

Green and Growing

Manitoba's Commitment
to Green Jobs



**SUSTAINABLE GROWTH
GREEN JOBS**

Manitoba 

Manitoba's Vibrant Green Economy

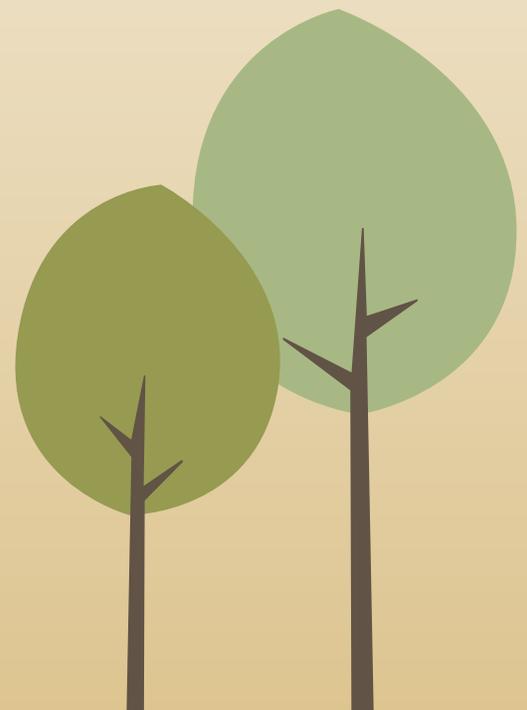
Manitoba's economy is founded on green renewable energy, sustainable development and a commitment to innovation. Through enhanced investments under the new Climate Change and Green Economy Action Plan, the Manitoba government will create new green jobs within a sustainable economy. It will minimize its environmental footprint and be environmentally responsible in all actions and investments. It will form partnerships with communities, businesses, industries, other governments and non-government organizations to find mutually beneficial solutions to climate change while growing the economy.

Manitoba's vision is of a province that is carbon neutral, building on rich, renewable energy resources. The low carbon economy will stimulate innovation and creation of green jobs in all sectors, while promoting social equity and fairness. Taking action to prevent further climate change and planning for climate change through strengthened resiliency and adaptability, Manitoba is preparing to respond to changing threats and opportunities.

The Climate Change and Green Economy Action Plan will:

- reduce harmful greenhouse gases
- protect and preserve the environment
- stimulate a sustainable economy
- create new jobs
- foster creativity
- reduce waste
- stimulate efficiencies
- improve resiliency
- reduce vulnerabilities to climate change

The United Nations Environmental Program (UNEP) 2011 publication, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – a Synthesis for Policy Makers*, defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy is low carbon, resource efficient and socially inclusive.



Manitoba's Vision for the Future

Manitoba's Climate Change and Green Economy Action plan establishes a framework to mitigate and adapt to climate change, create green jobs and build a sustainable economy. Manitoba's new Demand Side Management Agency will help spur additional PowerSmart savings, engage social enterprise and create economic activity. Demand side management will deliver energy efficiency and conservation programs to meet new, legislated targets for electricity and natural gas savings. Manitobans can expect an even more aggressive approach to finding cost-effective energy savings and bill reductions, as well as new ways to reduce their carbon footprint. Measures will include:

- legislated efficiency targets
- conservation electricity rates
- new energy efficiency product standards
- energy and water efficiency requirements
- expanded geothermal and solar thermal heating incentives

The new measures will save money, cut greenhouse gas emissions and create new, green jobs.

Manitoba is committed to implementing a cap and trade program for large emitters and will look at other innovative measures for sectors not covered by cap and trade.

Manitoba's new environmental bill of rights will underpin efforts to ensure investments are sustainable. An oversight body will monitor progress and legislation will be strengthened to help achieve goals.

As government, we are committed to becoming carbon neutral and using this commitment to modernize operations, procurement and internal investments. By using the principles of sustainable development, we can streamline operations, create efficiencies and drive innovation, all within a growing economy.

Through sector partnership in commercial transportation, agriculture, municipal government and social enterprises, we will achieve climate

change goals while adding new jobs in each sector and modernizing industry practices. The Manitoba Trucking Association, Keystone Agricultural Producers, National Farmers Union, Economic Development Council for Manitoba Bilingual Municipalities and Aki Agency have each agreed to join in these efforts.

