## **SUSTAINABILITY REPORT 2015** MAKING THE DIFFERENCE

St CanadianSolar

Imprint: "Sustainability Report 2015" Canadian Solar Inc., 545 Speedvale Avenue West Guelph, Ontario, Canada N1K 1E6 www.canadiansolar.com, support@canadiansolar.com



### **COMMITTED TO SUSTAINABILITY**

Dr. Shawn Qu, Chairman and CEO, Canadian Solar

Promoting sustainable development around the world is the mission of Canadian Solar as well as my personal quest. We not only want to be a socially responsible company, but also want our suppliers along the PV value chain to practice and promote sustainable development.

Being one of the major PV industry players in the world with accumulative solar panel delivery exceeding 15 GW, we have taken corporate responsibility to the heart of our daily business operations to strengthen environmental sustainability, human resource and community development. This report is a testimony of that commitment.

In 2015, we increased our annual module production capacity to over 5 GW, with production facilities located in Canada, China and Vietnam. Our cell production capacity reached 2.7 GW and our in-house wafer capacity reached 400 MW.

Our proprietary nano black silicon cell technology reached an efficiency of 18.8%, paving the way for large scale commercial production in 2016. Also our diamond wire sawed wafers achieved significant improvements in cost and cell efficiency, reducing the energy consumption per watt. These two technologies are the most important innovations of the solar industry beyond 2015.

Our new Dymond modules in 2015 showcased our commitment to build more efficient and durable products with a reduced carbon footprint on per watt base.

Our commitment to sustainability reaches beyond our production and business processes. This is evident in our investments towards our own solar plants, and the subsequent increase of our own solar energy production by over 1,000 % in 2015.

At the same time, we work together with our suppliers to find ways to reduce their carbon footprint, help them adopt clean energy and improve their product quality.

To foster the growth of our enterprise and personal development, we provide comprehensive staff training. In 2015, more than 6,300 staff members were enrolled in different training programs, and we plan to provide more staff training as our business grows.

Canadian Solar is a global company with business operations in over 20 countries and regions. We are a part of the communities in which we operate, and we encourage our local staff to be actively involved in these communities. In 2015, we supported children's homes, residential care and youth centers, charities, refugee camps, art exhibitions, music festivals and sports as part of our community outreach program.

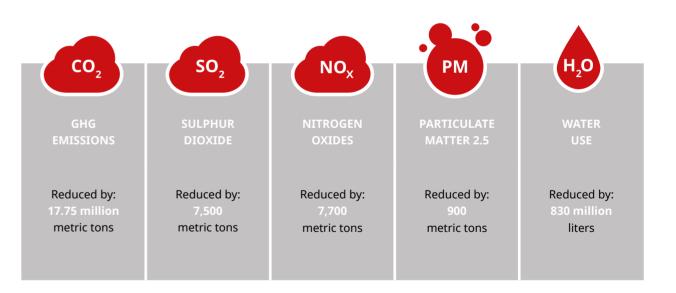
My appreciation goes to our customers, suppliers, partners and our employees for contributing to the success of our organization in 2015. I look forward to your continued support in our efforts to build a cleaner environment and more sustainable communities.

Together we can make the difference.

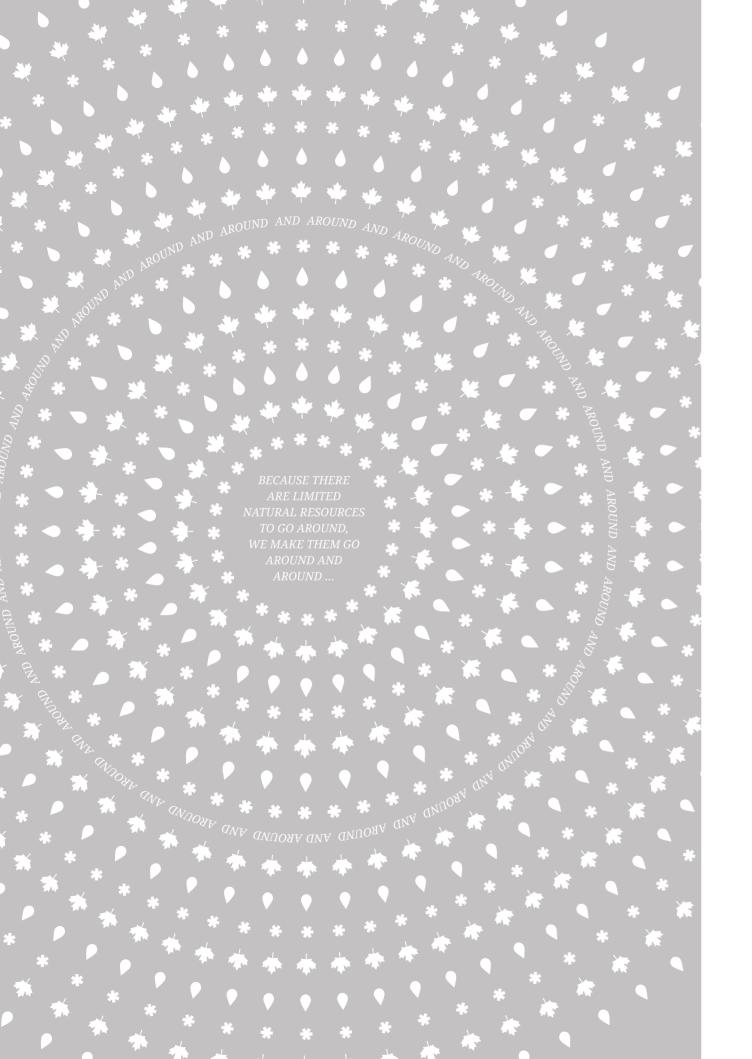
Sincerely yours, Dr. Shawn Qu

## **KEY SUSTAINABILITY FACTS THAT MAKE THE DIFFERENCE**

**GLOBAL BENEFITS OF 15 GW** The 15 GW of PV panels Canadian Solar has shipped around the world to date have the following estimated positive environmental and health benefits every year\*:



\* These numbers are based on a similar study by the US Department of Energy, which can be viewed at www.nrel.gov/docs/fy16osti/65628.pdf



## **01** ECONOMIC **HIGHLIGHTS**



### **51.6% INCREASE IN MODULE SALES**

Total GW of modules sold increased from 3.1 GW in 2014 to 4.7 GW in 2015, an increase of 51.6%

#### > How it makes the difference:

- · Equivalent to CO<sub>2</sub> sequestration of more than 75 million tree seedlings grown for 10 years
- · Delivers the energy needed for approximately 1.5 million households worldwide

## \$3.5 BILLION **TOTAL REVENUE**

Increased net revenues by \$507 million in 2015, from \$2.96 billion in 2014 to \$3.47 billion in 2015

> How it makes the difference:

Strengthens our platform for sustainable growth

### **TOP-3 MARKET** LEADER

We achieved top-3 market shares in Japan, India, Canada, USA. Central America and other territories in 2015 with our solar module sales

#### > How it makes the difference:

It enabled us to promote solar energy development in these countries

## **02 ENVIRONMENTAL** HIGHLIGHTS



## 1,000% MORE **SOLAR ENERGY**

· Energy generation from own PV plants in the UK, Canada, Japan, Spain and the USA increased by 1,019.8% to be exact.

· Additionally, the proportion of solar energy used at our manufacturing sites relative to our total energy consumption grew from 2.1% in 2013 (4,263 MWh) to 33.4% in 2015 (94,830 MWh)

> How it makes the difference: Offsets 1,000% more CO<sub>2</sub> emissions

## **23% LESS WATER**

Water use per MW of modules produced decreased from 1,137.7 to 872.2 m<sup>3</sup> since 2014, an 23% increase in efficiency

> How it makes the difference:

Reduces the environmental impact of every module sold

## 35% LESS WASTE-WATER

Wastewater discharge per MW of modules produced dropped from 882.33 to 650.66 m<sup>3</sup> since 2014 > How it makes the difference: Reduces the environmental impact of every module sold

## **42% LESS CO**<sub>2</sub>

42% less CO<sub>2</sub> needed to produce each Canadian Solar module compared to 2012, as confirmed by TÜV SÜD > How it makes the difference:

In addition to improved efficiency, every MW of modules produced offsets many times the CO<sub>2</sub> that would be produced if the same energy were to be produced from non-renewable sources

## **03 SOCIAL HIGHLIGHTS**



### **#1EMPLOYER**

· Canadian Solar was named Canada's Most Attractive Employer in the sixth annual Randstad Awards 2016 · Ranked #1 for corporate social responsibility in Randstad Awards 2015

> How it makes the difference:

Enables us to attract and retain the best employees

### 6,300 TRAININGS

More than 6,300 staff members were trained in 2015, more than 70% of all employees

> How it makes the difference: More training leads to better quality and happier

customers

### **0% CONFLICT**

0% purchase of conflict minerals and 0% use of child or forced labor

> How it makes the difference:

All our stakeholders can enjoy working for a cleaner environment with a clean conscience



The following sustainability report has been prepared according to the Global Reporting Initiative<sup>™</sup> (GRI) G4 CORE option, the global standard for sustainability reports. The GRI G4 standard is widely accepted as the benchmark of sustainability reporting.

