

# One Million Climate Jobs: Occupations in the Green Economy



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GREEN ECONOMY NETWORK

## One Million Climate Jobs: Occupations in the Green Economy

Canadians need a new national conversation that focuses on a clear vision for the future that includes a fundamental transformation of our economy and creates new lines of employment based on much more sustainable modes of production and consumption, while reducing economic and social inequalities. This vision must include incremental targets for public investments, job creation, and emissions reductions, and must not push decisive action to later years.

The One Million Climate Jobs challenge is a five year plan of action to significantly reduce greenhouse gas (GHG) emissions while creating decent jobs for Canadians, and it can be started right away! This plan focuses on three priority areas for public investment: renewable energy, energy efficiency and building retrofits, and public transportation and high-speed rail. The One Million Climate Jobs plan illustrates how targeted investments in these priority areas of the green economy can create meaningful employment and transition opportunities using existing skills and technologies, while also significantly reducing GHG emissions. This plan is the initial kick-start that our country needs to put people back to work and achieve our international climate change obligations under the Paris Agreement, as well as laying the groundwork for deep decarbonisation by mid-century, in accordance with Canada's Mid-Century Long-Term Strategy.

These investments are also designed to reduce poverty and inequality. The proposals outlined in the One Million Climate Jobs plan will not only serve displaced workers from polluting industries, but will also create opportunities for workers from industries suffering the impacts of climate change, the unemployed, the working poor, as well as Indigenous Peoples, racialized communities, women, youth, LGBTI individuals, and persons with disabilities. This is a plan to create a more equitable future for everyone and to ensure that no one is left behind.

The jobs that will be created from this transition are good jobs with decent wages, across many sectors. We have summarized the types of occupations that will be required in each area of investment as outlined in the One Million Climate Jobs challenge, as well as related jobs in the green economy.

**Table 1. Renewable Energy**

Alternative Energy Engineer	Plant Construction Contractor
Arc Welder	Plumber
Assembler	Policy Advisor
Battery Engineer	Power Electronics Assembler/Tester
Bioenergy Feedstock Production Labourer	Power Systems Trades Person
Bioenergy Plant Operator	Process Engineer, Solar Manufacturing
Biomass Collector	Program Assistant
Boiler Operator	Project Engineer, Renewable Power
Business Development Manager	Project Manager
Civil Engineer	Quality Control Manager
Component Manufacturer	R&D Scientist (Metallurgy)
Construction Equipment Operator	Regulatory Manager
Construction Labourer	Regulatory Manager

Construction Manager	Sales Professional, Solar PV & Thermal
Customer Representative	Sales Representative, Geo-Exchange
Electrical Engineer	Security Advisor
Electrician	Smart Grid Engineer
Electricity Sales Person	Solar Hot Water Manufacturing Technician
Energy Regulations Specialist	Solar PV Panel Installer
Energy Storage Project Engineer	Solar PV Technician
Environmental Engineer	Solar Thermal Installer
General Construction Labourer	Solar Thermal Technician
Generator Mechanical Design Engineer	Steamfitter
Geothermal Electrical Engineer	Sustainability Program Coordinator
Heavy Equipment Operator	Sustainability Program Manager
Hydro Electrical Engineer	Sustainability Planner
Hydrogen Fuel Cell Engineer	Technical Specialist
Hydrologist	Training Coordinator, Cogeneration Facility
Instrumentation and Controls Technician	Turbine & Generator Equipment Support Engineer
Maintenance Engineering Technician	Turbine Maintenance Worker
Manufacturer	Wastewater Operator
Marketing Specialist	Wastewater Technician
Master Electrician	Welder
Mechanical Service Technician	Wind Farm Electrical Systems Designer
Operations Manager	Wind Technician
Physics Technical Specialist	Wind Turbine Maintenance Technician
Pipefitter	Wind Turbine Manufacturing Technician
Plant and Operations Manager	

**Table 2. Energy Efficiency and Building Retrofits**

Building Inspection Specialist	Green Home Renovator
Architect	Green Real Estate Brokers
Assembler	Home Energy Auditor
Building Operations Manager	Home Energy Retrofitter
Building Performance Specialist	HVAC Installer
Building Science & Engineering Technologist	HVAC Technician
Building Science Consultant	Insulation Installer
Buildings Mechanical Engineer Technologist	Insulation Workers (Floor/Ceiling/Wall Weatherization)
Buildings Mechanical Engineering Manager	Landscape Architect
Carpenter	Landscape Architectural Technologist
Civil Engineering Technologist, Environmental & Geotechnical	Lighting Mechanic

Civil Structural Engineer	Manager - Energy & Environment Management
Civil Technologist	Municipal Infrastructure Project Manager
Commercial/Industrial Energy Manager	Painter
Construction Equipment Operator	Pipefitter
Construction Labourer	Plumber
Construction Manager	Renewable Energy Consultant
Consultation Advisor	Research Scientist - Nursery and Landscape Horticulture
Control Systems Software Engineer	Retrofitting Specialist
Electrical Engineer	Roofer
Electrician	Smart Grid Engineer
Energy Auditor, Home and Commercial	Solar Panel Installer
Energy Efficiency Program Project Consultant	Solar PV Technician
Energy Project Manager	Solar Thermal Installer
Energy Simulation Specialist	Solar Thermal Technician
Energy Storage Research Technician	Strategic Energy Initiatives Coordinator
Environmental Site Coordinator	Structural Building Science Project Manager
Facility Assessment Engineer Project Manager	Structural Engineer Buildings
Facility Condition Assessor	Sustainability And Energy Manager
Field Inspector	Sustainability Consultant
GHG Emissions Verifier	Transmission Field Technician
Glazier	Waste Reduction Consultant
Green Buildings Manager	