New incentives for electric-vehicles and related infrastructure will provide Manitoba with options to go green and will help encourage investment in green technology. Manitoba will work with municipalities to green their transit fleets, to encourage active transportation options that support local green jobs and to maximize use of emission-free vehicles.

The Manitoba government will encourage landlords to create more energy-efficient buildings, update building codes and reduce red tape to spur green activities. Retrofitting existing buildings to higher efficiency levels is expected to produce one of the largest sources of green jobs throughout the province.

Manitoba will expand the Environmental Farm Plan program to build resiliency in the face of climate change and launch a new Climate Friendly Agricultural Practices program to take advantage of the many benefits to reducing greenhouse gas emissions.

As part of the climate change and green economy action plans, Manitoba will invest \$5 million over five years in local projects to reduce greenhouse gas emissions. Projects will help:

- the trucking sector become more efficient
- modernize and adapt farming practices while adapting to a changing climate
- gather and communicate climate data so that we can prepare for climate change
- municipalities green their local economies
- First Nations communities gain access to renewable energy sources
- capture and store carbon dioxide by planting more than two million trees by 2020

Manitoba has produced a number of guiding documents that show the path forward including *Tomorrow Now – Manitoba’s Green Plan*. In the new *Climate Change and Green Economy Action Plan*, Manitoba outlines the next set of strategies that will lead to a prosperous, green future.

We will begin by developing a green budgeting norm that assesses social, ecological and environmental costs and benefits. This will allow government to better invest in a sustainable future. The Manitoba government will increase support for renewable energy, clean technologies, green products and green services through a procurement strategy that sends clear signals into the market place. A **green tape** review will remove barriers to a green economy and streamline regulatory processes so that best practices can be implemented. A comprehensive review across government will identify policies and regulations that may pose barriers to green technologies, products, practices and services. We will look to a Manitoba-based green economy

and green jobs advisory committee to provide guidance and recommendations.

Manitoba will support a sustainable bio-products sector that will fuel the growth of the rural and northern economy. The Manitoba government will review fossil fuel subsidies and support transition to sustainable economic alternatives. It will also increase access, collection and generation of climate and emissions data and projections so that businesses, associations, municipalities and the public can analyze options for adaptation and innovation.

Green Bonds enable capital-raising and investment for new and existing projects with environmental benefits. Manitoba will review the applicability of green bonds to provincial projects and provide recommendations for future issuance of a new source of private and institutional financing of green projects.



Manitoba is a Leader in Green Jobs

In their 2013 *Profile of Canadian Environmental Employment*, ECO Canada, Canada's national industry-initiated and led organization for environmental human resources issues, defined environmental employment as including activities that support the effective stewardship of natural capital through the management or promotion of sustainable natural resource use, avoidance or mitigation of negative environmental impacts, and the maintenance or restoration of ecological systems.

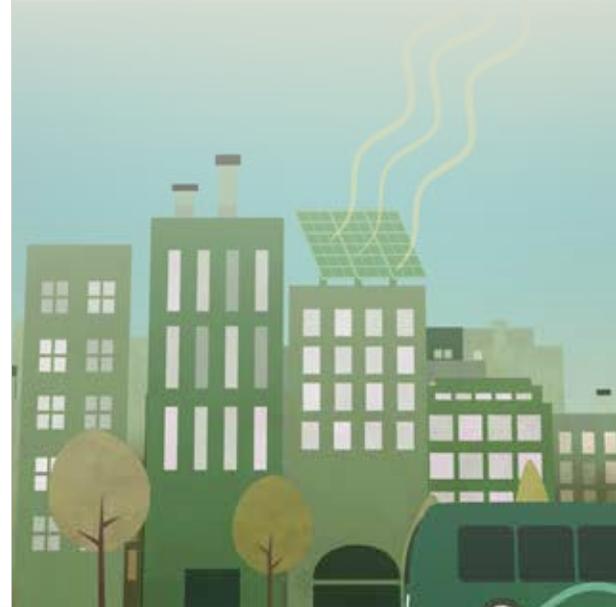
ECO Canada estimates that there were 92,623 environmental employees in Manitoba in 2013. Of these employees, more than 40 per cent spent half or more of their time on environmental tasks. ECO Canada calls these employees environmental professionals. The percentage of environmental employees and environmental professionals in Manitoba is higher than Canada as a whole.

