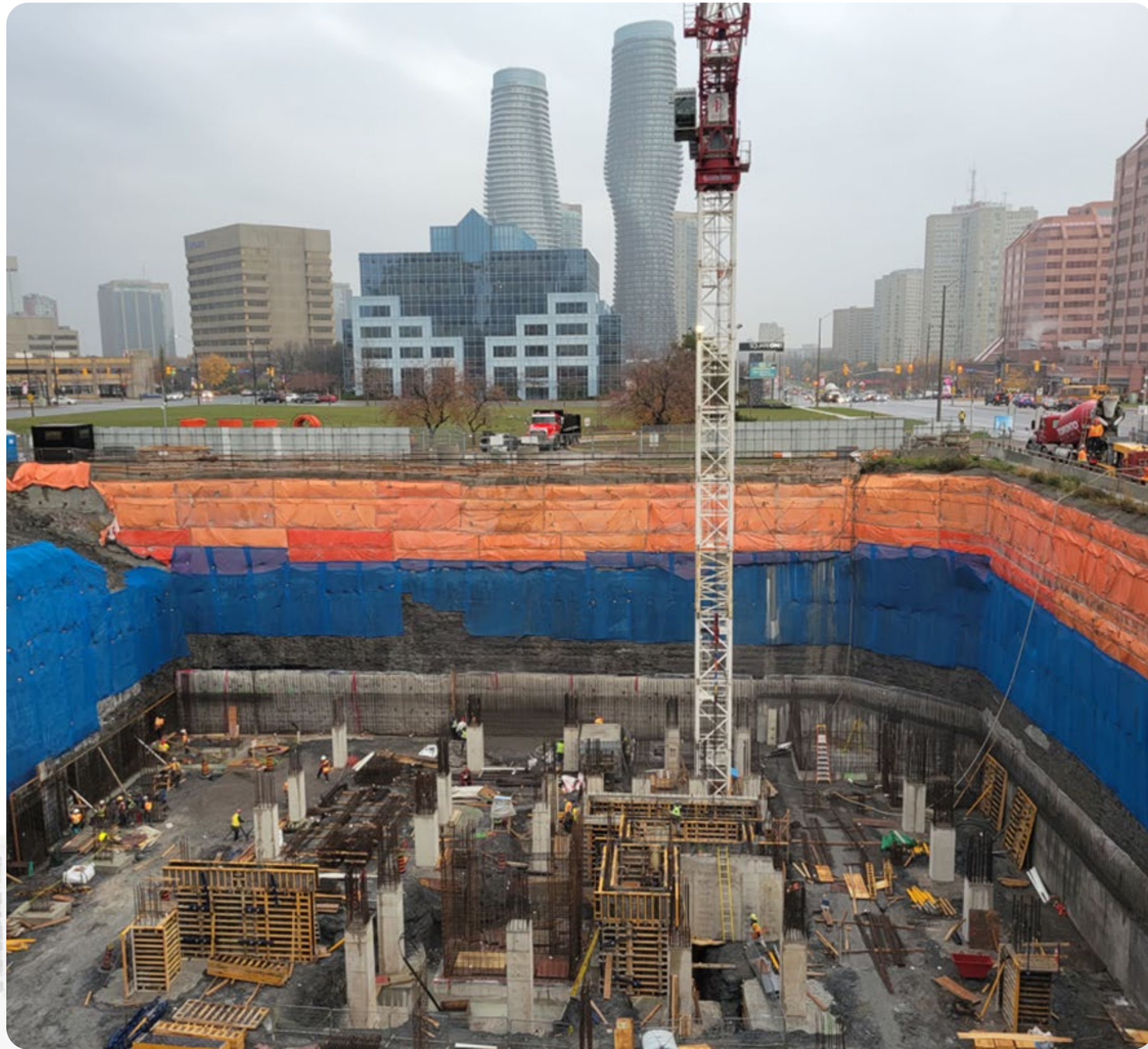


Applications

- Water source heat pumps
- Heat recovery chiller – fan coils
- Heat recovery chiller – VAV
- Water source VRF
- Chilled beams
- DOAS













