



**BUILDING STRONG MARKET
INFRASTRUCTURE FOR
CANADA'S RETROFIT ECONOMY**

Carbon Reduction Targets

Federal Government:

30% below 2005 levels by 2030.

80% below 2005 levels by 2050

Ontario:

- 15% below 1990 levels by 2020
- 37 % below 1990 levels by 2030
- 80% below 1990 levels by 2050

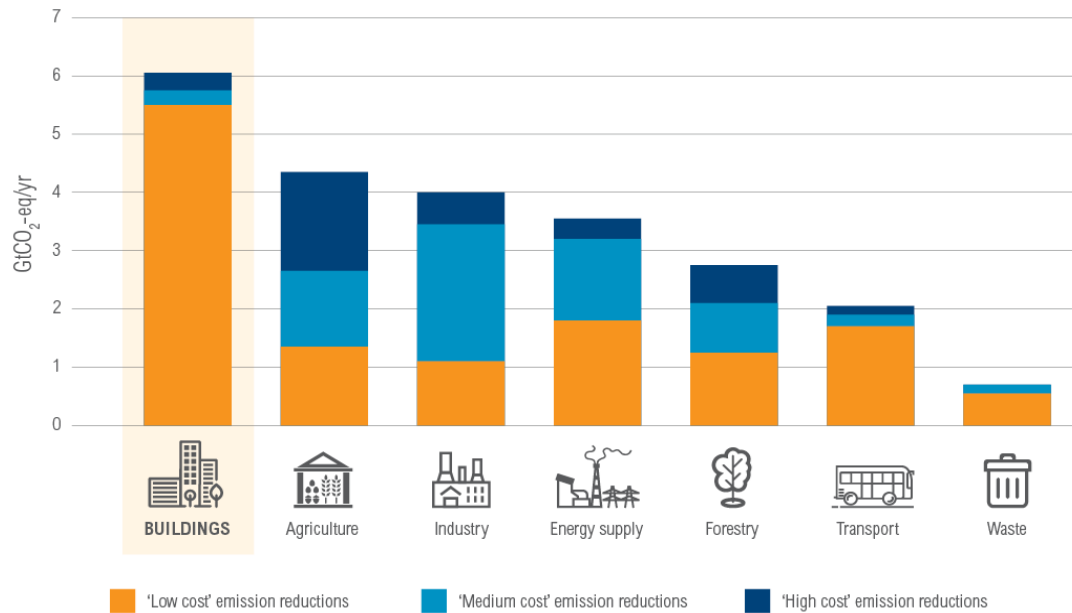
Transform TO:

100% of all buildings retrofit by 2050 achieving 40% carbon reduction



50% of today's existing
building stock
will still be **in use in**
2050

Building Energy Efficiency MOST Affordable Ways to Cut Emissions



Note: 'Low cost' emission reductions = carbon price <20 US\$/tCO₂-eq. 'Medium cost' emission reductions = carbon price <50 US\$/tCO₂-eq.

'High cost' emission reductions = carbon price <100 US\$/tCO₂-eq.

Source: IPCC. 2007. IPCC Fourth Assessment Report: Climate Change 2007: Synthesis Report. "4.3 Mitigation options." https://www.ipcc.ch/publications_and_data/ar4/syr/en/mains4-3.html

