



Solar Photovoltaics R&D, Manufacturing and Systems Integration





Executive Summary

- The Clean Development Group (CDG) Inc. and BramKal Inc. have joined forces to form Solar Science Inc. (SSI)
- SSI is expanding from overseas module OEM and mounting and tracking systems in Burlington, Canada to manufacture solar photovoltaic modules, mounting and tracking systems and auxiliary equipment using state-of-the-art semi-automatic equipment, in a new plant located in Prince Edward County, Ontario, Canada.
- SSI's global technical knowledge and training, experience, market relationships, international supply chain and business experience foster clean energy for the world.





Company History

- CDG Inc. started as an international development group specializing in the design and installation of renewable energy systems for infrastructure projects on behalf of international organizations, developing economies and government.
- For the past number of years the company has been doing OEM manufacturing overseas and researching as it also expands into the Canadian market as a photovoltaic module designer, manufacturer and systems integrator for commercial, industrial and residential usage and fosters Canada's national and global presence in the much needed and rapidly expanding photovoltaics (PV) sector.

Company History

- BramKal is a multi-trade industrial contracting group that has been serving manufacturing and heavy industries with:
 - Process Piping, Fabrication & Installation
 - Electrical
 - Structural and Miscellaneous Steel Fabrication & Installation
 - Millwrighting & Rigging
 - Sheet Metal
 - Plant Relocation & Maintenance
 - Manufacturing Machinery Design, Fabrication & Installation
- 45+ Years of Experience

Management Summary

- The CEO of Solar Science Canada Inc. is Scott Phipps.
- Work History

•	2007 - present	CEO, Clean Development Group Inc.

2006 - 2007 International Relations Manager, Clean Computing Initiative

- VIA Technologies Inc.

• 1998 - 2005 Various positions as professor, advisor, executive, and consultant to

Federal Members of Parliament, government agencies such as CIDA and CCRA and NGO's and IO's for Sustainable Development Research

and Strategies.

• 1994 – 1997 Various assignments including political/economic research in Cuba,

and tracking of the 1997 federal election for CTV National Television.

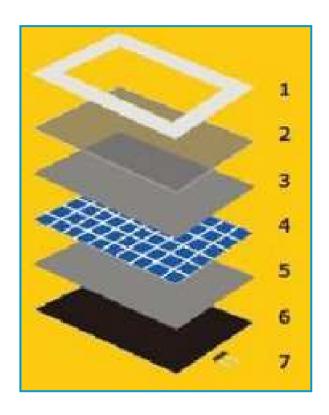
Education

- Honours in International Politics, Concordia University, Montreal, Quebec.
- Certificate in Environmental Economics and Development, University of Sao Paulo, Brazil.
- MSc in Communications and International Development, London School of Economics, London, England.

Board Members

- Cecil Kalyn Equal Partner and Shareholder
 - CEO of BramKal Construction Inc., with 45+ years experience as an industrial contractor in both Canada and abroad.
- Etienne Lalonde Corporate Accountant (CMA)
 - Both corporate and public sector experience specializing in corporate accountancy and patents.
- Morris Bell Head of Sales, BA
 - Both corporate and public sector experience specializing in the commercial supply industry with 25 years of experience.
- Michael Tripp Legal Council
 - Specializing in business law

Solar Module Design



- Anodized Alum. Frame
- Tempered Glass
- EVA
- Solar Cell
- EVA
- Back Sheet
- J-Box

Solar Production Line

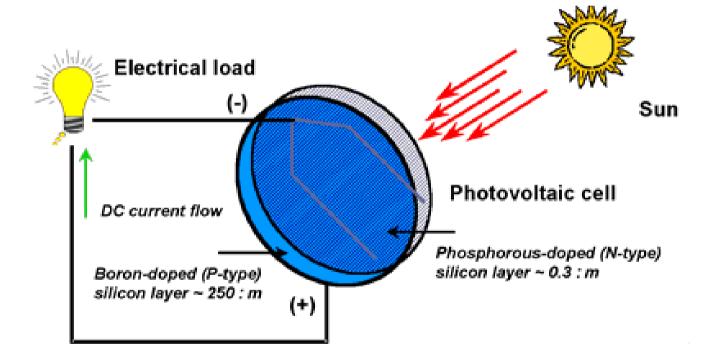


Semi-automated PV Production Line

Solar module manufacturing is emissions free, as is the decommissioning of solar systems

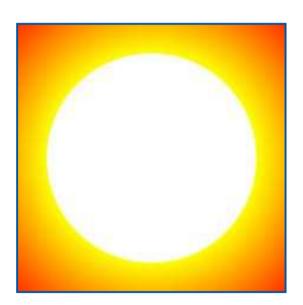


Solar Photovoltaic Cell



Solar Power

- The sun provides enough energy every 45 minutes to power everything on earth for an entire year including the transportation sector.
- It just needs to be appropriately harvested.