Comple

Usefulness

<sub>lance</sub> Committee

#### ASSURANCE

Our policy is to seek external assurance for all aspects of the report for future editions and to include assurances in this report for those sections where they do exist. These come largely from our audited 2015 Annual Report, which has been regularly and clearly referenced throughout this document. Our auditors, Deloitte, assured the annual report.

G4 - 33, G4 - 29 / 23 / 30



#### DATE OF MOST RECENT PREVIOUS REPORT September 23, 2015. This is the second year we have presented a sustainability report in the GRI G4 Core format and the scope and aspect boundaries remain the same as for the 2014 report.

Our sustainability reporting cycle is annual, with the year-end on December 31.

## MAKE THE DIFFERENCE



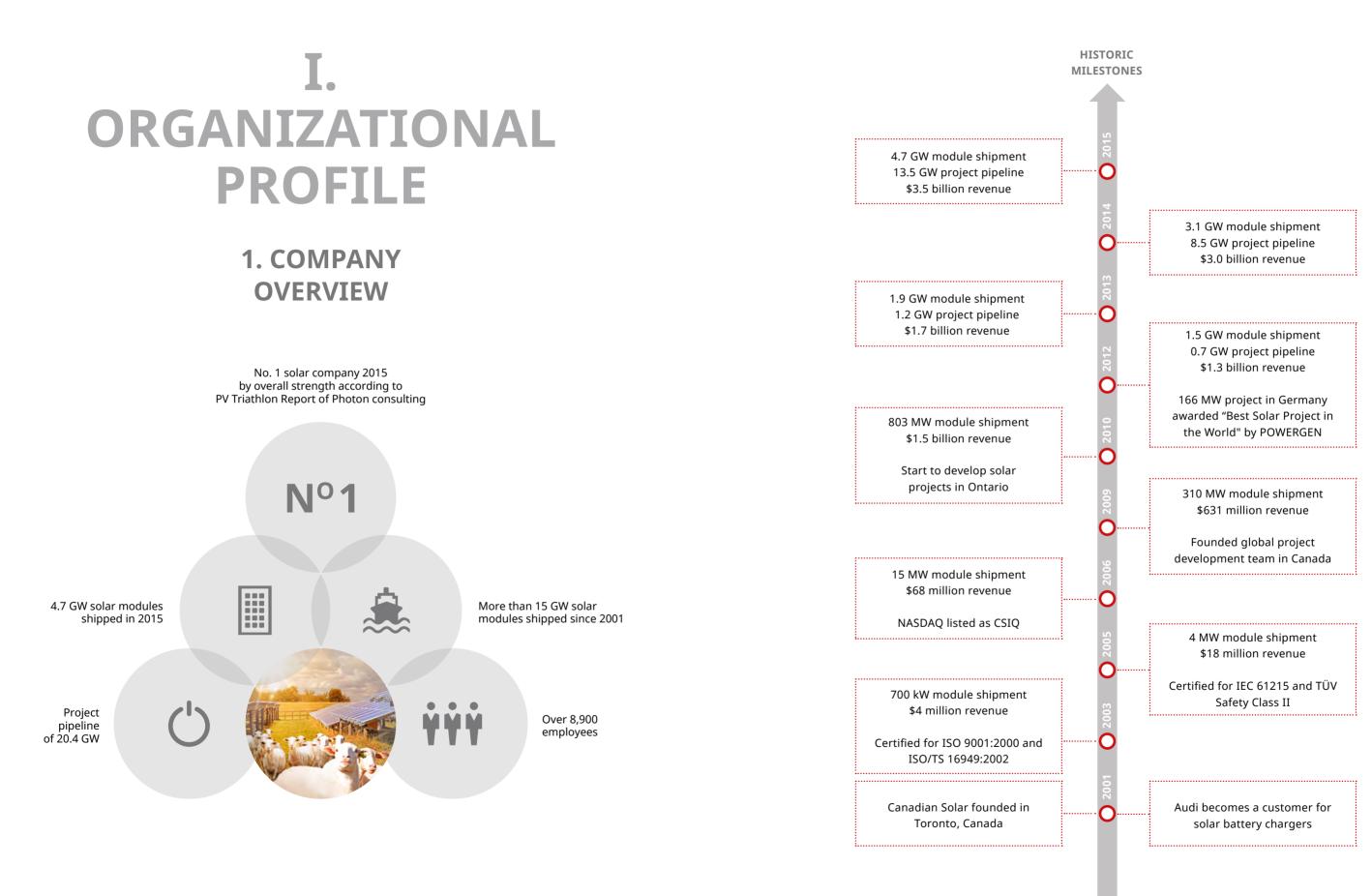
## CONTENT

- I. ORGANIZATIONAL PROFILE
- **BOUNDARIES**
- **III. STAKEHOLDER ENGAGEMENT**
- IV. GOVERNANCE
- V. ETHICS AND INTEGRITY
- - **A. ECONOMIC ASPECTS**

  - **C. SOCIAL ASPECTS**
- VII. APPENDIX **GRI G4 CONTENT INDEX ABBREVIATIONS**

## II. IDENTIFIED MATERIAL ASPECTS &

VI. SPECIFIC STANDARD DISCLOSURES **B. ENVIRONMENTAL ASPECTS** 



## **2015 REVENUE \$ 3.5 BILLION 2015 SHIPMENTS 4.7 GW** 2016 SHIPMENT GUIDANCE 5.1 - 5.2 GW

#### **CANADIAN SOLAR DEFINED**

#### Founded in 2001 in Canada, Canadian Solar is one of the world's largest and foremost solar power companies.

As a leading manufacturer of solar photovoltaic modules and provider of solar energy solutions, Canadian Solar also has a geographically diversified pipeline of utility-scale power projects in various stages of development. In the past 15 years, Canadian Solar has successfully delivered over 15 GW of premium quality modules to over 90 countries around the world. Furthermore, Canadian Solar is one of the most bankable companies in the solar industry, having been publicly listed on NASDAQ since 2006.

The company's two main lines of business are: (i) the manufacturing and sale of solar PV modules (69.1% of Canadian Solar's total net revenues in 2015); (ii) the development, construction and sale of solar PV projects, working with both build-to-sell and build to-hold business models.

Currently the main manufacturing activities of the company are in Canada and China, with new facilities to go online in Indonesia, Brazil, Thailand and Vietnam. All modules manufactured in 2015 have a total capacity of 4,300 MWp when operational in peak conditions (accumulated peak capacity). The manufacturing plants located in Suzhou (Jiangsu Province) and a newly established facility in Funing, China produce cells with 2,700 MWp peak capacity. The ingots/wafers manufacturing plant located in Luoyang annually produces wafers with 400 MWp peak capacity.

In order to meet the expected strong growth in global demand for solar modules the company is increasing its manufacturing capacity with plans to expand its wafer, cell and module capacities to 1.0 GWp, 3.9 GWp and 5.73 GWp respectively by December 31, 2016. The company's wafer manufacturing capacity at its Luoyang plant is expected to reach 1.0 GWp by 2016.

The company's planned module manufacturing capacity by the end of 2016 includes 3.0 GW in Changshu and 1.0 GW in Luoyang, while approximately 1.53 GW will be at existing and new locations outside China, including Canada, Vietnam, Indonesia, Brazil and other emerging markets.

Canadian Solar has also built a significant track record as a project company and has diversified into other markets by building and connecting more than 1.74 GWp of projects (including projects developed and connected by its wholly owned subsidiary, Recurrent Energy, a solar energy developer in North America) either as an engineering, procurement and construction ("EPC") contractor, or project developer. As of 2015 the company had secured a late stage pipeline of 2.5 GWp of projects located in Japan, China, Canada, Brazil, United States and the United Kingdom.



