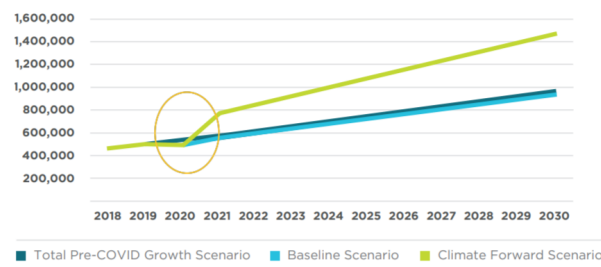


# Workforce Requirements for Low-carbon Buildings

## The Problem

The building sector workforce, as presently composed, is not adequately equipped to deliver the scale and scope of green building construction and retrofitting that is required to meet Canada's greenhouse gas reduction targets.

Green building job growth<sup>[5]</sup>



## Opportunity

In Budget 2021, the Government of Canada detailed over \$900 million in new funding for training and skills development. This supplements existing provincial-federal workforce development transfers, which are governed by workforce development agreements (WDAs) and labour market development agreements (LMDAs). Combined, Budget 2021 dedicates \$2.6B to workforce training and development.

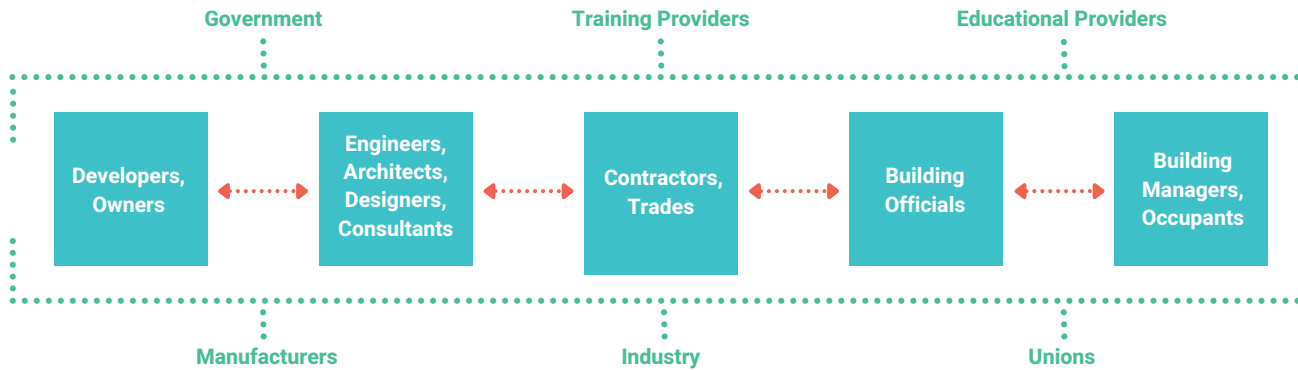
## Workforce 2030: Where We Need To Be



## Three fold growth of the workforce working on green buildings.

The Canada Green Building Council (CaGBC) market research shows that reducing emissions in this critical decade for climate action will require triple the current number of design and construction professionals working on low-carbon buildings and retrofits, upwards of 1.5 million workers engaged in low-carbon building projects.

## The Building Workforce<sup>[6,7]</sup>



## Challenges



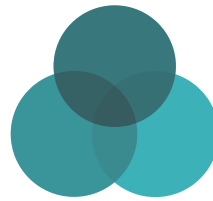
### Fragmentation

Coordination is essential. Workforce development involves a wide range of stakeholders – unions, industry, education providers, government, etc.



### Capacity<sup>[2,3,6,7,10]</sup>

Need to attract and retain new workers, increase skills and training, which takes time - time to train workers, but also develop curricula and train the trainers.



### Diversity & Inclusivity<sup>[2,8-11]</sup>

The construction industry is not seen as a career option for many Canadians, and training and skills development opportunities may be difficult for currently employed, or people in rural/remote areas to access.



### Industry<sup>[2,6,7,9,10,16]</sup>

Green buildings are currently a niche market, and appreciation of need for and requirements of high-performance green building - 'Green Literacy' - must be more widespread.

**1.5 million**

Design and construction professionals engaged in low-carbon buildings will be required to meet climate targets<sup>[5]</sup>

## Workforce Requirements

Need to recruit, train and retain

**309,000**  
new construction workers

by 2030 to keep pace with expected demand<sup>[3]</sup>

## Buildings Account for <sup>[13]</sup>

**18%** of Canada's GHG emissions

**28%** of potential energy savings by 2060

## Scale of Retrofit Challenge <sup>[11]</sup>



Recent research suggests

**9 million** residential  
**480,000** commercial

Existing buildings in Canada, which will require energy retrofits to meet climate goals

## Priority Skills for Green Building Construction

- Insulation installation <sup>[6,16]</sup>
- HVAC & heat pump installation
- Renewable energy installation
- Façade workers, fenestration & roofers
- Mechanical, electrical, & building automation
- Plumbing & pipefitting
- 'Cross-craft' understanding of building processes
- Integrated design process
- Soft skills (critical thinking, cost/benefit analysis)



Efficiency Canada



Canada Green Building Council  
Every Building Greener

# Recommendations

Building sector workforce investment must be prioritized to create good jobs and reduce emissions. Newly-created Budget 2021 programs must strengthen skills and recruit more people to the building sector to reach outcomes of infrastructure investment in building retrofits.



## Skills Development

1. Make 'Green literacy' a required component of all federally-funded design, construction, and operations training
2. Target and support new and existing workers in new low-carbon construction and retrofitting for in-demand skills development
3. Coordinate and support curricula development/delivery for low-carbon, high-performance buildings
  - a. Particularly advanced digital design and construction, life-cycle analysis, and ICT use in building auditing & benchmarking
4. Support industry-led workforce & occupational roadmaps for workforce transition and low-carbon requirements



## Grow the Workforce

1. Incorporate 'community benefits' approaches to expand the pool of local, diverse talent
2. Prioritize underrepresented groups in the building sector - Black, other racialized, women, Indigenous people – for rapid skills development
3. Conduct campaigns to position design, construction, and retrofitting as a pathway for climate action and meaningful employment
4. Work with industry partners to address workplace safety & culture concerns of underrepresented groups



## National Coordination

1. National alignment for low-carbon building skills recognition for building sector occupations - professionals and trades
2. Engage and collaborate with employers, unions, operators and educators on workforce planning, training, and skills development.
3. Ensure rural workers' access to green building training and employment opportunities in all provinces
4. Create mechanisms to help prioritize green building training within WDA and LMDA agreements



## Innovation

1. Support programs for workplace process innovation, especially adoption of integrated design process (IDP)
2. Require federally-funded clean building tech R&D to consider workforce requirements for addressing market potential
3. Support scale-up and adoption in insulation and airtightness, electrification of heating, mass timber construction
4. Include low-carbon skills development requirements and set targets for community benefits in public procurement

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