Market Segments

Internationally

- Solar energy is a mature, reliable and clean energy source replacing limited dangerous, unstable and polluting traditional resources such as coal, oil, gas, nuclear and grand-scale hydro.
- Solar energy systems help to influence the decentralization of power generation that is fed into the grid, reducing distribution vulnerabilities, line loss, and fostering clean urban usage.







Energy Comparison

Oil

- Poisons air
- Poisons water
- Poisons soil
- Has unstable pricing
- Is controlled centrally creating unfair advantages and logistical issues
- Historically known for being a cause of manufactured wars/violence
- Is a finite resource

Solar

- Clean
- Infinite resource
- Provides energy independence
- Stable prices that are always decreasing
- Is emissions free to manufacture
- Provides energy where it is needed when it is needed (stand-alone versus grid-tied)

CDG projects have been largely global and PV focused in nature



BramKal projects are also global with a wide range of expertise



- SSI is expanding design size and installation capacity to projects meeting and exceeding the 10MW range.
- SSI has extensive experience in feasibility studies for the professional preparation of large-scale projects, having done work at the national, international and municipal level for sustainable development (e.g. one of the SSI partners just completed a 244 page government report feasibility study for the Integration of Clean Energy Systems at the municipal level).
- SSI is Canadian, with Canadian expertise, Canadian and international experience and built relationships throughout North America, South America, Asia, Europe, the Middle East and Africa.

- The Clean Development Group (CDG) began its initial commercial and public projects in 2007. The focus began in the private sector working with teams of photovoltaic engineers and designers making refinements to module technology and assembly (e.g. cells, glass, multi-junction diode boxes, framing, ethylene vinyl acetate encapsulation and Tedlar backsheeting and alternate materials).
- CDG then began project designs and installations in urban centres on commercial buildings by mid-2007.
- By August 2007 CDG was designing rural roof and ground-mounted projects.

Pragmatic Steps

- Governments need to institute long-term Feed-in Tariff (FIT) subsidy programs and Power Purchase Agreements (PPA's), ideally at the federal level, to kick start clean technologies and give them a solid foundation. (this can be initiated at the provincial/state levels)
 - This sets standards and practices
 - This fosters a viable infrastructure
 - This familiarizes the general public with clean technologies
- Individuals need to support and utilize clean technologies when they are available and demand them when they are not.
 - This supports efforts to promote clean technologies by governments and influences governments to be progressive when they don't.
 - Individuals need to be open to new ways of energy production that will enable life as we know it to have a future.

Power Purchase Agreements

The Wikipedia definition:

Power Purchase Agreement is a contract between two parties, one who generates electricity for the purpose of sale (the seller) and one who is looking to purchase electricity (the buyer). The PPA defines all of the commercial terms for the sale of electricity between the two parties, including when the project will begin commercial operation, schedule for delivery of electricity, penalties for under delivery, payment terms, and termination. A PPA is the principal agreement that defines the revenue and credit quality of a generating project and is thus a key instrument of project finance. There are many forms of PPA in use today and they vary according to the needs of buyer, seller, and financing counterparties.

Reality

- Facing the facts is key:
 - Oil, nuclear and natural gas companies produce finite, polluting energy with considerable political, economic, environmental and health issues attached to them.
 - Oil, nuclear and natural gas companies also do not wish to be replaced by better, infinite forms of energy, and therefore, to keep their energy monopolies do things that most individuals would not consider necessarily fair or moral.
 - Cleaner, healthier, infinite, more stable, more cost effective energy technologies now exist that can provide our world a future. Clean energy technologies provide energy independence to individuals, communities, companies and can also provide such independence to entire nations. We just need to start utilizing them on a grand scale.
 - Solar, combined with other clean energy technologies, provide mature, logical, decentralized power that can make emergency telecommunications available to all parts of the world, whether very remote or within urban centres where traditional energy systems have failed.
 - Clean energy technologies provide energy where it's needed, when it's needed.



Complete



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