\$5.2
BILLION
TAX REVENUE



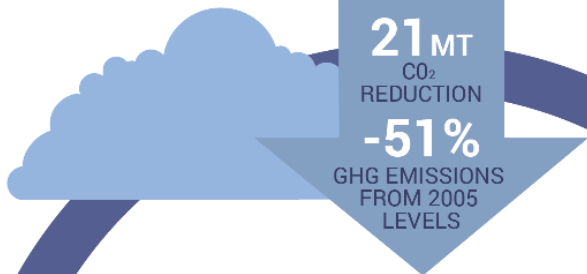
260,741
ANNUAL EMPLOYMENT



IMPACT OF THE RETROFIT ECONOMY BY **2030**

21 MT
CO₂
REDUCTION

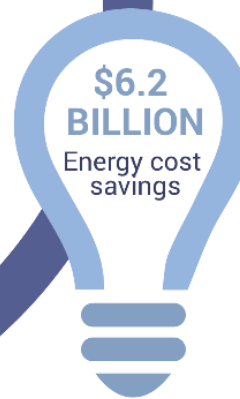
-51%
GHG EMISSIONS
FROM 2005
LEVELS



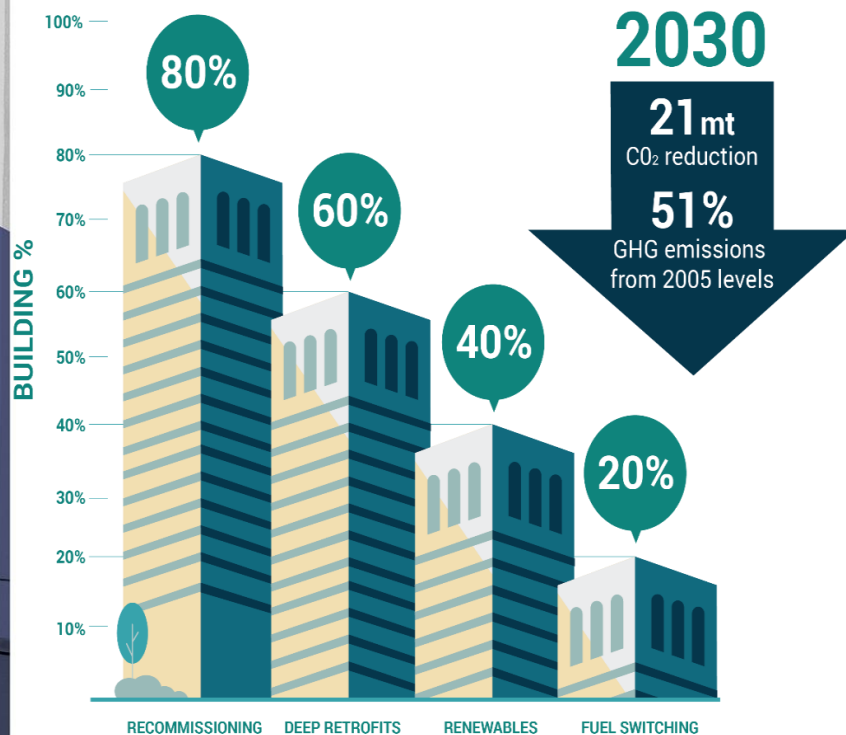
\$32.5
BILLION GDP
DIRECT AND INDIRECT



\$6.2
BILLION
Energy cost
savings



GHG Emission Reductions through Building Retrofits

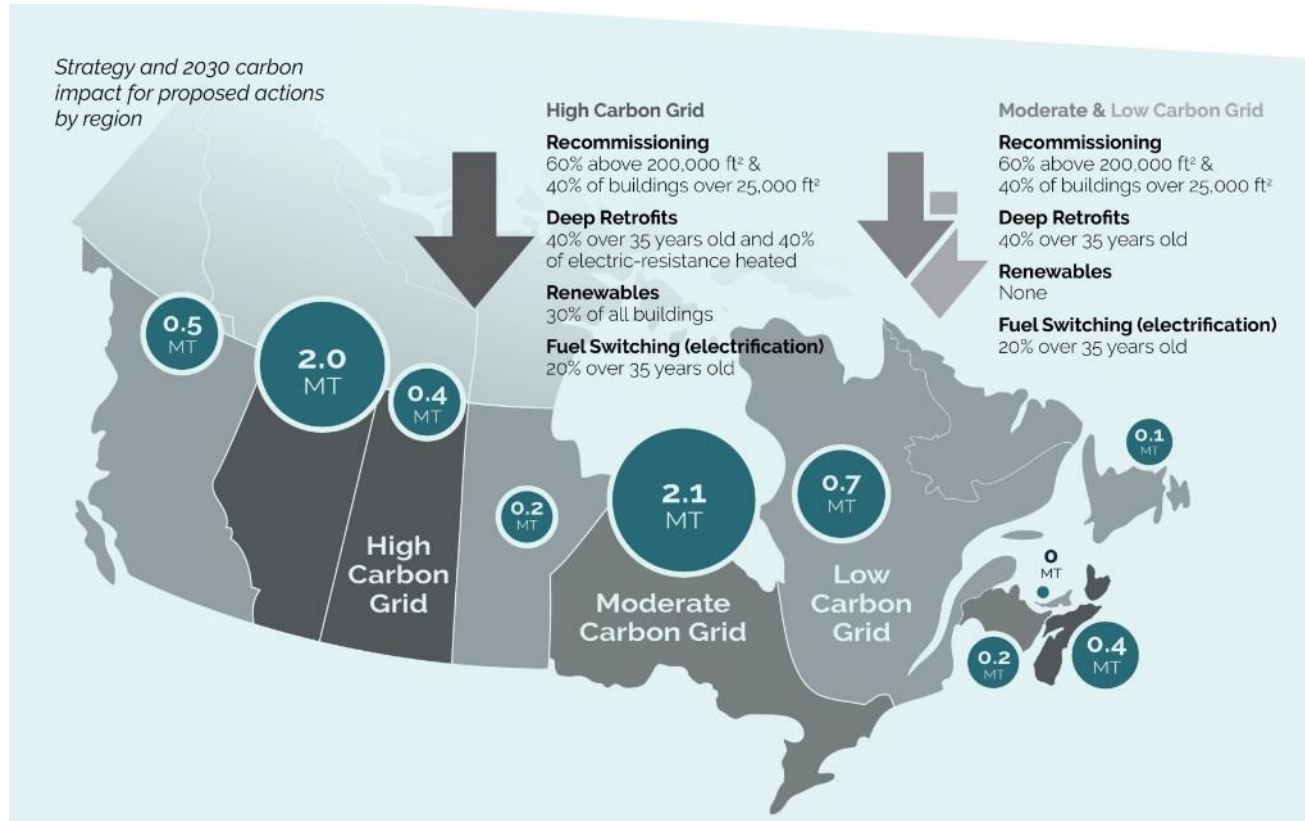


- Recommission **80% of buildings** that haven't undertaken any retrofits towards high-performance standards
- **Deep retrofits in 60% of buildings** to high-performance standards (e.g. LEED)
- Incorporate **solar or other renewable energy** onsite systems in **40% of buildings**
- Work with jurisdictions and the private sector to **switch fuel sources in 20% of buildings**

GHG reduction opportunity from 100,000 large buildings over 25,000 square feet and multi-unit residential buildings 5-storays or higher.
CaGBC, *Building Solutions to Climate Change* Report (2016)

