

Media Backgrounder

For Immediate Release

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New Study from Columbia Institute Finds Exciting Potential for Job Growth in Building Trades as Canada Moves to Low-Carbon Economy

Study Jobs for Tomorrow - Canada's Building Trades and Net Zero Emissions

Key Findings Getting to net zero emissions by 2050 could generate nearly 20 million jobs.

Green Buildings and Net-Zero Retrofits

Based on current construction employment figures in the green building sector, and predicting a scenario with eco-friendly standards, the green building sector as we approach a 2050 net zero scenario amounts to 1,997,640 direct non-residential building construction jobs.

Electricity Supply: Building Tomorrow's Grid

Building tomorrow's grid will result in significant jobs for Canadian construction workers. This total assumes a conservative 2050 demand scenario. Moving to an electrical supply grid composed primarily of hydroelectric (40 percent) new wind, solar, geothermal and tidal power generation (43 percent combined), and legacy nuclear (5 percent), would result in over 1,177,055 direct construction jobs by 2050. Here's how it breaks down:

- Wind Power: at 25 percent by 2050 creates 209,360 full-time construction jobs.
- Solar Power: at 10 percent by 2050 creates 438,350 construction jobs.
- Tidal & Wave Power: at 5 percent by 2050 creates 109,770 construction jobs.
- Geothermal Power: at 4 percent by 2050 creates 30,300 jobs for construction workers.
- Hydroelectric Power: at 40 percent by 2050 creates 158,915 person-years of construction employment.
- Nuclear Power: at 5 percent by 2050 creates 30,360 construction jobs.
- Transmission Line Construction would create 200,000 construction jobs.

**The role of nuclear energy in Canada is expected to diminish over the next three decades but will still require maintenance.*

District Energy Systems

- Building small district energy systems in half of Canada's municipalities with populations over 100,000 would create over 547,000 construction jobs by 2050.

Transportation

- Building out \$150 billion of urban transit infrastructure—including rapid transit tracks and bridges, subway tunnels, and dedicated bus lanes— between now and 2050 would create about 245,000 direct construction jobs.

Conclusion Getting to net zero emissions by 2050 could generate millions of jobs - nearly 4 million direct building trades jobs, which in turn would generate 20 million indirect, induced and supply chain jobs.

Global Context

- A massive transition is underway worldwide. Countries are “decarbonizing” their infrastructure, industries and economies in order to stave off the worst impacts of climate change. This shift is gathering speed and will impact all sectors of our society.
- 197 nations have signed on to the Paris Agreement agreeing to slash greenhouse gas emissions in order to keep global warming below 2 degrees Celsius.
- The global transition to a low-carbon economy will require an investment of less than 4% of the current total global annual investment in construction activity.
- Recent studies indicate that over the past three years the global economy grew while greenhouse gas emissions from energy production and delivery declined.
- The International Trade Union Confederation forecasts that investments of 2 per cent of Gross Domestic Product (GDP) in the green economy over a 5 year period in 12 countries could create up to 48 million new jobs or up to 9.6 million new jobs per year including more than 17 million jobs in the construction sector.
- The World Green Building Council (WGBC) has called for all buildings to be net zero by 2050 through new construction and deep renovation. (Homes and buildings account for one-quarter of all of Canada’s emissions.)
- As the move to build a post-carbon world accelerates, the building trades are seeing benefits for their members globally.

Canadian Context

- Canada’s ability to meet its Paris commitments will be based on the construction of new infrastructure for the generation of electricity using renewable sources.
- Serious efforts to decarbonize the Canadian economy will create significant opportunities for those in construction trades.
- Getting to net zero in Canada will mean replacing GHG-emitting sources of power with clean energy. At the same time, Canada’s population is projected to grow to 48 million by 2050.
- For some time fossil fuels will form a part of the energy landscape in Canada, the shift to a cleaner future will take time and all sources of energy will be required to get us to the future.

Building Trades and Net Zero Emissions

- The construction industry has a vital role to play in meeting Canada’s climate goals by supporting production in other sectors including electricity generation, efficient buildings and new transportation infrastructure.
- Canada’s ability to meet our climate goals will be based on the construction of new facilities for the generation of electricity using renewable sources, including hydro, wind, solar, tidal, biomass and geothermal energy.
- In addition, it will require the construction and maintenance of more efficient buildings and transportation infrastructure.
- These net-zero initiatives will require the work of a variety of trades people including masons, boilermakers, pipefitters, insulators, electrical workers, glaziers, HVAC, linemen, ironworkers and other construction trades.

About Canada's Building Trades Unions

Canada's Building Trades Unions (CBTU) are a major stakeholder in the construction industry, which has a critical role to play in the transformation to a low-carbon economy. The national organization has a membership of more than half a million construction workers, who are employed in more than 60 different trades and occupations.

The construction trades in Canada employed approximately 936,000 workers in 2014.

The total construction labour force is made up five categories under Trades, Transport and Equipment Operators and related occupations. These are:

- Industrial, electrical and construction trades
- Maintenance and equipment operation trades
- Other installers, repairers and servicers and material handlers
- Transport and heavy equipment operation and related maintenance occupations
- Trades helpers, construction labourers and related occupations.

As an umbrella organization for construction unions in Canada, Canada's Building Trades Unions (CBTU) is affiliated with the following international unions.

- International Brotherhood of Boilermakers
- International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers
- International Association of Heat & Frost Insulators & Allied Workers
- Operative Plasterers' and Cement Masons' International Association of the U.S. and Canada
- International Brotherhood of Electrical Workers
- International Brotherhood of Teamsters
- International Union of Bricklayers & Allied Craftworkers
- International Union of Elevator Constructors
- International Union of Operating Engineers
- International Union of Painters and Allied Trades
- Labourer's International Union of North America
- Sheet Metal, Air, Rail and Transportation Workers
- United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the U.S. and Canada
- United Brotherhood of Carpenters
- Unite Here

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Read the study and backgrounder in English here: <http://columbiainstitute.ca/resources/jobs-tomorrow>