

1. Set an ambitious conservation target, to acquire 50 per cent of BC Hydro's incremental resource needs through conservation by 2020.

Government has set a goal to reduce the growth in electricity demand so that, by 2020, 10,000 GWh of currently forecast needs will be met through demand reduction measures. This may include energy efficiency, conservation, and other demand side solutions like load displacement, fuel switching (e.g. solar hot water heating) and small distributed generation (e.g. net metering.) To put this goal in context, it represents about 20 per cent of the 52,000 GWh of electricity BC Hydro required in 2006 to meet the needs of British Columbians.

This conservation target will be accomplished through BC Hydro aggressively pursuing and then exceeding its existing target to meet one-third of its forecast increase in requirements through demand reduction. In addition, new government policies and programs will support BC Hydro and other electricity and natural gas utilities in further reducing demand growth. This may involve clarifying the criteria the British Columbia Utilities Commission uses in its oversight of utility rates and other utility efforts designed to promote conservation.

2. Ensure a coordinated approach to conservation and efficiency is actively pursued in British Columbia.

British Columbia's energy utilities, the Province, the federal government, the private sector, industry associations, non-profit organizations, local governments and First Nations are delivering a wide range of energy efficiency and conservation initiatives, including:

- **Community Action on Energy Efficiency**
<http://www.bcclimateexchange.ca/index.php?p=caee>
- **Energy Savings Plan**
<http://www.saveenergynow.ca/>
- **Built Green BC**
<http://www.chbabc.org/content.php?id=504>
- **BOMA Green Buildings Foundation**
<http://www.greenbuildingsfoundation.org/>
- **Canada Green Building Council**
<http://www.greenbuildingsfoundation.org/>
- **First Nation and Remote Community Clean Energy Program**
http://www.empr.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm
- **BC Hydro's Power Smart**
<http://www.bchydro.com/powersmart/>
- **Terasen Gas**
<http://www.terasengas.com/Promotions/Current+Promotions/RewardingRebates.htm>
- **FortisBC's PowerSense program**
http://www.fortisbc.com/energy_efficiency/energy_efficiency_programs.html

- **Green Buildings BC**
<http://www.greenbuildingsbc.com/>
- **Lighthouse Sustainable Building Centre**
http://www.sustainablebuildingcentre.com/new_ici_murb_construction_initiative
- **ecoEnergy Efficiency Initiative (Natural Resources Canada Office of Energy Efficiency)**
<http://www.ecoenergy.gc.ca/>

There is currently limited coordination of these numerous initiatives. If BC is to achieve its energy efficiency/clean energy goals, these programs and initiatives must work together in a coordinated and complementary manner. For example, some programs, such as targeting household space and water heating, may not be justified on the basis of either electricity savings or gas savings alone. However, a coordinated effort may be cost-effective.

The Ministry of Energy, Mines and Petroleum Resources will take the lead in working with key players to ensure that initiatives are coordinated, and that opportunities for joint initiatives are not missed.

3. Encourage utilities to pursue cost effective and competitive demand side management opportunities.

Energy efficiency is a critical piece of all BC utility resource plans. Through demand side management (DSM) actions, energy utilities play a vital role in promoting energy conservation with investments in energy efficient technologies and building designs along with capacity building measures with communities, trade allies, industry associations and consumer organizations.

Under the 2002 Energy Plan, the *Utilities Commission Act* was amended to ensure that utilities specifically considered demand reduction measures as a part of long term resource plans. Under this Energy Plan, utilities in BC are to pursue all cost-effective investments in demand side management. Cost-effective demand-side investments are those that are equal to or lower in cost than supply side resources. Utilities are also encouraged to develop a diversified portfolio of programs to ensure all ratepayers can benefit from these programs. In particular, program development should consider how to make DSM programs accessible to residential ratepayers across all income levels.

The Ministry of Energy, Mines and Petroleum Resources will monitor utilities' progress on energy efficiency and assess whether there are barriers to the implementation of reasonable and cost-effective programs. If required, the Ministry may consider and propose as needed regulatory measures. (e.g. directions to the Commission under the *Utilities Commission Act*) As well, the Ministry will assess whether additional measures are needed to ensure appropriate incentives are in place to encourage investor owned utilities to identify and pursue cost-effective DSM programs and to facilitate and promote better cooperation and coordination among energy utilities regulated by the BCUC.

4. Explore with B.C. utilities new rate structures that encourage energy efficiency and conservation.

A key demand side management tool is pricing structures to either discourage consumption overall, or shift demand to less costly periods. The 2002 Energy Plan directed BC Hydro to develop stepped rates for industrial customers to ensure rates reflected the marginal cost of new supply and to encourage energy efficiency. These stepped rates came into effect on April 1, 2006.

