

# CLIMATE SOLUTIONS PORTFOLIO

## #11: 100,000 Solar Roofs

### Proposed Measure

The technical potential for solar energy in BC is high: BC has more solar radiation than Germany and Austria, two of the world's leaders. The government should plan to achieve 7,000 rooftop solar installations by the 2010 Olympics, and 100,000 solar roofs by 2020. This would transform the market, so that government intervention would no longer be needed. The long-term goal should be 1.5 million solar roofs in BC, providing 10,000 GWh/y of PV energy and 4,000 GWh/y equivalent savings from solar heated water. A Task Team sponsored by the Ministers of Environment and EMPR is presently working on a Strategy and Action Plan for 100,000 Solar Roofs in BC, with suggested targets of 10,000 solar roofs by 2012 and 100,000 roofs by 2020.

A two-stream action program is recommended, focusing on (1) solar hot water acceleration and (2) photovoltaic acceleration, based on declining incentives, regulations and a strong public education initiative. Incentives could include rebates toward the system cost and/or a feed-in tariff, both declining with time as the market develops and solar prices fall. There could be higher subsidies for remote locations, first nations communities and low-income housing. The cost to the taxpayer/ratepayer would be approximately \$30 - \$325M<sup>1</sup> over 13 years (up to \$250M for photovoltaic and \$30M - \$75M for solar hot water).

Phased in regulations would include: (1) Solar regulations in the BC Green Building Code requiring the installation of solar energy systems on new construction and large retrofits through a phased approach beginning in 2010; (2) The requirement for solar installation when a property is sold; (3) Municipal by-laws requiring solar for new construction; and/or utility hook-up requirements for new construction to include solar installations.

### Benefits

- Solar energy could contribute significantly to meeting BC's energy needs, through photovoltaic generation and reduction in the need to heat water. Distributed solar energy reduces the need for transmission infrastructure and electricity imports.
- BC is home to leading Canadian solar companies. A strong provincial market will support their success, including exports. The industry could generate 4,000 jobs and direct economic benefits of \$2 billion<sup>2</sup> by 2020.
- Solar energy could reduce diesel and gasoline generator use in remote communities and natural gas use across the province, reducing greenhouse gas emissions and improving air quality.
- Solar energy could contribute to the Energy Plan goals: that all new and existing electricity production in BC have net zero GHG emissions by 2016; that 50% of new demand should be met through conservation (via solar hot water load displacement); and that 90% of BC electricity should be clean and green by 2016.
- Solar energy could help make government buildings carbon neutral by 2010.
- Solar energy contributes diversity to the electricity grid, complementing energies with different load shapes.

### Execution

**MEMPR:** Develop a detailed implementation plan, based on the 100,000 Solar Roofs Strategy and Action Plan.

**Building and Safety Policy Branch:** Include mandatory solar-ready construction in the first phase of the Green Building Code, and further solar obligations in later versions of the code.

**Cabinet:** Commit to a 100,000 Solar Roofs Program, to long-term funding (until 2020) and to regulations to implement the program.

*#11 in a Series July 2007 Written and researched by Nitya Harris*

<sup>1</sup> Detailed cost models have not yet been developed and will be part of a detailed technical paper being prepared by the Task Team.

<sup>2</sup> Based on Industry Estimates