By addressing opportunities for a greener economy such as energy efficiency, renewable energy, waste reduction and water efficiencies, Manitoba is expected to create at least 6,000 green jobs in various sectors throughout the province by 2020. Government will build on this foundation by increasing investment in training and education, and by working with key partners in transportation, agriculture, municipalities and other sectors throughout the province.

Green jobs opportunities will evolve in rural and urban businesses, as well as traditional and emerging sectors. For example, New Flyer Industries based in Winnipeg is a manufacturer of electric and hydrogen fuel cell buses in North America. They incorporate advanced environmental management and health and safety standards to support local green jobs. Zero-emission, battery-electric propulsion transit buses significantly reduce greenhouse gas (GHG) emissions and local air contaminants. Also, another Manitoba company, Biovalco Innovative Products produces a wide range of high quality, biomass-related products, from biofuels to high absorbency animal bedding. With production and testing based in La Broquerie, Manitoba, they are innovating and developing environmentally friendly solutions to a wide variety of needs.

Manitoba has also invested in the Composites Innovation Centre (CIC) to leverage a natural advantage in local sources of biomass and expertise in innovation and manufacturing. CIC is a world class centre for research and development that identifies and promotes environmentally sustainable technologies.

The United Nations Environment Programme (UNEP) defines **green jobs** as: ...work in agriculture, industry, services and administration that contributes to preserving or restoring the quality of the environment. Green jobs are found in many sectors of the economy from energy supply to recycling and from agriculture and construction to transportation. They help to cut the consumption of energy, raw materials and water through high-efficiency strategies, to de-carbonize the economy and reduce greenhouse gas emissions, to minimize or avoid altogether all forms of waste and pollution, to protect and restore ecosystems and biodiversity.



Manitoba has developed world-class policy guidance for the creation of Education for Sustainable Development (ESD) which prepares students from Kindergarten to Grade 12.

“Guide for Sustainable Schools in Manitoba” seeks to support schools in their goals to become sustainable. The guide invites schools to take a whole-school approach through embedding sustainability in curriculum, learning approaches, facilities, operations and community interaction.

www.edu.gov.mb.ca/k12/esd/pdfs/sustainable_guide.pdf

Making a Living Sustainably – Green Jobs and Sustainability Careers is a document that helps youth explore sustainability career options and practices, and prepare to live and work toward a more sustainable future.

www.edu.gov.mb.ca/k12/esd/pdfs/green_jobs.pdf

The report *Technical-Vocational Education for Sustainable Development in Manitoba*, drafted by the International Institute for Sustainable Development, shows how sustainable development is incorporated into technical-vocational schools and includes promising practices and barriers.

www.iisd.org/pdf/2012/technical_vocational_education_sd_mb.pdf

Green Training Lens

Manitoba’s Apprenticeship and Certification Board has identified the use of a **green lens** approach in its review and evaluation of training standards. This approach continues to be a priority in its review of training standards. It is actively seeking input regarding how trades are adopting sustainable work practices, processes or technology, and how they should be incorporated into training standards. Developing a green lens in this case means taking a point of view that values program or service features that are designed to help protect Manitoba’s environment and sustainably manage natural resources while balancing diverse community interests.

The Canadian Council of Directors of Apprenticeship (CCDA) launched the *Strengthening the Red Seal* initiative in 2009. The initiative sets out to enhance skills assessment through the exploration of an enhanced occupational standards model and methods of assessment in addition to the current Red Seal examination. As a result of this initiative there will ultimately be new occupational standards for all Red Seal trades. Environmental considerations and green initiatives will be included in those standards.



Training and Education for Green Jobs

Education empowers people with the knowledge, skills and values needed to shape a more sustainable future. “TomorrowNow – Manitoba’s Green Plan” emphasizes the important role that education plays in ensuring Manitobans learn to live sustainably and commits to including Education for Sustainable Development (ESD) in formal education, public awareness and training beyond the classroom. ESD is a priority for Manitoba Education and Advanced Learning. Sustainable development is taught from kindergarten until the final year of high school, and accompanies specific learning outcomes in science, social studies, health and physical education.