Building a Roadmap for Building Retrofits

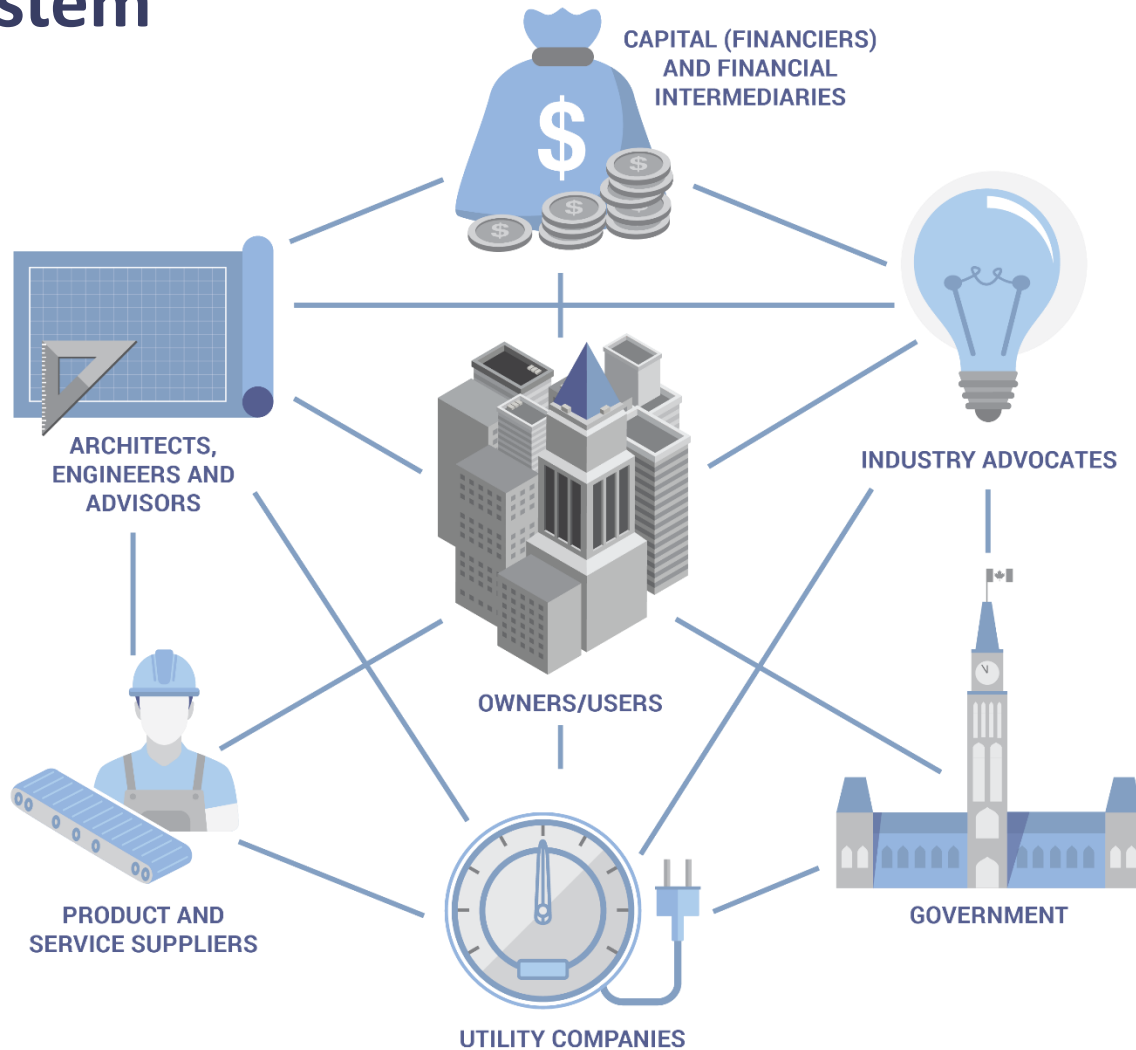
- » ***A Roadmap for Retrofits in Canada (2017)*** outlines strategic retrofit investments that government and industry can undertake in every province to yield the highest potential GHG emissions reductions.