G4 - 6

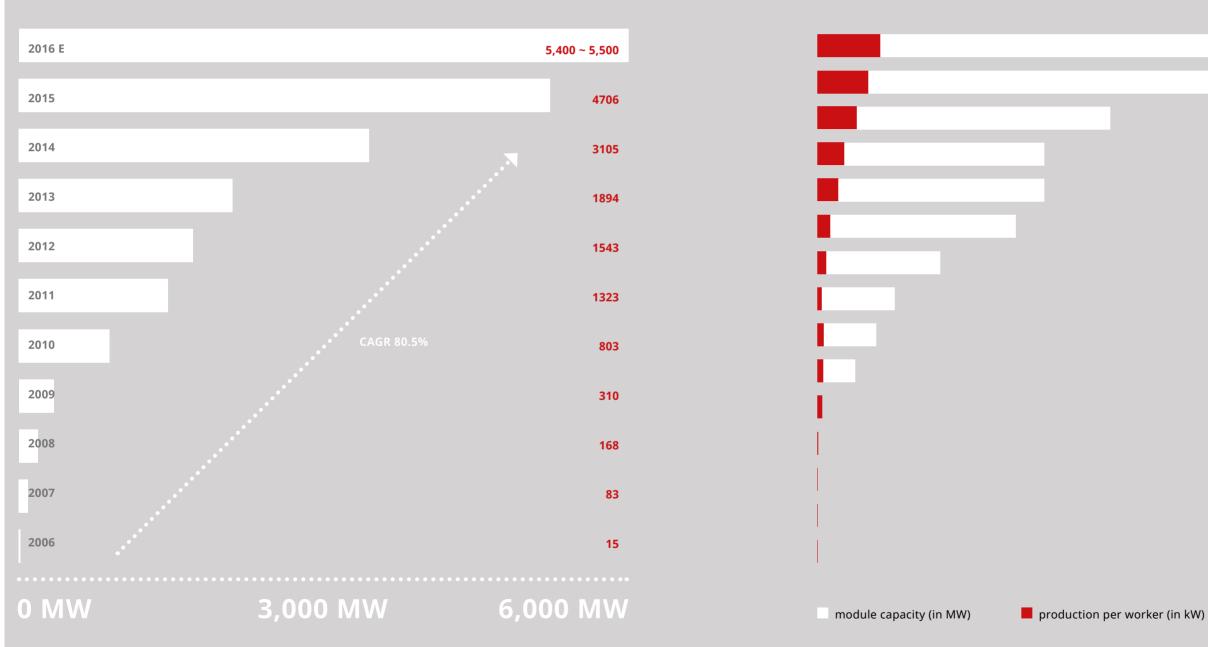
#### **GLOBAL BRAND FOOTPRINT**

Guelph, Canada	Global Headquarters
San Francisco, US	Recurrent Energy HQ
San Ramon, US	USA Headquarters
Walnut Creek, US	Energy Group HQ
New York, US	Energy Group Subsidiary
Austin, US	Recurrent Energy Office
Munich, Germany	EMEA Headquarters
Panama	Sales & Global Energy Subsidiary
Sao Paulo, Brazil	Subsidiary
London, UK	Sales, Project & Structured
	Finance Subsidiary
Ankara, Turkey	Subsidiary
Abu Dhabi, UAE	Subsidiary
Madrid, Spain	Subsidiary
Milan, Italy	Energy Group Subsidiary
Johannesburg, ZAF	ZAF Sales Subsidiary
Suzhou, China	China Headquarters
Bangalore, India	Subsidiary
Singapore	Subsidiary
Seoul, South Korea	Subsidiary
Tokyo, Japan	Module & Project Headquarters
Hong Kong	Sales Office, Project &
	Structured Finance Subsidiary
Melbourne, Australia	Module & Project Subsidiary

#### MANUFACTURING FOOTPRINT

Ontario, Canada	Module Factory
Suzhou, China	Cell Factory
Changshu, China	Module Factory
Luoyang, China	Ingot, Wafer & Module Factory
Funing, China	Cell Factory
Hai Phong, Vietnam	Module Factory
Banten, Indonesia	Module Factory
Sorocaba, Brazil	Module Factory

## MODULE **SHIPMENTS**



## **PRODUCTION** CAPACITY

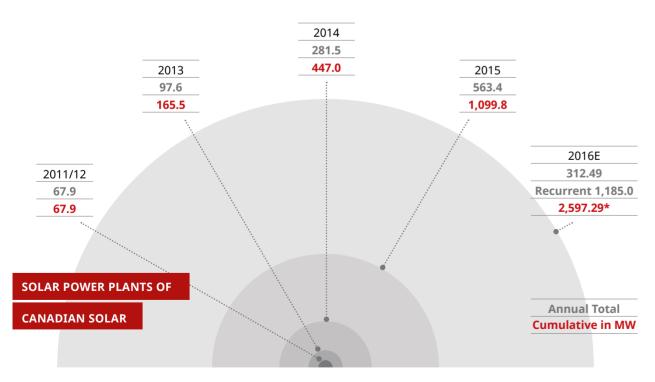
2016 E	<b>666 / 5</b> ,730
2015	<b>538 /</b> 4,630
2014	<b>416 /</b> 3,100
2013	<b>285 /</b> 2,400
2012	<b>217 /</b> 2,400
2011	<b>137 /</b> 2,100
2010	<b>92 /</b> 1,300
2009	<b>46 /</b> 820
2008	<mark>68</mark> / 620
2007	<mark>62</mark> / 400
2006	<b>50 /</b> 50
2005	<b>10 /</b> 20
2004	<b>5 /</b> 12
2003	<b>3</b> / 8
2002	<b>2</b> / 4

### 2. GROWTH PERSPECTIVE

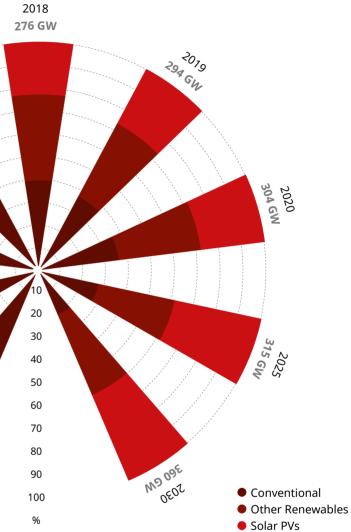
AS THE DEMAND FOR SOLAR ENERGY GROWS SO DOES CANADIAN SOLAR.

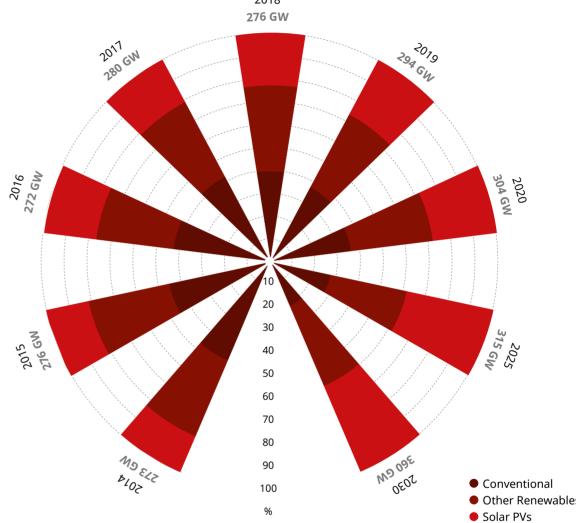


35% GROWTH WAS EXPERIENCED BY THE GLOBAL PV MARKET IN 2015 AND IT IS EXPECTED TO GROW A FURTHER 17% IN 2016 (ACCORDING TO RESEARCH FIRM IHS).



\* Includes projects of Canadian Solar subsidiary Recurrent Energy





Demand for electricity is not going out of fashion, with global demand growth expected to track GDP

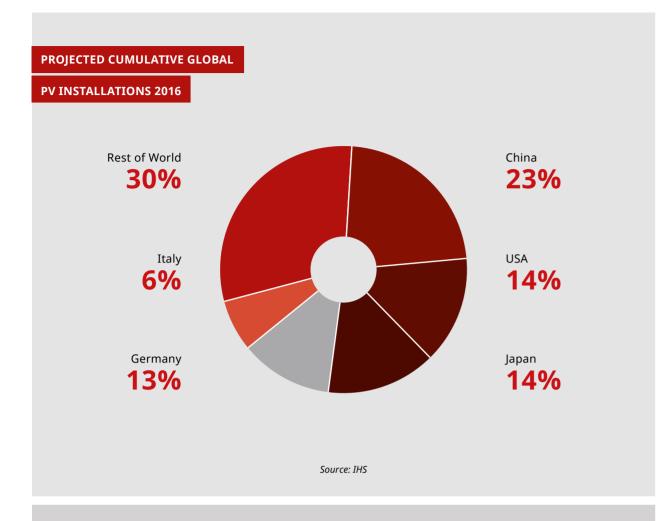
- · Electricity consumption is expected to grow in line with GDP
- · Aging fleet of coal and nuclear assets are expected to be decommissioned
- · Environmental compliance is expected to force cost of conventional sources of electricity higher · Cost of solar energy is expected to continue to decline as technology improves and economies of

scale from widespread adoption prevail

#### **GLOBAL CAPACITY ADDITIONS**

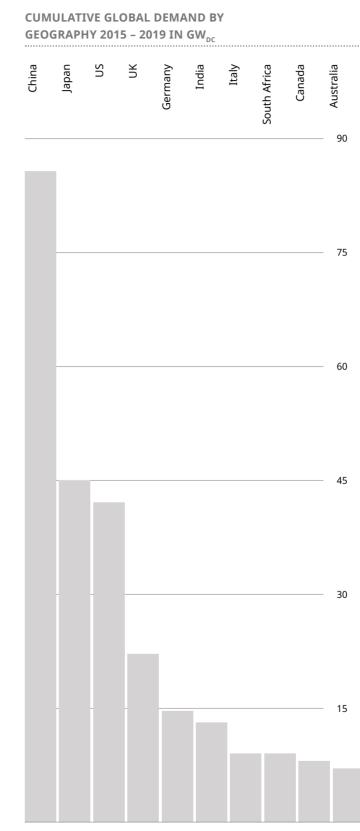
Renewable energy additions already surpass conventional energy, and solar is expected to be the fastest growing source of electricity

