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<b>Document Type</b>
Green Building Rating Compatibility Analysis

<b>Document Code</b>
ES-GSNZ-13-23a


Validity		
	Office 2009 + V3 / Interiors 2009 + V3 / Education 2009 + V3 + V3.1 / Industrial 2009 + V3	✓
	Homestar V2 + V3+V4	✓
	V 1.1	Not applicable
	V3.0	✓
	NABERSNZ	✓
	Passivhaus	Not yet assessed
	Net Zero NZ	✓

<b>Client</b>
Solar Group Ltd

<b>Product Name</b>
Canadian Solar PV Panels

**Product Description**

Solar photovoltaic panels are used in solar energy systems as the key electricity generating components. Canadian Solar provides the solar industry with the widest PV product lines from 5W to 310W, also offers customized PV products and OEM service around the world.



Manner in which the product may contribute towards points	Legend of Symbols in EnviroSpec
Products must meet specific criteria (e.g. Paint VOC emissions, carpets, etc)	✓
Products may help achieve points by their very nature, if they are specified and installed (e.g. bicycle racks)	•
Products may help achieve an outcome but they must be used in a specific manner (e.g. lighting control and zoning systems) OR This product can contribute towards the outcome but many other products or factor influence that same outcome (E.g. Potable Water Calculator)	○

**Disclaimer - Please read this carefully**

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Tool	Credit category	Points available	Requirements	Contribution symbol	Contribution Potential	Details of compliance
Green Star NZ Office (2009 + V3)	ENE-2	20	This credit rewards buildings with lower CO2 emissions, as calculated by the Green Star NZ GHG Emissions Calculator.	○	Up to 20 points (Contribution towards CO2 reduction)	The performance of this product is project dependent. Details must be discussed with the engineer and GSAP to ensure correct calculations.
Education (2009, V3 + V3.1) + Industrial (2009 + V3)	ENE-2	10	This credit rewards buildings with lower CO2 emissions, as calculated by the Green Star NZ GHG Emissions Calculator.	○	Up to 10 points (Contribution towards CO2 reduction)	The performance of this product is project dependent. Details must be discussed with the engineer and GSAP to ensure correct calculations.
Homestar (V2 + V3)	EHC-5	8	This credit rewards the installation and operation of local renewable electricity generation system to reduce carbon dioxide emission.	○	Up to 8 points (Contribution factor)	If appropriately sized, with correct orientation, then the use of the solar panels can assist towards gaining up to full points in this category
Homestar V4	EHC-8	7	This credit rewards the installation and operation of local renewable electricity generation system to reduce carbon dioxide emission.	○	Up to 7 points (Contribution factor)	If appropriately sized, with correct orientation, then the use of the solar panels can assist towards gaining up to full points in this category
NABERS NZ	Section 6.3	-	Where energy is generated for use in the rated premises to be rated and is either: <ul style="list-style-type: none"> <li>connected on the user side of the consumption meter which records the relevant external energy supply to the premises, or</li> <li>used on site independently of utility-supplied systems, then it will reduce the amount of utility-supplied energy required and will therefore help improve the NABERSNZ potential rating.</li> </ul>	○	Contribution factor	The value contribution is a factor of system sizing relative to overall building energy demand. No adjustment is required. In effect this means that energy utility billing data must be used without modification.
Living Building Challenge 3.0	Imperative I.06	Pass/Fail	One hundred and five percent of the project's energy needs must be supplied by on-site renewable energy on a net annual basis, without the use of on-site combustion. Projects must demonstrate that sufficient back-up battery power be installed for emergency lighting (at least 10 percent of lighting load) and refrigeration use for up to one week for greater resiliency.	✓	Pass (if appropriately sized)	If the system is demonstrated as providing more than 105% of the total project Energy Use Intensity + >10% backup energy storage, when calculated in accordance with the I.06-4 Energy Table (based on 12 months of energy bills), then the project can qualify for this Imperative.
Net Zero Energy Building Certification	Imperative I.06	Pass/Fail	One hundred percent of the project's energy needs must be supplied by on-site renewable energy on a net annual basis, without the use of on-site combustion.	✓	Pass (if appropriately sized)	If the system is demonstrated as providing 100% of the Total Energy Demand, when calculated in accordance with the Energy Production and Demand Table (based on 12 months of energy bills), then the project can qualify for the Energy Petal.