In Manitoba, the capacity of educators and school leaders is being built through the use of new methods and content that help schools to embed sustainability into their classrooms, facilities, operations and management. Schools across the province are being encouraged to have sustainable school plans in place. As a result, children, youth, educators, and school leaders are becoming personally engaged in our schools and communities with the challenge of realizing sustainability.

ESD is considered a key element in achieving Manitoba’s transition to a low carbon, green

economy. As an example, Technical and Vocational Education and Training (TVET) prepares students for work in fields such as construction, waste management, automotive, and agriculture. These are fields that will need skilled workers who have knowledge of, and commitment to, sustainable development, as well as the requisite technical knowledge. Embedding ESD in TVET is crucial towards moving towards cleaner and greener production and service patterns. In addition to continuing the integration of sustainable development into the TVE curriculum, the Skills Strategy Equipment Enhancement Fund will be adjusted in order to ensure programming is relevant to future and current labour market needs and to the Green Economy.

Manitoba’s work on ESD is highlighted as one of 25 game changers globally in the area of sustainable development through the UNESCO Green Citizens project. UNESCO Green Citizens project provides a platform for the exchange of experiences to enable educators from all around the world to share their stories, to teach new practices and encourage others to work toward sustainable development in their communities.

Indigenous Training

Training and education programs designed to reach out to Indigenous people in Manitoba take place throughout the province with a focus on renewable energy and building energy retrofits. Participants are Aki Energy, Building Urban Industries for Local Development (BUILD Inc.), the Brandon Energy Efficiency Program (BEEP) and Manitoba Hydro. Aki Energy is a non-profit First Nations agency that specializes in setting up social enterprises on First Nations to undertake work in the green economy. Founded only three years ago, Aki Energy has installed over \$8 million in geothermal and solar thermal energy on four First Nations generating about \$1 million in utility bill reductions annually. Aki has trained and employed 50 people to date.



Clean Energy Advantage

Clean, green hydro-electricity, provided by Manitoba Hydro, now powers 98 per cent of Manitoba. Manitoba Hydro is committed to sustainable development and good green jobs and is the province's largest green jobs employer.

Manitoba Hydro is also a key economic driver in the province. In 2014, Manitoba Hydro employed 6,556 people, earned \$439 million from electricity exports and had assets in service worth \$15.6 billion. It invested \$34 million in PowerSmart initiatives, generating savings of \$112.9 million for consumers through the PowerSmart program. These energy efficiency programs also stimulate secondary jobs in building and renovation services.

These successes will be built on through measures such as a newly minted Demand Side Energy agency to propel PowerSmart forward and secure energy savings for all Manitobans. Developed in partnership with local First Nations communities, the new Keeyask Generating Station provides training, employment and local economic development opportunities. The power generated is part of a clean energy grid that reduces GHG emissions in Manitoba and in other jurisdictions.

Manitoba Hydro exported an annual average of 7.2 billion watts of hydro-electricity, displacing an average of 4.9 million tonnes of carbon dioxide emissions annually in the U.S. from 1980 to 2013. Manitoba Hydro also exports a net average 1.5 billion watts of hydro-electricity to other provinces annually, displacing an additional 1.1 million tonnes of carbon dioxide emissions outside provincial borders each year. In addition to being renewable, Manitoba Hydro projects create meaningful green jobs in the province.

Manitoba Hydro is committed to working in co-operation with Indigenous communities and is striving to represent local communities in the workplace. In the fall of 2015, over 1,870 Indigenous people were working at Manitoba Hydro operations at the Keeyask site and on Bi-Pole III. At the same time, more than 175 Indigenous people were registered in a variety of technical training programs offered by Manitoba Hydro, preparing for work in Manitoba's renewable energy industry.

Manitoba Hydro's PowerSmart programs provide a wide variety of energy-saving options. With the development of the next generation of energy efficiency programs and delivery models, homes, businesses and institutions will be able to further reduce the energy they consume while saving money. Efforts at reducing domestic consumption of natural gas have resulted in a cumulative reduction in GHG emissions of just over a million tonnes of carbon dioxide in Manitoba and currently account for an annual reduction of almost 200,000 tonnes of carbon dioxide emissions per year. Demand side management efforts such as Manitoba PowerSmart are forecast to result in an annual reduction of 240,000 tonnes of carbon dioxide emissions per year by 2028.