- · In 2014, solar PV and other renewable energy capacity additions surpassed conventional energy for the first time, and solar PV is expected to dominate the future
- · Over the next 20 years the solar industry is expected to generate over \$5 trillion of cumulative revenue



**GLOBAL ANNUAL PV INSTALLATION** TOUCHED THE 60 GW BARRIER **IN 2015 AND IS HEADING FOR** THE 70 GW **MARK IN 2016.** 

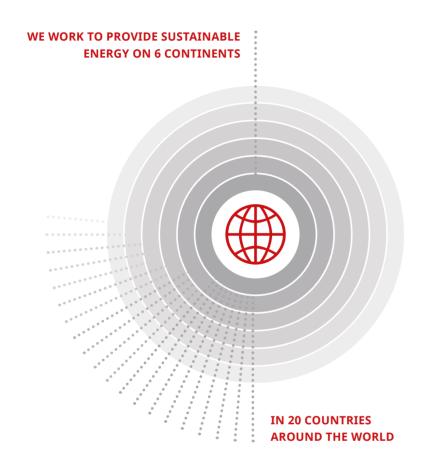
Market research firm IHS has forecasted global PV installations to reach 69 GW in 2016. The firm stated that global PV installations reached 59 GW in 2015 a 35% increase over 2014. Key markets in 2016 will include the US, India and China, which are forecast to increase by 5.6 GW, 2.7 GW and 0.9 GW respectively, accounting for 9.3 GW of the projected 10 GW global increase.



Source: IHS Marketbuzz, 2015

France		Netherlands		Middle Fast	Rest of Asia	Rest of Europe	Rest of Africa
_							
_	 		 				
_	 		 				
_			 				
_	 		 			-	

### **3. COMPANY STRUCTURE**



The following Standard Disclosures provide an overview of our key organizational characteristics in order to provide context for subsequent, more detailed reporting against other sections of the guidelines.

#### **OFFICIAL NAME, ADDRESS AND DETAILS** OF OUR ORGANIZATION

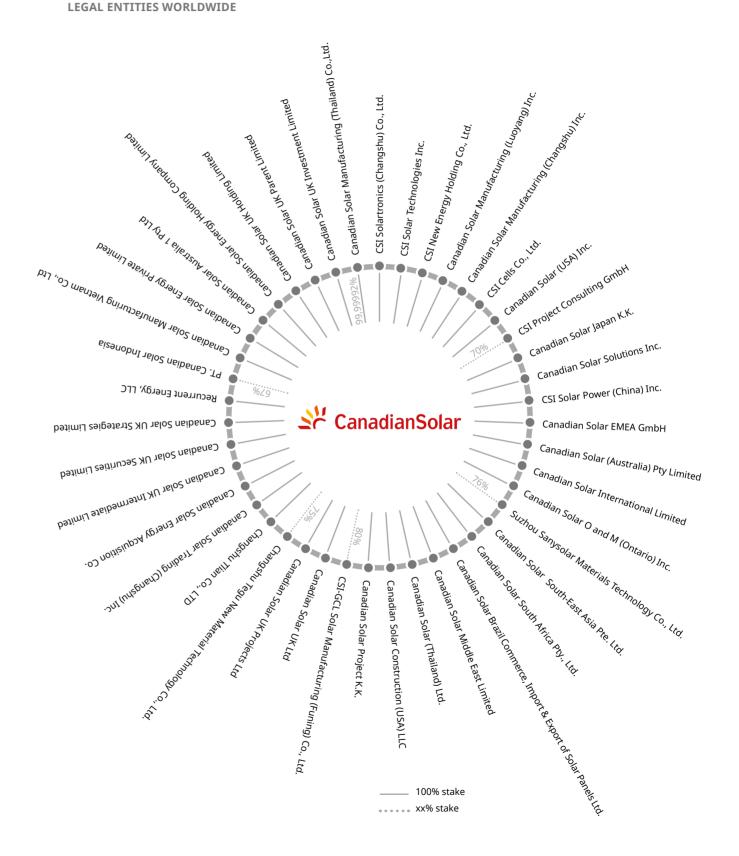
Our legal and commercial name is Canadian Solar Inc. and our principal executive office and principal place of business is located at 545 Speedvale Avenue West, Guelph, Ontario, Canada N1K 1E6. Our telephone number at this address is (1-519) 837-1881 and our fax number is (1-519) 837-2550.

Places we operate in include: Australia, Brazil, Canada, China, Germany, India, Indonesia, Japan, Korea, Panama,

Singapore, South Africa, Spain, Thailand, Turkey, Egypt, France, Italy, U.A.E., United Kingdom, Vietnam and the USA. All operations fall within the scope of this report, as detailed under Material Aspects G4 - 17.

#### **OWNERSHIP AND LEGAL FORM**

Canadian Solar Inc. was incorporated under the laws of the Province of Ontario, Canada in October 2001 and is a publicly held company listed on the NASDAQ (CSIQ). We changed our jurisdiction by continuing under the Canadian federal corporate statute, the CBCA, effective June 1, 2006. As a result, we are governed by the CBCA. (In Canadian Solar Annual Report 2015, see "Item 4. Information on the Company - C. Organizational Structure" for additional information on our corporate structure, including a list of our major subsidiaries.)



#### EXPERIENCED BOARD AND SENIOR MANAGEMENT

#### EXPERIENCED INDEPENDENT DIRECTORS

<b>DR. SHAWN Q</b> Chairman, Pres & CEO (Director	ident · Director & VP at Photowatt International S.A.		<ul> <li>Partner with McMillan LLP,</li> <li>a business and commercial law firm</li> <li>Director and senior officer of Boliden Ltd.</li> </ul>
HUIFENG CHAN SVP and Chief Financial Office	CEO of CSOP Asset Management in Hong Kong     Vice President of Citigroup Equity Proprietary	:	<ul> <li>CEO of Ivanhoe Nickel &amp; Platinum Ltd.</li> <li>Chairperson of the Audit Committee of Harry Winston Diamond</li> </ul>
YAN ZHUANG SVP and Chief Commercial Of	<ul> <li>Head of Asia of Hands-on Mobile, Inc.</li> <li>Asia Pacific regional director of marketing planning ficer consumer insight at Motorola Inc.</li> </ul>	g and	<ul> <li>Director of the Centre for Advanced Nanotech- nology, Stanley Meek Chair in Nanotechnology and Prof. of Applied Science and Engineering at the University of Toronto, Canada</li> </ul>
ARTHUR CHIE SVP and Chief Strategic Office	Managing director of Beijing Yinke Investment     Consulting Co. Ltd	lnc.	<ul> <li>Senior Advisor to Board of Directors of Henderson Land Development Co.</li> <li>Director of Ace Life Insurance Co. Ltd., China CITIC Bank Corp., Intime Retail (Group) Co. Ltd.</li> </ul>
GUANGCHUN SVP and Chief Operating Office	Manufacturing Technology at Suntech Power Holdi	-	and Shenzen Yantian Port (Group) Co. Ltd.
JIANYI ZHANG SVP, General Co and Chief Comp Officer	unsel · Senior assistant general counsel at Walmart Stores	s, Inc.	

**ROBERT MCDERMOTT** Chairperson of the Corporate Governance, Nominating and Compensation Committees

LARS-ERIC JOHANSSON Chair of the Audit and member of Governance and Compensation Committees

DR. HARRY E. RUDA Chair of Technology and member of the Audit, Governance, Compensation Committees

ANDREW WONG Member of the Audit, Corporate Governance, Compensation Committees







#### **BUSINESS OPERATIONS**

The faster humanity adopts renewable energy, the more chance we have of slowing climate change, which is why we're committed to taking renewable solar energy to as many markets as we can, as fast as we can. Today, we market and sell solar modules worldwide for residential, commercial and utilityscale solar energy solutions. Our products are sold by our own, home-grown sales teams, who operate throughout Europe, the Americas, the Middle East and the Asia-Pacific regions.

"Our primary customers include distributors, system integrators, project developers and installers/EPC companies. A small number of customers have historically accounted for a major portion of our net revenues. In 2013, 2014 and 2015, our top five customers by net revenues collectively accounted for approximately 38.3%, 33.6% and 26.8%, respectively, of our total net revenues. Sales to our largest customer in those years accounted for 13.3%, 7.4% and 7.4%, respectively, of our total net revenues." From page 50 of our 2015 Annual Report.