The BC Energy Plan, all utilities are encouraged to explore, develop and propose to the Commission additional innovative rate designs that encourage efficiency, conservation and the development of clean or renewable energy. These include stepped rates for other rate classes, interruptible/curtailable rates, critical period rates, clean electricity supply rates, tariffs focused on promoting energy efficient new construction and others. A part of this work should include consideration of the benefits of 'smart' or advanced metering technology, which offer potential for much greater consumption information and control being available to the consumer.

The Ministry of Energy, Mines and Petroleum Resources will monitor and assess progress on the development and implementation of price structures and advanced metering to encourage energy efficiency and conservation, and may propose additional regulatory measures (e.g. Special Directions) if required.

5. Implement Energy Efficiency Standards for Buildings by 2010.

Government will work with industry, local governments and other stakeholders to prepare and implement cost-effective energy efficiency standards for buildings. Provincial energy efficiency building standards are needed to achieve energy efficiency and conservation targets and to support the goal of self sufficiency, including commitments under BC Hydro's current Integrated Electricity Plan. Regulated standards for buildings are a central component of energy efficiency programs in leading jurisdictions throughout the world. Performance-based standards can effectively build upon the uptake of energy efficiency measures currently applied voluntarily by developers and supported by partnerships between government and industry associations.

The Ministry of Energy, Mines and Petroleum Resources will work closely with the Buildings Policy Branch of the provincial Office of Housing and Construction Standards to develop recommendations by the end of 2007 on specific energy efficiency standards for houses and buildings and the mechanisms for implementation. These may include incentives, voluntary targets and/or regulated requirements. With active participation of industry, utilities and other stakeholders, the goal is to introduce building standards no later than 2010, provided they are cost-effective to administer and implement.

6. Undertake a pilot project for energy performance labelling of homes and buildings in coordination with local and federal governments, First Nations, and industry associations.

Energy performance labelling supports increased energy efficiency by making the efficiency of buildings observable, in much the same way that the Energy Star and EnerGuide labels provide information for consumers on appliance energy use. Labelling also supports other policies and programs, such as energy-efficient mortgages, promotion of energy efficiency by realtors and property inspectors, and new utility incentives to promote energy efficiency upgrades of houses and buildings.

The Ministry of Energy, Mines and Petroleum Resources will work with utility, federal and local government and industry partners, to implement an expanded “Energy Savings Plan” pilot project that would evaluate the potential for widespread energy performance labelling of homes and buildings.

7. New provincial public sector buildings will be required to integrate environmental design to achieve the highest standards for greenhouse gas emission reductions, water conservation and other building performance results such as a certified standard.

Buildings have many environmental impacts, including energy demand, water consumption, waste water production, the embodied energy of building materials, solid waste production, and in some cases, disposal of toxic materials. Buildings have impacts beyond their physical boundaries - orientation and height can impact on neighboring buildings by shading key solar resources, occupants’ impact on transportation systems, and greenfield construction can impact on food production.

The Climate Action Team will define a number of “indicators of integrated environmental design” (e.g., greenhouse gas, energy, water, building materials and transportation footprint). The indicators will be calculated on a regular basis by conducting audits of all existing, publicly funded buildings of a minimum size, and for all new construction projects. These include provincial government, school district, health authority, BC Housing, crown corporation and local government buildings with funding from the Province.

After completing the audits, prior to 2010, the Climate Action Team will establish targets for new integrated environmental design standards that will apply to all buildings that receive new funds from the Province, supporting the goal of the government of B.C. being carbon neutral by 2010. Reporting will be completed annually, including audits of all new buildings and “recommissioning” on a regular basis (e.g., every five years). Industry driven certification systems will be considered as a means of evaluating environmental performance.

For energy use, a carbon neutral target may require an aggressive deployment of advanced building designs that includes, but is not limited to:

- maximization of advantageous passive solar energy gains and daylighting,
- incorporation of high-performance windows,
- maximization of heat recovery from exhaust ventilation air, grey water and cooling equipment,
- use of the highest efficiency heating and cooling equipment and passive ventilation systems, and
- integration of smart building controls that promote energy and water conservation.

In addition, any greenhouse gas emissions created from the use of purchased energy supplies could be offset through leadership on transportation systems connected with buildings - supporting low- or zero-carbon employee transportation choices and/or locating buildings near amenities and workplace destinations to minimize the need for work-related vehicle travel.

The Province is already a leader in North America on low carbon building designs. For example, the BC Cancer Research Agency uses 50 per cent less energy than the model energy code for buildings. Taylor Park Elementary School in Burnaby uses 41.5 per cent less energy and 50 per cent of the site is landscaped with native vegetation requiring little or no irrigation. The 48,600 square foot Nicola Valley Institute of Technology in Merritt uses 35 per cent less energy with an efficient envelope, solar control, thermal mass and natural ventilation. A comprehensive post occupancy evaluation was conducted after this building had been occupied, involving interviews with the building designers and operators, a site visit, analysis of energy and water consumption data, and a satisfaction survey.