While championing renewable hydro development, Manitoba has also invested in wind, biomass and solar power. Manitoba is a leader in geothermal installations in Canada. Developed in Manitoba, New Flyer Industries created North America's first full-sized rechargeable electric transit bus, providing opportunities and jobs as well as a new product the company will sell domestically and internationally.

Manitoba works on the national stage to advance energy goals. Manitoba Hydro recently completed a major power sale to Saskatchewan. Manitoba and Ontario signed an agreement to investigate the potential of an enhanced east-west power grid and other mutually beneficial energy opportunities. We are also actively involved in the development of a Canadian Energy Strategy with other provincial and territorial partners. All of these measures will add green, sustainable jobs in the province.



Manitoba is a Leader in Protecting the Environment

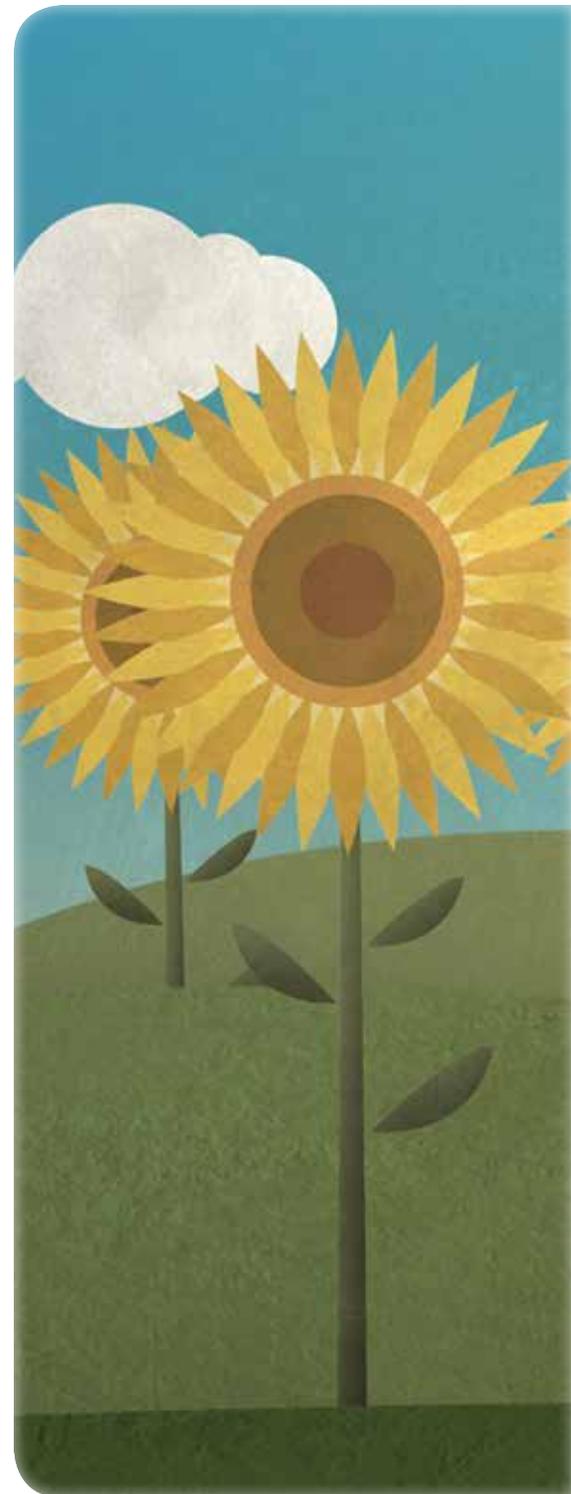
While growing the economy, we will remain committed to protecting the environment. Manitoba will increase the numbers of ecologically important areas. The Manitoba government is committed to protecting wetlands, making a significant contribution to protecting boreal forests and to balancing protection of ecological integrity with societal values and economic needs. These efforts will encourage eco-tourism, attract new visitors and allow Manitoba to continue to be a showcase for environmentally friendly ways of doing business.

Manitoba, with the Bloodvein First Nation, has protected the boreal forest under the Pimitotah Land Management Plan. More than 3,900 square kilometres of Bloodvein First Nation's traditional land has been designated as a traditional-use planning area which defines how the land and resources will be protected while guiding future economic development. Manitoba is also in the process of securing a UNESCO World Heritage Site designation for Pimachiowin Aki, a 43,000 square kilometre ecologically important area that covers parts of Manitoba and Ontario.