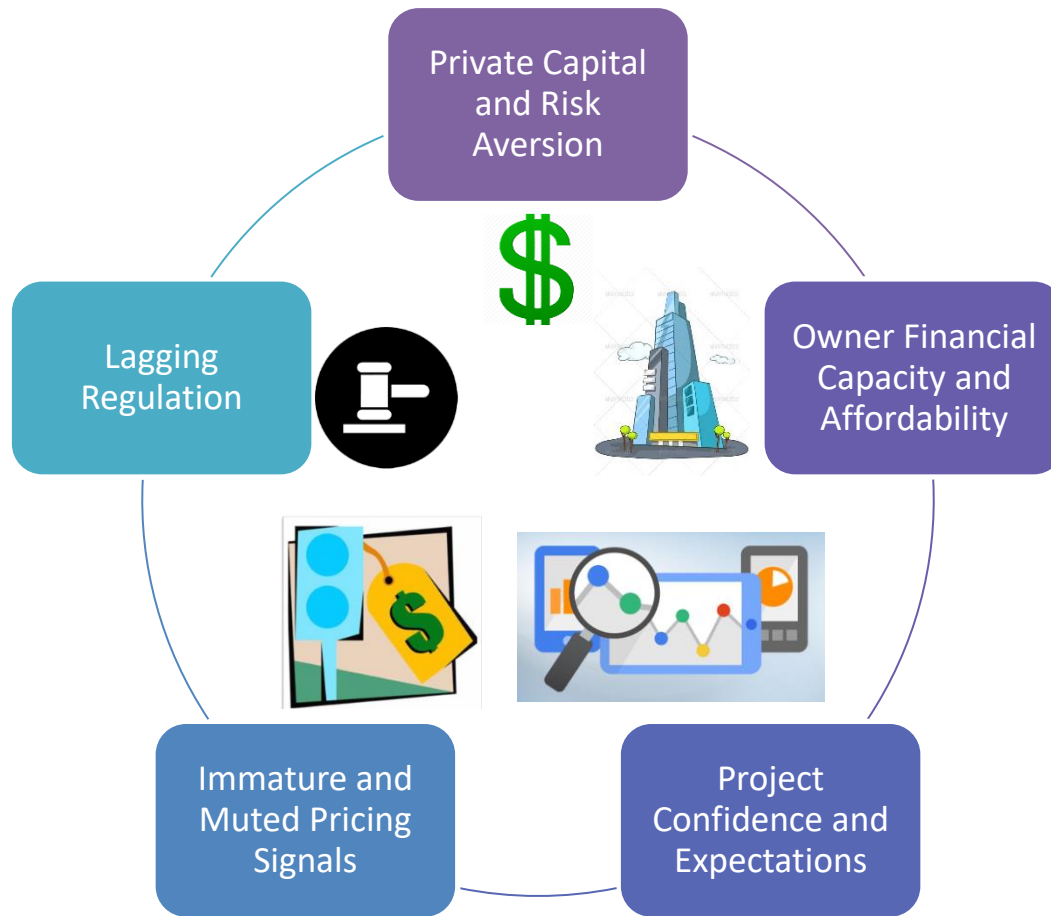


Too many economically viable retrofits
don't take place in our buildings today...