The following table from page 49 of our audited 2015 Annual Report sets forth, for the periods indicated, information related to our total net revenues derived from our customers categorized by their geographic locations for the periods indicated:

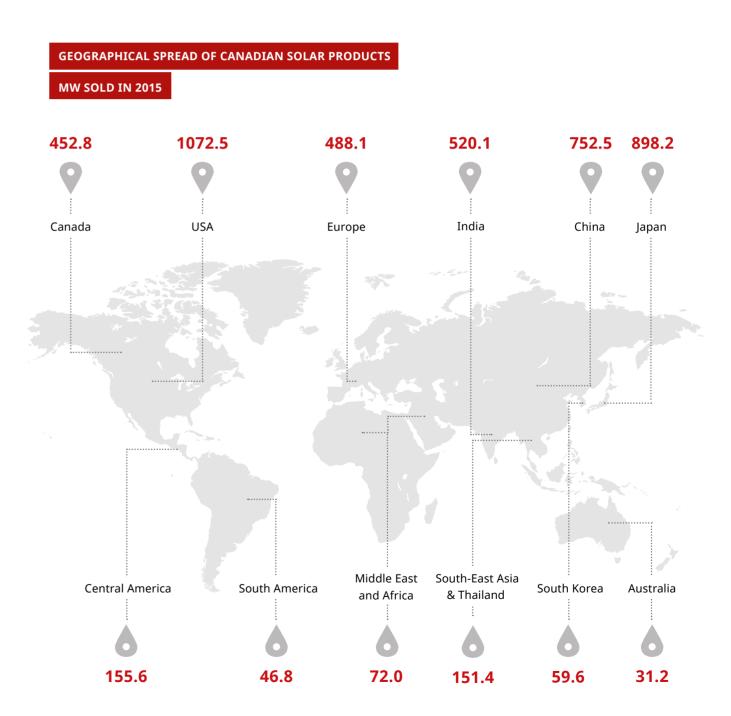
sales contracts to distributors
2
distributes systems to integrators, installers/EPC companies & project developers
3
OEM/tolling manufacturing arrangements

We sell our products primarily under

three types of arrangements:

Years ended December 31	2015		2014		2013	
Region	Total Net Revenues (in thousands of \$)	%	Total Net Revenues (in thousands of \$)	%	Total Net Revenues (in thousands of \$)	%
Asia	1,384,243	39.9	905,092	30.6	870,189	52.6
Americas	1,750,000	50.5	1,795,490	60.6	588,279	35.6
Europe and others	333,383	9.6	260,045	8.8	195,888	11.8
Total	3,467,626	100.0	2,960,627	100.0	1,654,356	100.0

As we expand our manufacturing capacity and enhance our brand name, we continue to develop new customer relationships in a wider range of geographic markets to decrease our market concentration. In 2014, we significantly increased our total number of customers and achieved a top-3 market share in module sales in Canada, USA, Japan, India and Central America, which we maintained in 2015.



In 2016, we will seek to maintain the leading market share in these markets and, at the same time, explore several emerging solar markets, including South-East Asia, Africa, Central Asia and Latin America. While we will expand into new markets, we expect that our near term major markets will be North and South America and the Asia Pacific region.



**GROWING SATISFACTION "BUILDING DEMAND** FOR SUSTAINABLE PRODUCTS IS SATISFYING ON **BUSINESS, ENVIRONMENTAL** AND PERSONAL LEVELS."

Marc Wallowy, Global Marketing Director

**OUR PRIMARY BRANDS, PRODUCTS** AND SERVICES

Canadian Solar is one of the world's largest and foremost solar power brands. More specifically, we are a leading provider of solar power products and system solutions with operations in North America, Asia, South America, Europe, Africa, the Middle East and Australia.

We design, develop, and manufacture solar wafers, solar cells and solar power products, and our solar power products include standard solar modules and specialty solar products. In recent years, we have expanded our business to provide solar energy solutions, which primarily consist of solar power project development, EPC services, O&M services, electricity revenue generation and sales of solar system kits.

**BUSINESS MODEL OVERVIEW** 

Canadia PV Ingots Wafers Bus Canadian Ingots Wafers PV Cells Mono- & Mono- & Mono- & Solar Polycrystalline Polycrystalline Polycrystalli products Canadian High-efficie Poly cell tech Solar Mono-PERC position technology Double-glas modules

A BRAND THAT MAKES THE DIFFERENCE

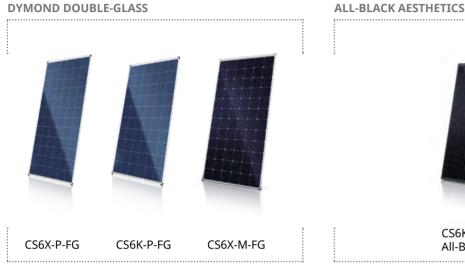
Our market offerings continually evolve to become ever more sustainable and meet changing market needs, but the promise at the heart of our brand remains constant: Canadian Solar is here to make the difference to all those whose lives we touch.

This applies equally to customers, employees, investors and the communities where we operate, as well as the broader environment. The extent to which we live this promise around the world, every day, is showcased by the continuously growing library of stories on our website, which brings to life the impact we have on the world around us.

We invite you to experience the stories for yourself at www.canadiansolar.com/making-the-difference.html.

an Solar	´s Core Business		······;
Cells siness	PV Modules Business	Specialty PV Products	Global Energy Business
line	<b>PV Modules</b> Mono- & Polycrystalline	Rooftop Systems Kit & PV System Components Energy Storage Systems Off-grid products, incl. Distributed Generation Solutions Micro-grid	Utility-scale project development Engineering Procurement & Construction Operations & Maintenance
ency hnology C- iss	Amongst top-3 module manufacturers in the world	Versatile product portfolio for different customer needs	13.5 GW <sub>pc</sub> global utility-scale project pipeline

#### SOLAR MODULES



CS6K-M All-Black

Our standard solar modules are arrays of interconnected solar cells in weatherproof encapsulation. We produce a wide variety of standard solar modules, ranging from 3 W to over 330 W in power and using multi-crystalline or mono-crystalline cells in several different design patterns.

Our mainstream solar modules include standard CS6V (50 cells), CS6P (60 cells), CS6X (72 cells) and Dymond CS6K-P-FG (60 cells, double-glass) modules, in which 6-inch solar wafers are used, the majority being multicrystalline wafers. The mainstream modules are designed for residential, commercial and utility applications. Small modules are for specialty applications.

We introduced a next level Quintech mono module with 5-bus bar technology in 2015 with 275 W and 280 W options. The Quintech module offers improved reliability and efficiency and was born of the success of our Quartech modules, which we produced and shipped in large volume in both 2014 and 2015.

Our Dymond module, which started shipping in 2014, is designed with double-glass encapsulation that is more reliable for harsh environments and ready for 1500 V solar systems. It too played a significant role on our hugely increased sales volumes in 2015.

For the power hungry, Canadian Solar's new SuperPower mono modules with PERC technology significantly improves module efficiency and reliability. The new five bus bar technology offers superior low irradiance performance in the morning, in the evening and on cloudy days, increasing the energy output of the module and the yield of the solar system. It is available in 290 W and 295 W options.

#### **MAXPOWER 72 POLY CELLS**



#### **POLY STANDARD 60 CELLS**



## **A WORKING PHILOSOPHY** "I LIKE TO THINK I HAVE TWO EMPLOYERS: **CANADIAN SOLAR** & THE ENVIRONMENT."

Hassan Halouda, Senior Sales Manager EMEA



ORGANIZATIONAL PROFILE G4 – 4

#### **OFF-GRID SYSTEM KITS**

#### **OFF-GRID SOLAR POWER SYSTEMS**



#### SPECIALTY SOLAR PRODUCTS

#### Our specialty solar products include the Andes Solar Home System and the Maple Solar System.

The Andes Solar Home System, or Andes SHS, is an offgrid solar system designed to provide an economical source of electricity to homes and communities without access to grid electricity or where electricity supply is scarce. The Andes SHS is portable, light-weight, and easy to set-up, making it ideal for situations where emergency power is required.

Our Maple Solar System is an economical, safe and clean energy solution for families who burn kerosene for lighting when darkness falls. It is a convenient mobile power source for outdoor activities, such as camping, boating and hiking. The Maple Solar System includes a 3/5 W solar panel, energy-efficient LED lights, 4400 mAh Li-ion batteries and multiple smart phone charger plugs. Its efficient LED lights up to 120 Lumin, as bright as a 15 W light bulb.

#### SOLAR SYSTEM KITS

A solar system kit is a ready-to-install PV solution package consisting of solar modules produced by us and other balance-of-system components, such as inverters, racking system and other accessories, supplied by third parties. We began selling solar system kits in Japan in 2010. A typical solar system size is of 3 – 10 kW for single houses, for reference please visit http://canadiansolar.jp/ residential/system.html.

We also have developed some small solar home systems such as Maple and Atlas for families living in off-grid regions, where people depend on kerosene burning for lighting and for radio, TV, mobile phones, etc.