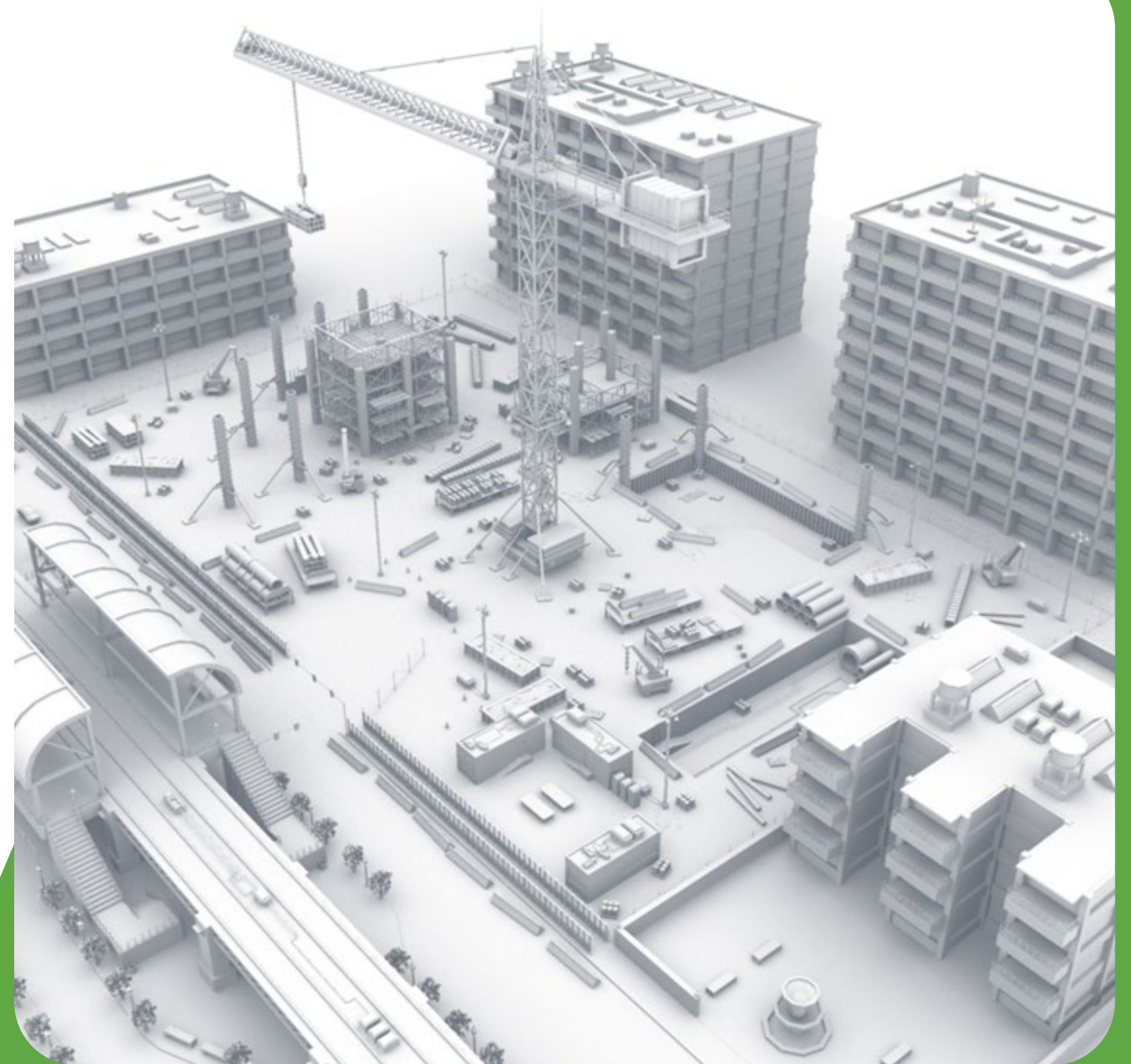
Barriers to Entry

- Risk
- Departure from the norm
- Pushback from consultants & trades
- Cost (access to traditional capital)



Barriers to Entry

- Increased risk due to departure from “business as usual”
- Design
- Construction
- Building operation



Barriers to Entry

- Rising construction costs
- Interest rates
- Project proformas
- Increased equity requirements
- Sustainability vs. profitability





