

Inventory of Saskatchewan Government, Crown Corporations and Related Agencies' Climate Change and Climate Change Related Activities 2005

Saskatchewan has established a climate change program that is undertaking projects in five major areas, including:

- public education and information;
- energy conservation and alternative energy;
- research and development of new energy technology;
- agricultural soil and forest carbon dioxide sinks; and
- adaptation to impacts of climate change.

Some of Saskatchewan's major current climate change activities are outlined below.

Public Education and Information

Saskatchewan Stakeholders Advisory Committee on Climate Change

Established in 1998 to permit government, agricultural, environmental, industry, and community stakeholders to exchange information and views on climate change issues.

[Climate Change Saskatchewan](#)

A public education and outreach hub supported by the Governments of Saskatchewan and Canada, and the Office of Energy Conservation to create greater awareness and understanding on how climate change affects us and how we can reduce its impact.

Climate Change Saskatchewan is actively promoting "Take the One-Tonne Challenge, Saskatchewan" by providing information on their website and at events on federal and provincial programs that are available in support of this initiative.

[Office of Energy Conservation](#)

Established in 2002 to undertake energy conservation initiatives to reduce energy costs for Saskatchewan residents, businesses, and farmers. The Office was funded by: SaskPower, SaskEnergy, and Saskatchewan Industry and Resources.

[Enhanced Fire Management and Forest Protection Funding](#)

A fire prevention, awareness and suppression campaign has been implemented in Saskatchewan to reduce the number and impact of wild fires.

Destination Conservation School Program

[SaskEnergy](#) and [SaskPower](#) support the conservation program delivered by the Saskatchewan Environmental Society. From September 2001 to June 2004, seven school divisions participated in the program, representing over 35,000 students in both urban and rural jurisdictions. The sponsorship agreement has been renewed for another three years for the September 2004 to June 2007 period.

Technical Expertise

Provincial Government departments, agencies and Crown corporations provide a wide range of technical expertise, knowledge and advice to increase awareness of and provide advice about energy efficiency and conservation to Saskatchewan residents, businesses and organization. See examples from: [Office of Energy Conservation](#), [Saskatchewan Research Council](#), [SaskPower](#) and [SaskEnergy](#).

- The Office of Energy Conservation provides training and support to professionals in the construction industry.
- The Office of Energy Conservation is providing advice to the town of Battleford and Parks Canada on the design of a 7,000 square foot building showcasing energy efficiency and alternative energy (wind power and solar energy).
- The Office of Energy Conservation is assisting the community of Aberdeen with its funding applications for an innovative, geo-thermal system for its new recreation complex.
- Saskatchewan Research Council has presented information to recreational facility operators regarding potential actions to reduce energy-related demand charges.
- Saskatchewan Research Council has internationally recognized expertise in climatology in the area of climate impacts and adaptation research and is active in a number of projects related to climate change and new energy technologies.
- SaskPower is working with the community of Watrous in an energy-efficiency pilot project aimed at reducing energy costs in community facilities, such as the local rink or town office.
- SaskPower provides an Energy Performance Contracting service, which helps customers reduce their use of energy in a cost-effective way.
- SaskEnergy offers furnace maintenance services through SaskEnergy and the SaskEnergy Network. Members are provided training on the benefits of high-efficiency furnaces.
- SaskEnergy employees conduct school presentations which include a focus on energy efficiency.
- SaskPower and SaskEnergy offer the convenient energycheck online energy audit, which provides customers advice on saving energy.

Energy Conservation and Alternative Energy

Wind Power

SaskPower added an additional seven wind turbines to its Cypress Wind Power Facility located near Gull Lake. The 16 turbines are now producing 11 megawatts (MW) of electricity. The electricity generated by Cypress, combined with the power purchased by SaskPower from the SunBridge Wind Power Project, totals 22 MW. The output from Cypress and SunBridge makes Saskatchewan Canada's third largest wind power producer.

[Green Power Price Change](#)

SaskPower's Cypress Wind Power Facility has qualified for the Government of Canada's Wind Power Production Incentive. As a result, SaskPower's GreenPower product has been reduced in price from \$3.50 to \$2.50 per month per 100 kilowatt hour block.

[Purchase of Wind Power](#)

Saskatchewan Property Management Corporation (Saskatchewan Property Management Corporation) purchases wind-generated electricity for Executive Government from SaskPower. In fiscal year 2004-05, Saskatchewan Property Management Corporation is purchasing 22.5 percent of Executive Government's total power consumption through this program. The Government has committed \$400,000 per year beginning in fiscal year 2002-03 for a ten-year period to the end of fiscal year 2011-12.

[Green Power Portfolio](#)

SaskPower has implemented a 'Green Power Portfolio' approach for new power generation requirements in the province. A 150 megawatt (MW) wind development project is under construction by SaskPower at Rushlake Creek and will be operational by the end of 2005. SaskPower also issues requests for proposals for up to 15 MW of Environmentally Preferred Power (EPP) each year, continuing for three years. The first successful projects were announced in 2004 and are expected to be online in 2005. The second phase is presently underway, and has been combined with the third. The full 45MW of EPP should be operational by the end of 2006. Eligible technologies include flare gas, wind, run-of-the-river hydro, biomass, biogas, heat recovery from an existing waste heat source, landfill gas, and solar.