#### **100% URGENT**

#### Putting our specialty solar products to work in Africa.

There is a pressing need for specialty solar products and solar kits in Africa. Our products are especially well suited to solving the health problems and dangers associated with combustible fuels, such as kerosene, that are currently used in many remote villages and urban shantytowns. Solar also offers remote locations the advantage of being grid independent. Little wonder many African nations are actively pursuing solar as part of their energy mix. Read more about the topic on our website: www.canadiansolar.com/en/making-the-difference/ light-up-africa-with-solar.html

## LIBERATION

#### **OFF-GRID SOLAR SOLUTIONS** MAKE SAFE, HEALTHY AND COST-EFFECTIVE ÉNERGY INDEPENDENCE POSSIBLE.

Picture credit: Solar Aid https://www.flickr.com/photos/solaraid/

## ONE CAN BE A **BIG NUMBER** N IT'S ONE JAD.

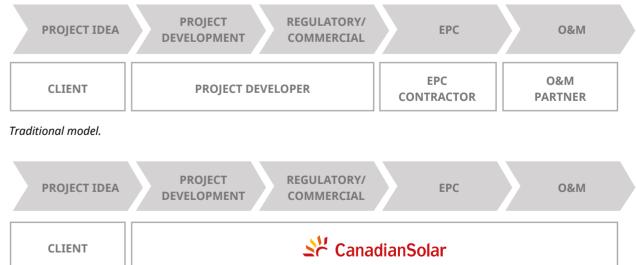
## WHAT'S A QUAD? **GLAD YOU ASKED.**



#### SOLAR POWER PROJECT DEVELOPMENT

We develop, build and sell solar power projects. Our solar power project development activities have grown over the past several years through a combination of organic growth and acquisitions. Our global solar power project business develops projects primarily in Canada, Japan, the U.S., China, Brazil and the United Kingdom.

Our team of experts specialize in project development, evaluation, system designs, engineering, managing, project coordination and organizing financing parties in the deployment of photovoltaic projects systems,



Canadian Solar's »One-Stop-Shop« model.

Nacaome Valle, Honduras, 79.2 MW

ranging from a few hundred kilowatts for commercial systems up to utility-scale projects with a hundred megawatts capacity.

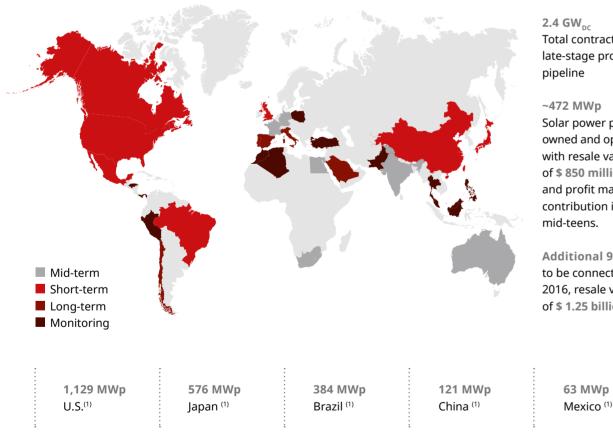
With our ever expanding product and services portfolio we are able to provide our customers with a true »one-stop« solution, offering integrated design, faster deployment and lower system cost.

#### **O&M SERVICES**

In the second half of 2012, we started to provide O&M services for solar power projects in commercial operation. Our O&M services include inspections, repair and replacement of plant equipment, site management and administrative support services.

#### INDUSTRY LEADING GLOBALLY DIVERSIFIED PROJECT PIPELINE

#### Priority markets for utility-scale project development



Source: Investor Relations report of the Company as of September 2016

Note: (1) Late-stage project and EPC contract pipeline, nearly all projects have an energy off-take agreement and are expected to be built within the next 2 – 4 years. Some projects may not reach completion due to failure to secure permits or grid connection, among other risk factors.

#### **EPC SERVICES**

In late 2010, we began entering into EPC contracting arrangements primarily in Canada and China. Under these arrangements, the solar power project developer owns the project and we are contracted to perform the engineering, procurement and construction work for the project. The EPC contracts in China were completed through our affiliated company, Suzhou Gaochuangte New Energy Sources Development Co., Ltd., or Gaochuangte, in which we own a 40% equity interest.



2.4 GW<sub>pc</sub> Total contracted / late-stage project pipeline

~472 MWp Solar power plants owned and operated with resale value of \$ 850 million and profit margin contribution in the mid-teens.

Additional 900 MWp to be connected in 2016, resale value of \$ 1.25 billion

## 1,000% INCREASE IN OUR OWN CLEAN **ENERGY PRODUCTION.** WE'VE ALREADY MENTIONED OUR OWN **ENERGY PRODUCTION INCREASED** 1,019.8% ELSEWHERE IN THIS REPORT, **BUT AN IMPROVEMENT THIS GREAT DESERVES MORE THAN ONE MENTION.**

#### **ELECTRICITY REVENUE GENERATION**

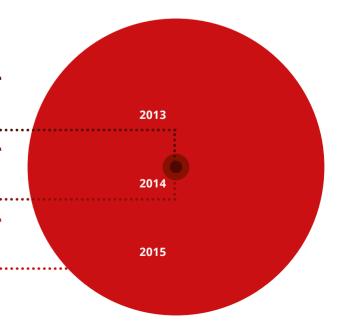
We preach clean energy. We practice clean energy. In 2013 we began to open certain project assets in China for the purpose of generating income from

**TOTAL REVENUE FROM OWN ELECTRICITY PRODUCTION** 

1,320,000\* 2,870,000\* 32,050,000\*

\*IN USD\$

the sale of electricity. In the future, we will hold more project assets to generate revenue from the sales of



ORGANIZATIONAL PROFILE G4 – 9

MAKING THE DIFFERENCE **ON AN INTERNATIONAL** SCALE

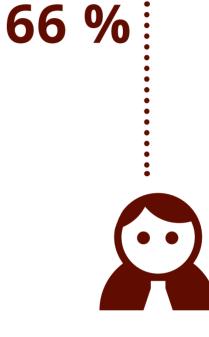
## **ONE DREAM: CLEAN ELECTRICITY** FOR **MILLIONS**



· Canadian Solar employs over 8,900 people as broken down in G4-10a-c

· It operates 30 companies in 20 countries. For detail on % shareholding and regions of operation, see page 120 of audited 2015 Annual Report

- · Net revenues for 2015 were \$3.7-billion (USD). For detail, see paragraph A, page 6 of audited 2015 Annual Report
- · For 2015, PV Module shipments totaled 4.7 GW. For detail on total sales, see table on page 7 of our audited 2015 Annual Report



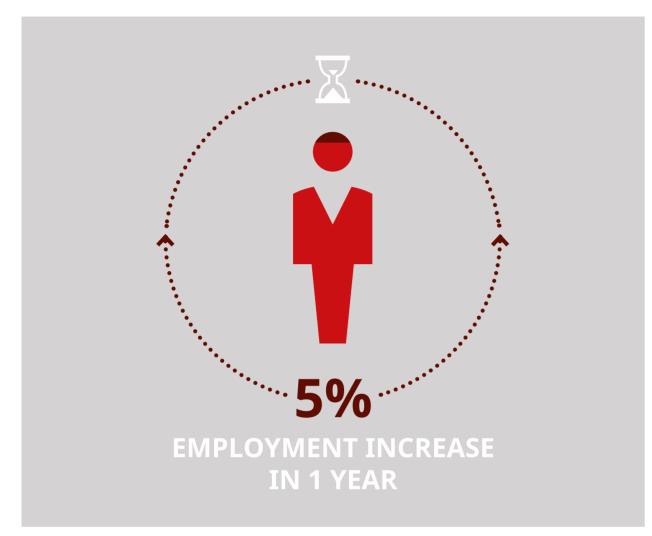
**EMPLOYEES THAT** MAKE THE DIFFERENCE

As of December 31, 2013, 2014 and 2015 we had 7,616, 8,539 and 8,969 full-time employees, respectively. And while men outnumber women at Canadian Solar, we have significantly more women than most in the hightech sector as is made clear in one of the articles on our website: Women claim their place in the Sun.

We have no doubt that our commitment to diversity and to recruiting women will see the advent of more and more female colleagues at all organizational levels in coming years.

The total number of employees by employment type, contract and gender are broken down in section G4 – 10 of this report.





#### **BALANCE OF TEMPORARY AND** FULL-TIME EMPLOYEES

Almost all work at Canadian Solar is carried out by full-time employees but, from time to time, we also employ or engage part-time employees or independent contractors to support our manufacturing, research, development, sales and marketing activities.

#### VARIATIONS **IN EMPLOYMENT NUMBERS**

In 2015, our total workforce has expanded by 430 to a total of 8,969 full-time employees since 2014. This represents a 5% increase from 2014 (8,540 employees). The change is due to the growth of our business operations and includes staff of Recurrent Energy, which was acquired by Canadian Solar in 2015 as mentioned in G4-13.