**Table 3. Public Transportation and High-Speed Rail**

Alternative Fuel Vehicle Technicians	Logistics Analysts
Assembler	Maintenance Equipment Operators
Battery Engineers	Mechanical Engineers
Bus and Transit Drivers	Program Manager
Bus Mechanics	Program Manager, Transit Planning
Civil Engineer	Rail-Track Layers
Construction Coordinator, Transportation & Municipal	Roadway Design Manager
Construction Manager	Smart Trip Program Coordinator
Dispatchers	Sustainability Program Coordinator
Electrical Engineer	Sustainability Program Manager
Electricians	Sustainability Planner
Energy Storage Project Engineers	Transportation and Civil Engineers
Environmental Planner	Transportation Engineer
Fuel Cell Engineers	Transportation Planner

Fuel Cell Technicians	Transportation Planners and Managers
Hybrid/Electric Vehicle Mechanic	Urban Planner
Landscape Technician	Welders

**Table 4. Related Jobs in the Green Economy**

Administrative Planning Technician	Environmental Specialist, Air Quality
Air Pollution Specialist	Environmental Technician
Air Quality Engineer	Environmental Technologist
Air Resources Engineer	Erosion Control Technician
Analyst, Product & Environmental Stewardship	Field Environment Advisor
Aquatic Biologist	Field Technician/Technologist, Emissions Testing
Aquatic Ecologist	Frontline Campaigner
Associate Director Of Policy	GIS Specialist
Atmospherics Scientist	Hazardous Materials Technologist
Biological Technician	Hydrogeologist
Business Analyst, Teksystems	Hydrologist
Chemical Technician	Infrastructure Planning Supervisor
Civil Engineering Or Geotechnical Technologists	Laboratory Technologist
Communications And Special Projects Assistant	Land Development Design Technologist
Community Relations Coordinator	Manager, Environmental & Permitting
Corporate Environmental Health & Safety Engineer	Manager, Environmental Partnerships
Corporate Environmental Specialist	Manager, Operational Sustainability
Ecological Planner	Manager, Sustainability and Stakeholder Communications
Economics & Sustainability Location Operations Director	Materials Management Technician
Emissions Testing Field Technician	Materials Technicians (Soil, Concrete & Asphalt)
Energy Project Manager	Meteorologist
Environment Supervisor	Municipal Affairs Specialist
Environmental & Reclamation Assessments Professional	Pipeline Environmental Supervisor
Environmental Advisor	Project Manager Urban Development
Environmental Affairs Coordinator	Project Manager, Mining Permitting
Environmental Analyst	Project Manager, Sustainability Environment & Climate Change
Environmental Compliance Coordinator	Public Information Officer
Environmental Consultant	Quality Control Manager
Environmental Coordinator	Reclamation Scientist

Environmental Draftsperson	Reclamation Technologist
Environmental Field Staff	Recycling Center Operator
Environmental Inspector	Regulatory Compliance Coordinator
Environmental Manager	Remediation Technology Engineer
Environmental Outreach Campaigner	Resource Planning Technician
Environmental Planner & Monitor	Senior Policy Analyst, Sustainability
Environmental Policy Analyst	Soil Scientist
Environmental Project Manager	Strategic Energy Initiatives Coordinator
Environmental Regulatory Specialist	Team Lead, Government And Industry Relations
Environmental Scientist	Terrestrial And Wetland Biologist
Environmental Services Intern	Terrestrial Biologists & Ecologists
Environmental Services Mining Practice Leader	Transmission Line Environmental Inspector
Environmental Site Assessor	Wildlife Biologist, Technician
Environmental Specialist	

The information in this document is not meant to be an exhaustive list of all occupations that will be required in the emerging green economy. Rather, this document provides examples of the types of occupations that will be required for the One Million Climate Jobs plan. The green economy will also include jobs in agriculture, community and social services, education, environmental protection, health services, policy and regulations, resource management, service industries, and waste management.

For more information on jobs in the green economy, see:

ECO Canada (2012). *The Green Jobs Map: Tracking Employment through Canada's Green Economy*  
<http://www.eco.ca/ecoreports/pdf/2012-Green-Jobs-Map-Tracking-Employment-through-Canadas-Green-Economy.pdf>

First Work Green Skills Network (2012). *Emerging Green Jobs in Canada: Insights for Employment Counsellors into the Changing Labour Market and its Potential for Entry-Level Employment*  
<http://www3.cec.org/islandora-gb/en/islandora/object/islandora%3A1193/datastream/OBJ-EN/view>

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<http://www.labormarketinfo.edd.ca.gov/contentpub/GreenDigest/CA-Green-Economy-SummarySurveyResults.pdf>