8. Develop an Industrial Energy Efficiency Program for British Columbia to address specific challenges faced by British Columbia's industrial sector.

Government will establish an Industrial Energy Efficiency Program for British Columbia to address challenges and issues faced by the BC industrial sector and support the Canada wide industrial energy efficiency initiatives led by the Council of Energy Ministers. The program will encourage industry driven investments in energy efficient technologies and processes; reduce emissions and greenhouse gases; promote self generation of power; and reduce funding barriers that prohibit energy efficiency in the industrial sector. Some specific strategies include developing a results-based pilot program with industry to improve energy efficiency and reduce overall power consumption and promote the generation of renewable energy within the industrial sector.

9. Increase the participation of local governments in the Community Action on Energy Efficiency Program and expand the First Nations and Remote Community Clean Energy Program.

The Community Action on Energy Efficiency (CAEE) program provides financial and research support to BC local governments to advance the energy conservation and efficiency through local government policies and public outreach.

In 2007, a total of 29 communities in all regions of the province are participating. Each community has signed on to one or more of the Provincial targets for new and existing (public and private sector) buildings outlined in “Energy Efficiency Buildings: A Plan for BC”, including residential, commercial, institutional and industrial buildings.

Phase 1 of CAEE was a jointly managed pilot project with Natural Resources Canada in 2004 and 2005 that engaged two local governments and a remote community. Support was provided towards human resources to advance energy efficiency objectives, including “one-stop-shop” information services.

Under Phase 2 of CAEE (early 2006) 15 communities were provided with \$10,000 to implement energy efficiency policies. The Fraser Basin Council has provided policy research support to local governments that want to pioneer innovative energy efficiency initiatives through land use planning, development controls and educational/voluntary measures. In addition, Phase 2 of CAEE also provides funding for the “Energy Savings Plan”, an education, labelling and incentive initiative that targets consumers and industry with the support of participating local governments.

Under Phase 3 of CAEE, announced on October 25, 2006, a total of \$450,500 was directed to support new energy efficiency and community energy planning projects in sixteen communities throughout British Columbia. Each community will develop an energy efficiency program unique to its own needs and policies. These programs could address a range of leadership, voluntary and policy measures such as:

- Establishing energy commitments in the official community plan,
- Completing integrated energy, air quality and greenhouse gas action plans,
- Considering energy efficiency guidelines for building developers,
- Providing information to community residents, and
- Introducing green building policies.

The Province is also providing technical support to a number of CAEE communities through the “Green Buildings BC” initiative.

The First Nation and Remote Community Clean Energy Program was announced by MEMPR on November 23, 2006 in the northern community of Atlin, near the Yukon border. The program included pilot projects with ten communities to implement alternative and renewable energy supplies and energy efficiency measures. These include hydropower, wind, solar photovoltaics, energy efficiency and conservation measures.

Many remote communities rely on expensive diesel electricity supplies. In partnership with BC Hydro's Remote Community Electrification program, efforts have been made to improve the reliability and affordability of electricity systems, while maximizing energy conservation, efficiency and clean electricity supply options. The federal government contributed \$3.863 million to support the program, along with significant financial support from communities and development partners.

The BC Energy Plan includes an expansion to additional local governments and remote and First Nation communities, with an aim to have 50 local governments and additional First Nations and remote communities in BC participating in CAEE by 2010, and 50 per cent of local governments and remote communities by 2016 (about 90 local governments and 30 remote communities).

The following communities are participating in CAEE and the First Nation and Remote Community Clean Energy Program:

City of Abbotsford	Klemtu - Kitasoo-Xaixais First Nation
Atlin - Taku River Tlingit First Nation	Kyuquot/Checklesah First Nation
Municipality of Bowen Island	City of Merritt
City of Burnaby	Regional District of Nanaimo
City of Campbell River	City of New Westminster
Regional District of Central Kootenay	City of North Vancouver
Capital Regional District	Town of Oliver
District of Central Saanich	City of Port Moody
City of Dawson Creek	City of Quesnel
Douglas First Nation	District of Saanich
City of Fort St John	Salt Spring Island Trust
Hartley Bay - Gitga'at First Nation	Town of Smithers
District of Houston	District of Squamish
Hupacasath First Nation	City of Surrey
City of Kamloops	Treaty 8 Tribal Association
Village of Kaslo	City of Vancouver
City of Kelowna	District of Vanderhoof
Kitimaat Village - Haisla First Nation	City of Victoria