PERCENTAGE OF TOTAL EMPLOYEES COVERED BY COLLECTIVE BARGAINING AGREEMENTS

We consider our relations with our employees to be extremely good and they are not covered by any collective bargaining agreement according to page 118, paragraph D. of the audited 2015 Annual Report.

#### PROCUREMENT MANAGEMENT STRATEGY

Currently, our purchasing strategy follows a vertically integrated procurement pattern, controlled at group level and supported by each division. The goal of our strategy is to establish a sustainable, efficient and healthy supply chain that meets the development needs of our company and the interests of all our stakeholders, among which we count the environment as key.

Our business depends on our ability to obtain a stable and cost-effective supply of polysilicon, silicon wafers and solar cells. In 2015, our major suppliers of silicon wafers included GCL, Nanbo and LDK, and our main suppliers of solar cells were Tongwei, NSP and Shunfeng. We plan to continue purchasing most of our silicon wafers and all of our polysilicon requirements externally, and we constrain, guide and encourage suppliers to continually improve their products and services in terms of energy saving, emission reduction, and lower cost.

We take the following steps: 1. Supplier evaluation and selection 2. Supplier Management 3. Annual Audit of Suppliers

We pay close attention to our suppliers' competitive strategies, the way they manage their employees, their social responsibility and sustainability programs. In addition, we co-operate with them on innovation and improvement in these and other areas wherever possible. We only deal with suppliers who meet our standards

G4 - 12 / G4 - 13

with regard to safety, environment, quality and cost, and they agree to these standards in a formally signed document as part of our purchasing process. For more detail, see pages 45/46 of our audited 2015 Annual Report.

AN EXPANSION THAT MAKES A SIGNIFICANT DIFFERENCE

In the course of the reporting period Canadian Solar negotiated the purchase of Recurrent Energy, a leading utility-scale solar project developer that provides competitive clean electricity. With a 4.3 GW<sub>DC</sub> project pipeline and more than 840 MW<sub>bc</sub> of signed power purchase agreements, Recurrent Energy holds one of the largest solar development portfolios in North America. The company's strategy is to develop, build, and operate a balanced portfolio of utility-scale solar projects ranging in size from 20 – 500 MW to meet the increasing demand from utilities for clean electricity at competitive prices. The sale went through in March 2015 and is reported on page 42 of the audited 2015 Annual Report.

## RECURRENT **ENERGY**

#### **VIGOROUS QUALITY CONTROL**

Our commitment to sustainability is absolute. As part of this commitment, all our products and processes are rigorously tested internally, and externally by recognized standards authorities around the world to ensure they meet and exceed recognized standards with regard to guality, health, safety and environmental impact.

The external standards are dealt with in detail in the next section, G4 - 15, and the rigorous standards we apply internally include every test imaginable: They cover durability, UV resistance, degradation rate and extreme temperature variation, as well as mechanical performance in the face of torrential rains, high winds and heavy snowfalls. There's no room for inferior components or workmanship. And this ensures our panels will work across a wide range of applications as well as stand up to harsher conditions than competitive products. As mentioned previously, the more efficient and durable a PV panel, the more positive its impact on the environment over the long term.

#### **HIGH PERFORMANCE MODULES**

Our high performance PV modules have been validated by several third party institutions in addition to various international product certifications. In California USA, our products are top-rated by the California Energy Commission's PV module registration list (PTC rating). In Australia, our PV modules outperform other leading brand modules by yielding up to 3% more energy electricity as recorded by the Desert Knowledge Australia Solar Centre (DKA SC) in Alice Springs, Australia.

#### **OUR INTERNAL TESTS INCLUDE:**

#### In-line testing (conducted on the production line)

- · A 100% EL screen test to eliminate cell or module defects.
- · A 100% hi-pot test to approve electrical safety
- · A 100% visual inspection to make sure all modules are cosmetically perfect

#### **Out-going/Incoming Quality Control – Sampling Testing**

#### **Design Qualification Testing**

- · Material reliability testing
- · Tests conducted per various material standards to ensure that all materials & components used in mass production are approved prior to entering the production line
- · Module reliability testing
- · Fully compliant with IEC 61215/61730/61701/62804, UL 1703 standards, and industry extra testing protocols ("3 times IEC")
- · Our reliability team ensures that all of our solar modules delivered to our customers will meet or exceed the lifetimes stated in our module warranty

#### **State-of-the-art Testing Facilities**

In 2008 Canadian Solar commissioned the first manufacturer-owned photovoltaic module reliability testing laboratory to meet ISO/IEC 17025 (Accreditation Criteria for the Competence of Testing and Calibration Laboratories). The laboratory has a total area of 3,130 square meters and employs 23 full time technicians.

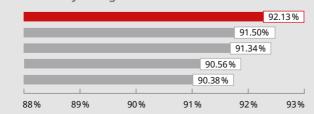
#### EXTERNAL QUALITY AUDITS PROVE WHAT'S INSIDE

The quality of our panels has also been extensively audited by external standards organizations that include TÜV and Squrr Energy. Contact support@ canadiansolar.com to request the full reports.

#### 320 W poly modules in comparison **PTC Watts**

Canadian Solar CS6X-320P-FG	
Canadian Solar CS6X-320P	
Jinko JKM320P-72	
Hanwha Solarone HSC72PA-x-S-320	C
JAJAP6-72-320	

#### Efficiency rating 02/2016





#### **QUALITY INITIATIVES** THAT MAKE A DIFFERENCE

In addition to the Environmental Management ISO 14001 certification and Health and Safety Management OHSAS 18001 certification we have numerous other certifications that endorse the quality of our systems and products.

We have certified our quality management system according to the requirements of ISO 9001:2008 and ISO/TS 16949 standards. TÜV Rheinland Group, a leading international service company that documents the safety and quality of products, systems and services, audits our quality systems. We inspect and test incoming raw materials to ensure their quality. We monitor our manufacturing processes to ensure quality control and we inspect finished products by conducting reliability and other tests.

In 2015, we achieved several product certification milestones supporting a full range of new product launches: Our 60 and 72 cells double glass module series was certified by VDE, CSA and MCS-BBA certification bodies, allowing us an extensive access to worldwide markets. End of year, we also completed VDE and TÜV

294.8

292.8

292.3

289.8

289.2

Rheinland certification (IEC 61215/61730) of our new Mono-PERC 5 bus bar premium module series. On top, our in-house designed PV connector T4 was fully certified by TÜV Rheinland and CSA to the latest and most stringent standards, namely IEC 61852 and UL 6703. In another key achievement, we have updated the Life Cycle Analysis evaluation of our mainstream modules and were granted a verification certificate from TÜV SÜD per PAS 2050 and ISO 14067 standards.

To better serve our customers and our own electricity generation business entity, we started implementing a state-of-the-art OPCT (On-going Performance Characterization Testing) program in cooperation with PVEL-DNVGL laboratory late 2015, aiming to deliver extensive module performance characterization per IEC 61853 series standards.

Our PV test laboratory is registered with the ISO 17025 quality improvement program, and has been accepted for the Mutual Data Acceptance Program by the CSA in Canada, VDE in Germany, Intertek in the U.S. and CGC in China. The PV test laboratory allows us to conduct some product certification testing in-house, which should decrease time-to-market and certification costs.

#### PRODUCT CERTIFICATIONS

Quality Certifications Environment Health & Safety	Corporate Product Testing Certifications	Product Certifications	Product Highlights Certifications
<ul> <li>ISO/TS 16949:2009</li> <li>ISO 9001: 2008</li> <li>ISO 14001</li> <li>OHSAS 18001</li> </ul>	• ISO 17025 • IEC 61215 • IEC 61730 & UL 1703 • Co-Intertek Witness Lab @ VDE/CSA • REACH	<ul> <li>IEC 61215</li> <li>IEC 61730</li> <li>UL 1703</li> <li>UL 790</li> <li>CEC</li> <li>CE</li> <li>CQC</li> <li>MCS</li> <li>JET</li> <li>UNI9177</li> </ul>	<ul> <li>Salt Mist Certificate</li> <li>Ammonia Certificate</li> <li>PID Certificate</li> <li>Higher PTC Rating</li> <li>Water Resistant IP67 JB</li> <li>Fire C1D2</li> </ul>

#### **OVERVIEW OF CERTIFICATES FOR** CANADIAN SOLAR MODULES

CS6K-P-FG	CS6K-M ALL BLACK
📤 🚯 😰 😨 🎯 🗭 🚫 🗠 👥	🖄 🚯 💁 👳 👰 💭 🥥
СЅбК-М	CS6X-P-FG
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CS6K-MS	CS6P-P
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#### GETTING INVOLVED: MEMBERSHIP OF INDUSTRY