[Distributed Generation Pilot Projects](#)

Distributed generation is the application of small generators at a consumer's site rather than large centralized power stations. SaskPower and SaskEnergy have been investigating several distributed generation projects throughout the province with a number of different partners. Projects have been initiated utilizing flare gas, photovoltaics, natural gas, wood residue, and animal manure. The opportunity to develop a pilot project to utilize waste landfill gas is also being investigated.

[Ethanol Fuel Grant Program](#)

Saskatchewan has mandated the use of ethanol-blended fuel, which will be phased in beginning in 2005. The ethanol program will provide a 15 cent per litre grant to distributors who blend ethanol within Saskatchewan. Husky Energy has announced construction of a 130 million litre facility in Lloydminster, and NorAmera BioEnergy has announced a 25 million litre facility in Weyburn.

[Energy Star Loan Event/Prime Rate Loans](#)

The initial program to offer prime loan rates to encourage SaskEnergy customers to upgrade to high-efficiency furnaces was implemented in 2001. The ENERGY STAR® Loan Event, running until March 31, 2005, continues to successfully encourage Saskatchewan contractors and homeowners to choose high-efficient furnaces. More than 10,000 customers have been provided with \$38.3 million in loans under the programs.

[Provincial Sales Tax \(PST\) Rebate Program on Energy Star® Appliances](#)

An incentive program to encourage Saskatchewan residents to purchase energy-efficient appliances. As of December 31, 2004, more than \$1 million in PST rebates have been provided on the purchase of 16,380 appliances.

[EnerGuide for Houses](#)

SaskEnergy continues to promote the Natural Resource Canada EnerGuide for Houses home energy evaluation to help customers learn more about their home's energy efficiency and potential improvements. As of December 2004, 11,761 assessments and 2,145 follow-up assessments have been completed in Saskatchewan.

[Saskatchewan Housing Corporation's EcoPlan Initiatives](#)

An initiative undertaken by the Saskatchewan Housing Corporation intended to reduce energy consumption within the province's Senior Social Housing and Saskatchewan Housing Corporation-owned Affordable Housing portfolio by ten percent by the year 2007. In addition, Saskatchewan Housing Corporation provides an energy efficiency grant of \$1,500 per unit under the Neighbourhood Home Ownership Program, and has implemented minimum energy efficiency standards for new housing delivered under the Centenary Affordable Housing Program.

[Saskatchewan Government New Building Initiative](#)

An initiative funded by the federal Office of Energy Efficiency and the Saskatchewan Office of Energy Conservation to reduce energy consumption in all new government buildings, or buildings where government contributes 30 percent or more of the capital construction cost. The level of energy efficiency in the new buildings must be a minimum of 25 percent better than the Model National Energy Code for Buildings (1997).

[R-2000 New Home Program](#)

A Federal Government initiative to promote construction of highly energy efficient homes. SaskEnergy, the Saskatchewan Home Builders' Association, and the Office of Energy Conservation share the costs of operating the R-2000 New Home Program in Saskatchewan. R-2000 homes use approximately between 25 and 30 percent less energy than conventionally constructed homes.

[Communities of Tomorrow Project](#)

Funding provided is to design and build a house, which will use only ten percent of the energy and 50 percent of the water of a conventional home.

[Municipal Energy Program](#)

A Memorandum of Understanding was signed December 9, 2004, between the Office of Energy Conservation, Saskatchewan Research Council, Saskatchewan Property Management Corporation, Saskatchewan Association of Urban Municipalities, and Saskatchewan Association of Rural Municipalities for municipalities to participate in a program to use the buying power of the Saskatchewan Government to reduce the capital cost of purchasing energy-efficient lights and ballasts for municipal buildings.

[National Fleet Challenge Pilot](#)

The Office of Energy Conservation is working with the Canadian Energy Efficiency Alliance; organizations in Quebec, Ontario, Alberta, and B.C.; and the Federal Government to implement a 2.5-year pilot program designed to increase the energy efficiency and utilization of alternative fuels in order to reduce greenhouse gas emissions of fleet vehicle operations.

[Natural Gas Vehicles](#)

SaskEnergy operates seven natural gas vehicle-refueling facilities located in Regina, North Battleford, Prince Albert, Saskatoon, Yorkton, Moose Jaw and Swift Current. They all provide 24-hour, self-serve cardlock refueling to the public.

[Hybrid Vehicles](#)

In 2004, Saskatchewan Property Management Corporation became one of the first vehicle fleet managers in Canada to introduce hybrid technology to its vehicle fleet, through the introduction of 11 hybrid trucks. These trucks feature a hybrid electric powertrain, advanced energy storage module, and regenerative braking. The trucks have the potential to create fuel savings of 10 to 12 percent, or approximately 459 litres per vehicle annually, without reduction to the vehicles' capability. SaskTel, SaskPower, Saskatchewan Highways and Transportation, and Saskatchewan Industry and Resources will utilize the vehicles for the next three years.