Manitoba is investing \$100 million in park infrastructure between 2012 and 2020. Part of the funds will be directed towards reducing the ecological footprint through upgrades to recycling, waste management and wastewater treatment in provincial parks, which will sustain local green jobs. Our parks are also at the heart of a new eco-tourism strategy that will promote sustainable practices and local benefits.

From hydroelectric development to securing Manitoba's expanse of boreal forest and exporting highly innovative green transportation solutions, Manitoba has a track record of approaching climate change and green economic growth with innovative solutions.

Manitoba is already primed to succeed in a global green economy. We produce 98 per cent of the province's energy from clean renewable sources, including hydroelectricity and wind. We need to step up the transition to renewable energy, reducing costly dependence on fossil fuels. All Manitobans save money when energy, water and materials are used more efficiently. As we reduce waste, we also improve air, land and water quality. Greening the economy provides competitive advantages globally while, at the same time, creating decent jobs locally.



Outstanding Employment Performance

In October 2015, Manitoba experienced its third consecutive month of strong job growth and reached a record high with 641,800 persons employed. The province also had the lowest unemployment rate at 5.3 per cent, considerably lower than the national average of 7.0 per cent.

Comparisons using year-to-date measures show Manitoba continues to have the strongest employment performance in the country, maintaining its number one spot in total employment and private sector employment growth. The province was second in terms of full-time employment and labour force. Over the long term, Manitoba's total employment growth has exceeded that of Canada's for the past 48 months.

According to the Centre for the Study of Living Standards report *Long-term Fiscal and Economic Projections for Canada and the Provinces and Territories, 2014-2038* (Drummond & Capeluck, July 2015), for 2000 to 2014, Manitoba's real gross domestic product (GDP) growth averaged 2.2 per cent. This was above Canada's average of 2.0 per cent. The report projects compound annual economic growth from 2014 to 2026 as 2.3 per cent for Manitoba. Manitoba's growth substantially exceeds that of Canada, which is projected at 1.5 per cent.

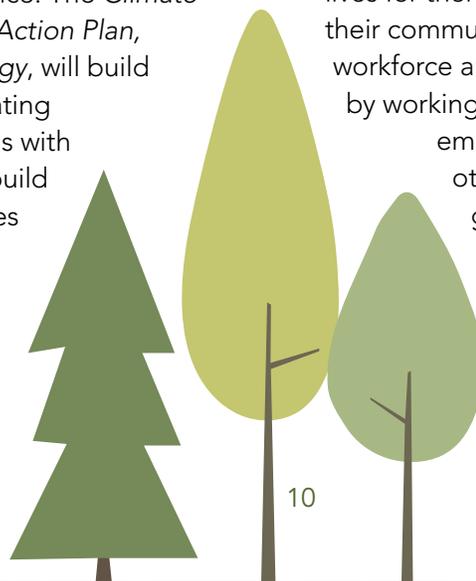
Manitoba's diversified industry sectors and population growth have provided the basis for steadfast economic performance. The *Climate Change and Green Economy Action Plan*, and the *Manitoba Skills Strategy*, will build on these successes. By integrating sustainable development goals with economic objectives, we will build a resilient economy that creates decent jobs now and far into the future.

Manitoba's Skills Strategy

Manitoba has set a target of adding 75,000 more workers to the labour force by 2020, of which at least 6,000 will be new green jobs. This goal can be met by developing human resources efficiently and being socially inclusive – significant components of a green economy. Building a skilled and available workforce for the future requires including youth, Indigenous people, women, newcomers and persons with disabilities. The strategy is concentrated around five key themes including:

- training more young people for the jobs of tomorrow
- connecting more Manitobans with trades training
- building Manitoba's Indigenous workforce
- growing Manitoba's successful immigration strategy
- ensuring every Manitoban can access training and good jobs

To accomplish this, Manitoba's *Strategy for Sustainable Employment and a Stronger Labour Market* has been launched. This strategy focuses on providing a pathway to independence for income assistance recipients, and others further from the labour market, who are able to work, while continuing to provide financial assistance to those who need it most. The focus is about helping them to gain knowledge, skills and qualifications. It is also about building their confidence so they can succeed in the workforce and make better lives for themselves, benefitting their families and their communities. The goal is to build a strong workforce and prosperous future for Manitoba by working in collaboration with individuals, employers, education, communities and other stakeholders. Preparing people for green jobs and encouraging sustainable employment practices will be parts of this effort.



