

Dave Neads- Built my first Solar array in 1986.

A founding director of GabEnergy, a non profit society, we have installed 70 systems to date, from 50kW arrays to 5kW. We are solar professionals, designing , selling and installing.

Site C demand Demand

Electric car 15,000 kms ~ 2,250 kW per year

16 Solar Panels ~ 4,500 kW per year

Demand goes down , locally, nationally globally.

Disruptive technologies Lithium example

Accelerating this lessening of demand. So, instead of 1,100 MW start with 500. Over the next 8 years.

Installed cost \$2.90 (fair rates) per watt translates into 1.5 BN or 720 M per year over 8 years.

Here's the idea. Gov't provides 50% of the cost of a new solar system. Like my 16 modules for example.

Array owners pay the other 50%. Everybody wins.

Generation is increased by 500 MW, at a cost to gov't of 750 M over 8 years. That same 500 MW from Site "C" will cost 4.5 BN. You do the math....

Distributed generation, no new power lines.

Storage matchsummer vs winter

Build out as required, flexible

Economic boost, 30 person/years for 2 MW install. ~ 8,000 ##

Green technology boost for B.C. put B.C " On the Map"

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WORKFORCE CHALLENGES AND OPPORTUNITIES IN THE SOLAR PHOTOVOLTAIC INDUSTRY IN TORONTO

**Economic Development & Culture and Toronto Environment Office,
City of Toronto --Sheyda Saneinejad**



GLOBAL SOLAR COUNCIL POLICY

Introduction

The Global Solar Council (GSC) represents more than 40 national and regional solar associations from both established and emerging markets and 2,000 companies across the solar supply chain. The GSC's vision is to ensure that solar energy becomes the leading contributor to the world's energy system with 100% renewable energy in the power sector. Its mission is to encourage the rapid and wide-scale adoption of solar energy through cooperation, education and training. Solar PV and other solar technologies have the potential to protect the climate, secure energy supply and create wealth, jobs and other economic opportunities.

The International Renewable Energy Agency's recent report Renewable Energy and Jobs – Annual Review 2016, identifies solar PV as the largest renewable energy employer with around 3 million jobs worldwide, an 11% increase over 2014. In recognition of solar PV's immense potential for job creation, the GSC has set a target of 10 million solar jobs by 2030, which will result in trillions of dollars in long-term, stable investments and multiple terawatts of PV generation. To achieve this goal, the GSC will promote the following policy positions and recommendations for action and implementation.

Recognize that solar PV is a low-cost, reliable and clean source of energy

Over the term of its expected useful life, solar PV is a low-cost investment, particularly in relation to current primary sources of energy generation using fossil fuels or nuclear power. It is a proven technology which can be scaled quickly. Solar PV is also linked with a broad value chain, creating local jobs and local income. It is environmentally sustainable and opens new economic perspectives, thus enabling independence from fossil fuels. Solar PV is one of the best tools available to fight climate change and replace carbon-based energy sources—it should become a principal source of electricity generation around the world.

The COP21 outcomes in December 2015 were a clear success. Recognizing the importance of solar PV to achieving the Paris targets, it will be essential that national governments develop ambitious and binding policies which accelerate the adoption of solar PV, including innovative solar PV funding policies and mechanisms. Those policies and mechanisms are needed as long as energy markets are distorted by fossil subsidies, do not incorporate CO₂ emission prices and inappropriate market designs for distributed renewable energy.

The regulation of local energy markets must not block a self-sustained technology offtake, e.g., in areas where Independent Power Producers (IPPs) have limited market access or in markets where self-consumption or the use of storage is restricted. Policy makers should take active decisions against such restrictions and establish a level-playing field through measures such as fixed kWh-based remuneration,

6. Transform the national and trans-national electricity networks to encourage a diversified mix renewable generation technologies such as solar PV.
7. Using the strength of government financing instruments and capacity to mitigating risk, and to lower the cost of capital and scalability of renewable energy investments
8. Empower local financial and other institutions such as local government or community bodies to become participants in renewable energy investments.
9. Create facilities dedicated to scaling up renewable energy investment.
10. Support the GSC in providing education and information to finance, insurance, regulatory and certification bodies in order to improve the bankability of solar PV.
11. Establish public-private partnerships to help build stakeholder capacities in the solar and energy storage sectors.
12. Set an adequate price on carbon and promote regulated carbon markets to ensure we account for the full external costs of pollution.
13. Develop clear and acceptable exit strategies and concrete milestones for the transition from fossil fuel based energy by the transformation of the electricity and other energy sectors to a renewable energy based system
14. Recognize the added system value of solar PV such as auxiliary services, i.e., create a progressive framework for harvesting those benefits and promote the development of innovative technologies that help stabilize grids, systems and markets
15. Develop next-generation transmission, distribution and mini grids designed fully around deployment of distributed renewable energy.