Status Quo Is No Longer An Option



Building Code
Changes



Localized
Low-carbon Initiatives





Shifting
Market Expectations

3rd Party Ownership

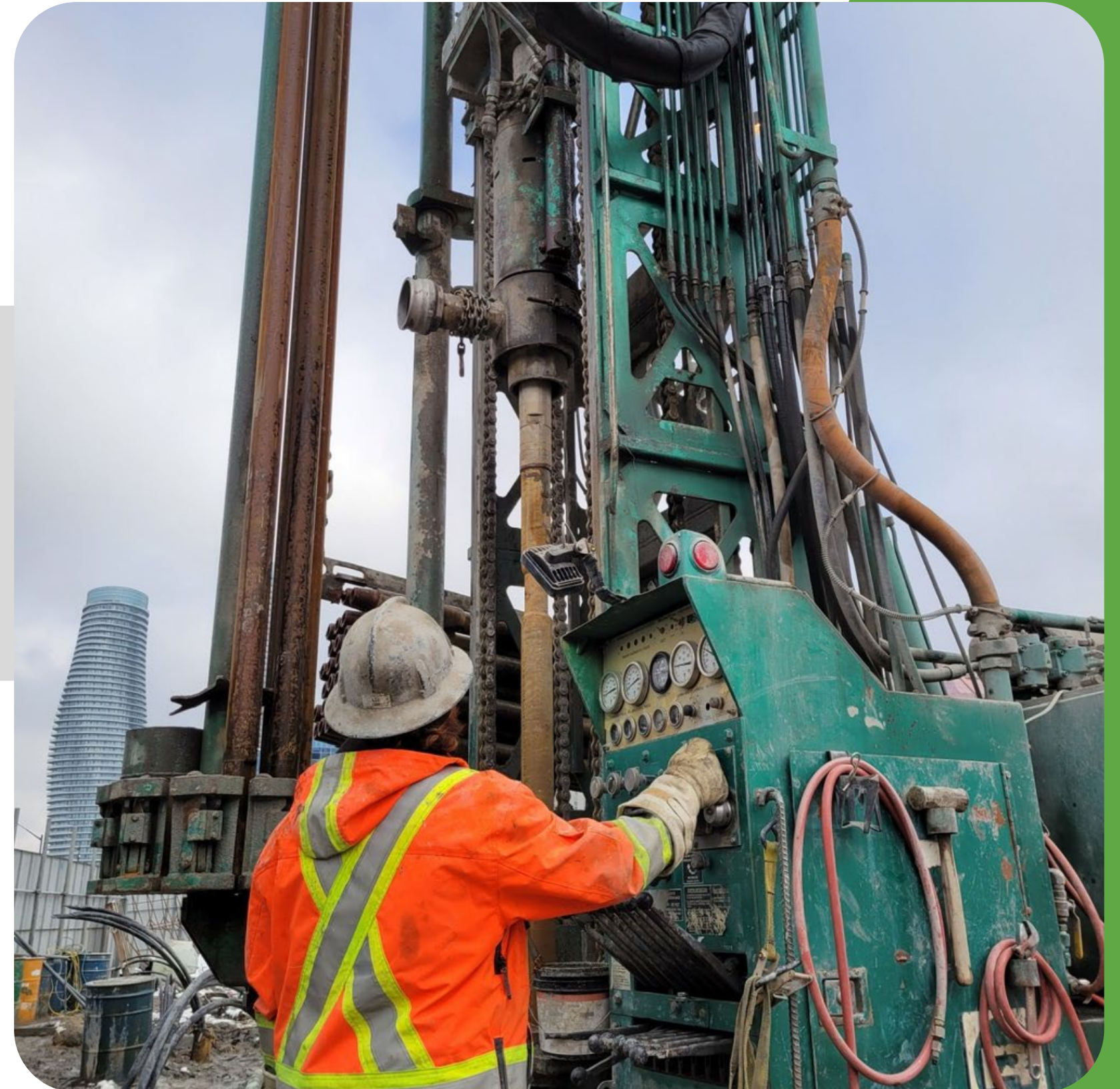
Business Model

- What if low carbon buildings were cheaper to build and more profitable to operate?
- Following a utility-like model, a third-party owner will design, build, pay for, own, and operate the geothermal borefield

 Reduce construction costs

 Reduce risk and complexity

 Meet carbon/energy targets



Market Ready Solution

- Simplified budgeting
- Cost certainty for 30 years
- 100% performance guarantee
- Future proofed building
- Tenant retention, tenant profile
- Capex to Opex (flowthrough to tenants)



Geothermal Simplified



Market Ready Solution

- Sustainability vs. profitability
- No longer mutually exclusive



Change is
Inevitable



01 Not all developers want to change.
Why do it?

02 What will drive change? One
word: Policy.

Sample Projects

- *The Exchange District*
 - Mississauga, ON
 - 4 buildings
 - 35–65 storeys
 - 6 levels of underground





Sample Projects

- 101 Spadina
 - Toronto, ON
 - 45 storeys
 - 417 units
 - 300,000 sqft of mixed use



Sample Projects

- *30 Westwood Gardens*
 - Toronto, ON
 - 16 storeys, 2 buildings
 - 420 units
 - 320,000 sqft
 - Common parkade, main floor retail





Sample Projects

- *Alba Condos*
 - Mississauga, ON
 - 32 storeys
 - 414 units
 - 300,000 sqft
 - 8 levels of underground





THANK
YOU!