Manitoba's Innovation Strategy

Innovation is key to growing a stronger Manitoba economy. It generates new businesses and helps existing companies become more productive and globally competitive. In April 2014, Manitoba launched its new Innovation Strategy aimed at helping the province's businesses grow and prosper. This is being achieved by:

- supporting the development and commercialization of new products, new industrial processes and increased productivity
- enabling Manitoba companies to enter new markets and diversify in existing ones, through government's direct support for business and its support of partner organizations
- exploring new ways to bridge the pre-commercialization gap

First Jobs Strategy

Linked to Manitoba's skills strategy and sustainable employment goals, the First Jobs Strategy will help Manitobans explore work, get ready for work, get that first job and make the jump into a rewarding career. Together with the Career Builder Guide and the Post-Secondary Education Strategy, the objective is to introduce individuals to a range of career options, help them get that first job in their community or become entrepreneurs with their own businesses. With their new knowledge, excitement and energy, these young people are being prepared for the green jobs that are available now and in the future. A First Jobs Fund, wage subsidies and tax credits, as well as website, classroom and on-the-job training supports are all parts of a \$2.5 million commitment that complements \$20 million in existing resources throughout Manitoba.

Skilled Trades and Technology Centre

A new Skilled Trades and Technology Centre at Red River College will train up to 1,000 students yearly for good jobs and provide industry with highly trained employees needed to expand and be competitive in a challenging international economy. A \$60-million investment in the new 100,000 square foot, state-of-the-art facility will boost trades and technology education space at the Notre Dame Campus by more than 30 per cent. The centre will be an important hub for the province's skills training strategy and will be a key factor in increasing Manitoba's workforce by 75,000 highly trained people by 2020.

According to Build Force Canada, as of 2015, Manitoba will need 10,000 new skilled workers in the construction sector alone over the next decade. Green building skills will be a powerful advantage.



Manitoba Social Enterprise Strategy

The **Manitoba Social Enterprise Strategy** is a partnership with community groups, the Manitoba government and the Canadian Community Economic Development Network – Manitoba, to grow the social enterprise sector and to focus on job creation. Launched in early 2015, the strategy is based on six pillars which have been shown to be necessary and effective areas of development for a healthy social enterprise environment:

- enhancing enterprise skills
- ensuring access to capital and investment
- expanding market opportunities
- promoting and demonstrating the value of social enterprise
- building a regulatory framework
- networking and community engagement

The strategy identifies sector needs, describes existing community and government resources to address those needs, and offers 32 recommendations for further action under each pillar. In Budget 2015, Manitoba committed to invest \$250,000 per year for the next three years, to begin implementation of the strategy.

Conclusion

Manitoba is on a path to a low carbon, green economy. We must continue to create green jobs, build a sustainable economy, protect the environment and prevent and adapt to climate change. A legacy of investing in renewable energy positions Manitoba to become a carbon neutral province and a green job leader. Our natural progression toward a green economy will create a high quality of life and ensure that we have balanced ecosystems for generations to come. We will continue to work with local, regional, national and international partners to build on strengths and adapt to changing environmental realities.

The University of Winnipeg (U of W) has made investments to green their facilities and save money. By the end of 2013, the university had reduced its emissions by approximately 25 per cent compared to 1990 levels, despite campus floor space increasing 35 per cent in the same time period. The university estimates that energy retrofits completed to date will pay for themselves in less than nine years with annual utilities savings. The U of W diverts approximately 50 tonnes of organic material from the landfill every year. It also launched an award-winning approach to campus food through Diversity Food Services. Diversity prioritizes purchasing local, organic food. In 2013, 65 per cent of the food it purchased came from within 100 kilometres of its downtown Winnipeg location. For more detail on University of Winnipeg accomplishments, view the following links:

- <http://news-centre.uwinnipeg.ca/all-posts/uwinnipeg-exceeds-kyoto-accord-goal/>
- <http://news-centre.uwinnipeg.ca/all-posts/uwinnipeg-continues-to-excel-in-kyoto-commitments/>