Components of A Healthy Retrofit Economy Ecosystem

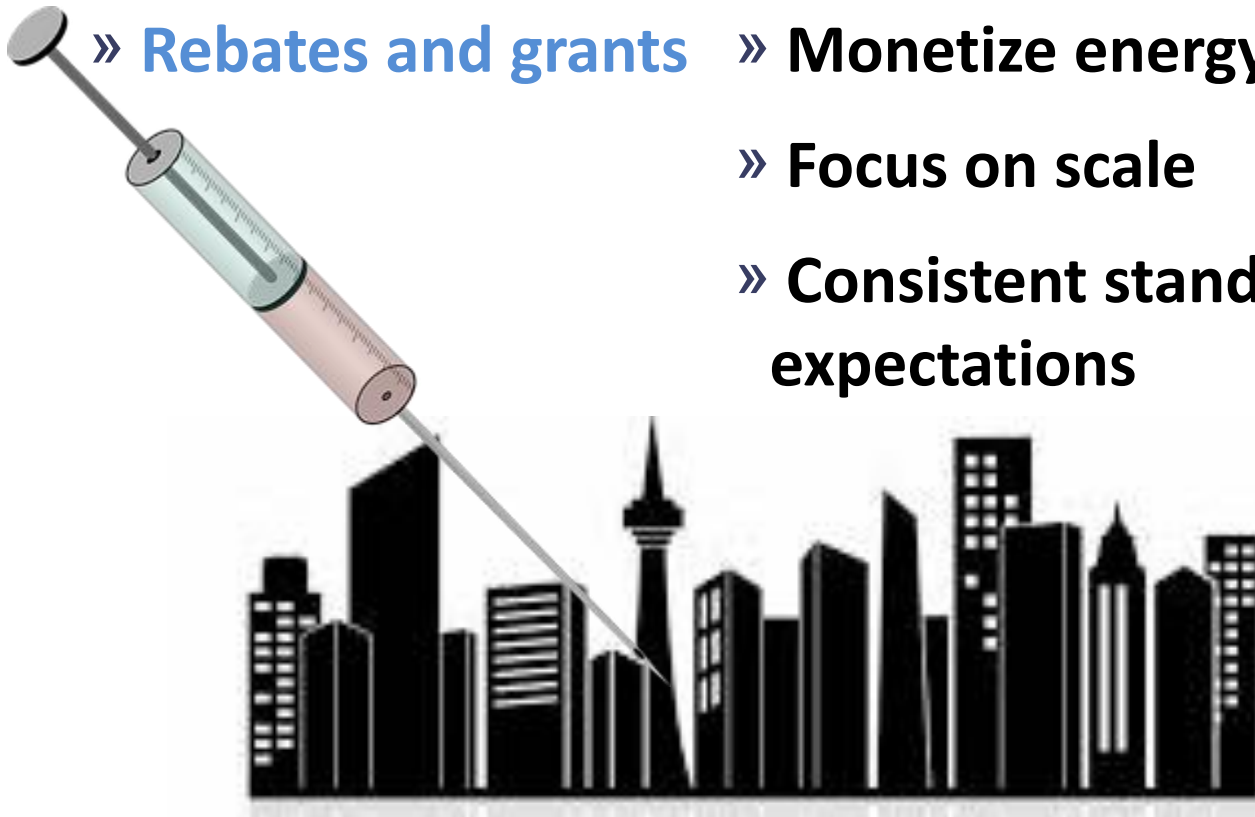


Barriers to a Strong a Retrofit Economy

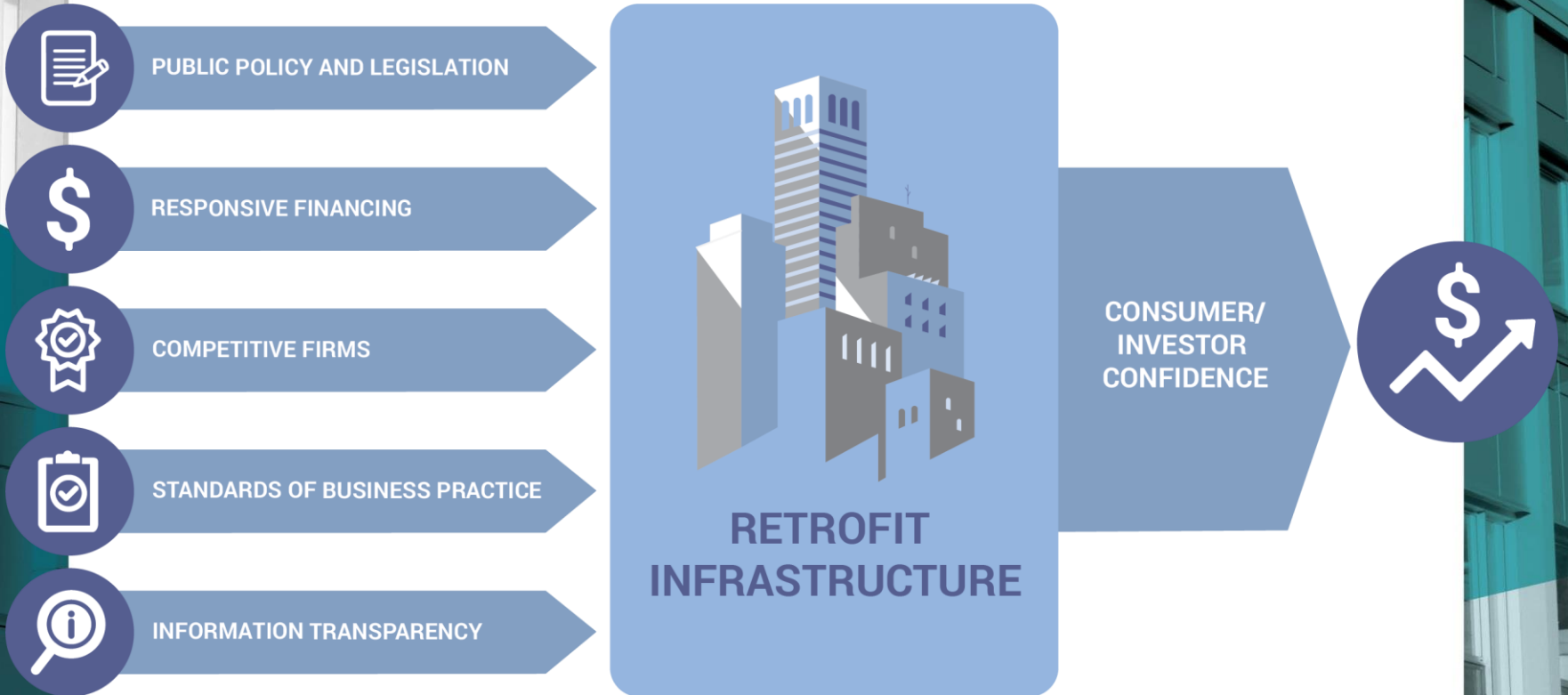


Market Infrastructure Solutions

- » **Rebates and grants**
- » **Monetize energy efficiency**
- » **Focus on scale**
- » **Consistent standards and expectations**



Roadmap 2018: Solutions



A Call To Action

INDUSTRY

Must move ahead of government regulation and take action to realize the more than \$30 billion economic opportunity presented by the retrofit economy.

GOVERNMENTS

Need to provide continued support to build market awareness of the economic potential of the retrofit economy, build the policy infrastructure for a strong retrofit marketplace and use its own real estate portfolio to demonstrate leadership.