[Solar Heating for Swimming Pools](#)

On December 9, 2004, the Office of Energy Conservation announced that it was providing assistance to the Saskatchewan Urban Municipalities Association for an initiative to encourage the use of solar heating to reduce the natural gas consumption of outdoor swimming pools.

[Dark Sky](#)

The [Office of Energy Conservation](#) and [Saskatchewan Environment](#) are developing a lighting standard for Saskatchewan parks which will reduce light pollution in Saskatchewan parks by retrofitting the lighting to a more energy efficient standard.

[Government Building Retrofits](#)

Saskatchewan Property Management Corporation has completed a five year energy retrofit project involving 50 of the 70 Provincial Government buildings it manages. This first group of buildings are the major users of energy in Saskatchewan Property Management Corporation's portfolio of buildings. Over the next three years, Saskatchewan Property Management Corporation will be implementing energy upgrades on a significant number of the remaining buildings. It is Saskatchewan Property Management Corporation's goal to reduce energy use by 20 percent.

Research and Development of New Energy Technologies

[IEA Weyburn Carbon Dioxide Monitoring and Storage Project](#)

A project examining the viability of using carbon dioxide enhanced oil recovery techniques to permanently store carbon dioxide underground and simultaneously increase oil production. Phase 1 of the project, completed in June of 2004, confirmed that geological storage of carbon dioxide is both feasible and safe. Phase 2 will address research and demonstration opportunities identified in Phase 1.

[Apache Midale Unit – Carbon Dioxide Flood Project](#)

This is Saskatchewan's second commercial scale carbon dioxide miscible flood project for enhanced oil recovery (EOR) and underground carbon dioxide sequestration. Injection of carbon dioxide is expected to begin in 2005. Over the next 20 years this project is expected to recover 11- 12 percent of the original oil-in-place and permanently sequester 8.75 million tonnes of carbon dioxide.

[International Test Centre for Carbon Dioxide Capture](#)

A facility established at the University of Regina to develop technologies to capture carbon dioxide emissions, especially those produced by the energy sector. Phase 1 research related to baseline operating conditions and costs of carbon dioxide capture from flue gases. Phase 2 sponsorship is currently being solicited.

[Canadian Clean Power Coalition](#)

SaskPower leads the Canadian Clean Power Coalition, an association of coal producers, governments, and coal-powered electricity generators, which is undertaking a \$5 million, three-year study to examine the feasibility of new clean coal technologies.

[Natural Gas and Hydrogen in Vehicles](#)

The Saskatchewan Research Council (SRC) is working on reducing emissions by replacing conventional vehicular fuels with natural gas and hydrogen. SRC has been developing technology for fuelling vehicles with natural gas and has unveiled the world's first modified pickup truck fueled by a combination of hydrogen and diesel fuel. On January 31, 2005, Saskatchewan unveiled a truck fueled by a combination of hydrogen and gasoline.

Agricultural Soil and Forest Carbon Dioxide Sinks

[Forest Carbon Reserve](#)

SaskPower and the Provincial Government have entered into a carbon sequestration agreement. SaskPower provided \$6 million to enable the Provincial Government to expand silviculture activities, including the planting of approximately five million trees and the establishment of a Forest Carbon Reserve.

[Forest Carbon Uptake](#)

Saskatchewan Research Council, in collaboration with the Saskatchewan Forest Centre, is studying the potential to increase the carbon uptake of forest soils and plants.

[BIOCAP Canada Foundation](#)

Saskatchewan is providing support to the BIOCAP Canada Foundation, a national foundation advocating research to explore biological systems to reduce and sequester greenhouse gases and complement fossil energy sources to respond to climate change.

[Soil Conservation and Research](#)

Saskatchewan Agriculture, Food and Rural Revitalization (SAFRR) has ongoing programs to work with farmers, researchers, equipment innovators, and the Federal Government on soil conservation. These efforts have produced dramatic improvements in soil management practices in Saskatchewan. Over the last ten years, SAFRR has also directed approximately \$4.8 million in climate change research funding for 29 projects through the Agricultural Development Fund and the Technology Adaptation Fund. Further, in partnership with the Federal Government, the Agri-Food Innovation Fund has provided funding totaling over \$930,000 for 11 projects.

Adaptation to Impacts of Climate Change

[Prairie Adaptation Research Collaborative](#)

Supports research into the probable effects of climate change on the prairies and the development of effective adaptation strategies to prepare for and take advantage of the expected changes.

[Adaptation Research](#)

Saskatchewan Environment and other agencies and organizations have conducted climate change-related adaptation research in areas such as non-commercial food supplies, protected areas, biodiversity, and terrestrial ecosystems.

[CCME Climate Change Indicators Publication](#)

Saskatchewan Environment co-chaired the Canadian Council of Ministers of Environment publication, *Climate, Nature, People: Indicators of Canada's Changing Climate*.