#### AND RELATED ASSOCIATIONS

\_\_\_\_

#### We belong to industry associations around the world that promote the environmental advantages of solar

#### MEMBERSHIP OF INDUSTRY ASSOCIATIONS AND LEVEL OF INVOLVEMENT

Country / region	Association
Global	Global Solar Council
Americas	Canada Ontario Sustainable Energy Asso
	Canada Canadian Solar Industries Assoc
	Solar Energy Industry Association (SEIA)
	Solar Energy Industries Association
	Large-scale Solar Association
	Advanced Energy Economy
	Smart Electric Power Alliance
	Asolmex Mexico
	Asofer Dominican Republic
	Acesolar Costa Rica
	Capes Panamá
Japan	Japan Photovoltaic Energy Association (J
China	SEMI – Industry association for the micr
	nanoelectronics industries, including PV
	China Suzhou Photovoltaic Industry Ass
	China Jiangsu Province Photovoltaic Ind
	China China PV Industry Association
	China Suzhou City Listed Companies Ass
	China Suzhou High-tech Enterprises Ass
	China Architectural Society of China PV I
	China Jiangsu Province Energy Industry
EMEA	Take-E-Way – Solar waste management
	Solar Power Europe
	Mesia Middle East
	GENSED Turkey
	Solar GCC Alliance Middle East
	SAPVIA South Africa
Australia	Australia Clean Energy Council

#### energy and the interests of the solar industry. These are listed in the following table:

	Level of involvement
	Founding member
ociation (OSEA)	Membership
ciations (CanSIA)	Membership
)	Board seat
	Membership
JPEA)	Membership
o- and /	Membership
ociation	Membership/President of the unit
ustry Association	Membership/Deputy Director for province
	Membership/Vice Director
sociation	Membership
sociation	Membership
Industry Alliance	Membership
Association	Membership
and compliance	Membership
	Membership

## II. **IDENTIFIED MATERIAL ASPECTS** AND **BOUNDARIES**

The Standard Disclosures below provide an overview of the process our organization followed to define aspects material to economic, environmental and social sustainability. It then lists the selected material aspects and defines boundaries in terms of their impact, i.e. the extent to which a given aspect is material within the organization, outside the organization, or both.

> **DEFINING REPORT CONTENT AND** ASPECT BOUNDARIES

In deciding our report's content we first considered the four basic principles of the Global Reporting Initiative (GRI): 1. Materiality, 2. Engagement of Stakeholders, 3. Sustainability Context and, 4. Completeness. We used materiality analysis to compile a report content outline, which was reviewed by our Global Sustainability Committee, which includes members of the Global Management Board. Their suggested changes were included after which they approved the report. Material aspects and key issues considered include those outlined by the GRI. To determine the most important aspects and issues we evaluated the topics from the company perspective (by consulting the Management Board) as well as from the perspective of individual stakeholder groups.

MATERIAL ISSUES AND THE LOCATION OF THEIR IMPACTS

Policy

engagement

Reducing waste & resource use

CTS WITHIN TH Attracting & retaining talent Health & safety Ethical behavior & compliance Profitable growth

Environmental footprint of our operations

RV RV

RIMA

Resource

availability

Quality

of customer

service

Sustainability benefits to communities and environment

G4 - 18

Post use recycling

Responsible sourcing

Sustainable product innovation

Community

engagement

Environmental impact & carbon emissions of our products



STAKEHOLDER ENGAGEMENT

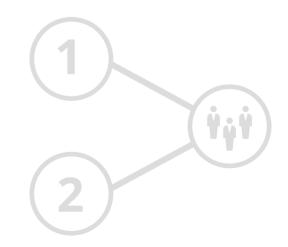
## III. **STAKEHOLDER ENGAGEMENT**

The Standard Disclosures in this section define our stakeholders, the process that we followed to define them and an overview of the organization's stakeholder engagement during the reporting period. These Standard Disclosures are not limited to engagement that was conducted for the purposes of preparing the report.

STAKEHOLDERS WE MAKE THE DIFFERENCE TO

#### Our Primary Stakeholders include:

- · Customers: including distributors, system integrators, project developers and installers/EPC companies, utilities, large energy buyers, offtakers, Energy Group
- · Suppliers
- · Investors
- · Employees
- · Applicants
- Management
- · The environment
- · Communities in which we operate



#### Our Secondary Stakeholders include:

- · The media
- · Policy makers and legislators
- · Investment analysts
- · Professional Associations
- · Employee representatives / Employee associations
- · Communities in which we operate
- · Banks/Creditors
- · Competitors

THE DIFFERENCE **"ONE OF THE MOST POSITIVE** LONG-TERM DIFFERENCES WE CAN MAKE TO STAKEHOLDERS IS TO BE ECOLOGICALLY RESPONSIBLE BECAUSE WE ARE ALL STAKEHOLDERS IN THE ENVIRONMENT."

> Dr. Andrea Wuttke, Managing Director Business Development and Capital Markets

#### SELECTION OF STAKEHOLDERS

- Characterizing our stakeholder groups for all material aspects defined, we considered the following:
- · Any responsibility we may have towards a defined group in legal, financial and operational terms
- · Groups that may be directly or indirectly affected by, or dependent on our activities, or the impact of those activities
- · Groups or individuals in a position to influence the implementation of our activities
- · All groups that could reasonably have a material interest in our activities or the results of our activities

#### STAKEHOLDER ENGAGEMENT

Canadian Solar's Stakeholder Engagement Plan defines our stakeholders, the process that we followed to define them and an overview of our stakeholder engagement programs. The plan is a guide for the company on how to disclose information, how to consult with its stakeholders and how to solicit their feedback regarding the possible impact of Canadian Solar operations on their livelihood and environment.

### **THINKING BIG**

**"BIG PICTURE SUSTAINABILITY** INVOLVES LOOKING OUT FOR PLACES WE WILL NEVER GO AND PEOPLE WE WILL NEVER MEET. WE ARE ALL PART OF THE BIG PICTURE."

Dr. Shawn Qu, founder and CEO

Due to the size and scale of our company, as well as the nature of our business, our stakeholders have unique and evolving expectations. We proactively engage with our stakeholders to learn their expectations of us, and then incorporate what we learn into our business plans and actions. Through work with industry associations, participation in multi-sector forums, and dialogue with socially responsible investors, we're gaining diverse and valuable perspectives as we continuously improve our sustainable development programs and initiatives.

Our stakeholder engagement activities are an integral part of our sustainable development commitments. Our business units have strategies which vary with each local community. In dispersed communities, we identify key stakeholders and engage with them face-to-face to ensure that our activities are understood and that we consider their feedback. Where there are opportunities to bring stakeholders together, we work with multi-stakeholder groups. For stakeholders, the benefits of engagement include the opportunity to contribute as experts in their field to policy and program development, have their issues heard and participate in the decision-making process. For us, the benefits of stakeholder engagement include improved information flows by tapping into local knowledge and having the opportunity to 'road-test' policy initiatives or proposals with stakeholders. The earlier stakeholders are engaged and the more long-term the process is designed to be, the more likely these benefits are to be realized.

The goal of our stakeholder management is to further align our business practices with societal needs and expectations, helping to drive long-term sustainability and shareholder value. The development of meaningful relations should add value to our operations by: reducing constraints on our business, allowing us to plan for the future, minimizing risks and enhancing opportunities by better understanding the fast-changing PESTE (Political, Economic, Social, Technological, Environment) context; and, enabling us to better understand critics and potentially refute, convince or address criticisms. Furthermore it will enable us to reassure stakeholders that they are on top of issues, and in some cases, be essential for solving problems.



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	Employees ´Representations / Employees Associations
	Media 5
	2 <sup>UE</sup>

Our approaches to stakeholder engagement vary depending on the particular stakeholder types:

#### **1. PARTNERSHIP:**

Shared accountability and responsibility. Two-way engagement, joint learning, decision making and actions.

#### 2. PARTICIPATION:

Part of the team, engaged in delivering tasks or with responsibility for a particular area/activity. Two-way engagement within limits of responsibility.



#### **4. PUSH COMMUNICATIONS:**

One-way engagement. Company may broadcast information to all stakeholders or target particular stakeholder groups using various channels e.g. email, letter, webcasts, videos etc.



Involved, but not responsible and not necessarily able

to influence outside of consultation boundaries.

Limited two-way engagement: Company asks

3. LOCAL & GLOBAL CONSULTATION:



Independent of the particular approach taken for specific stakeholder groups, we continuously engage with all stakeholders across the board via our website, informal corporate reports, and via publicity, sales and other marketing channels. This is also done on an ad hoc basis as new sustainability and environmental impact

#### **5. PULL COMMUNICATIONS:**

One-way engagement. Information is made available, stakeholders choose whether to engage with it.

information and issues arise. All stakeholders have an open invitation to share information or concerns on key topics through in-person meetings, town hall events, connect directly with the project managers in the field or via website inquiry form.

<ul> <li>Regular statements</li></ul>	<b>Responsible party</b>
and reportings <li>Field work sampling</li>	• Legal
or work instruction <li>Responsible party</li>	• Sales
Key concerns	Key concerns
• Policy delivery	· Cooperation possibilities
• Compliance management	· Agenda setting
• Setting up standards for	Methods of engagement
industries involved	· Direct contact
Methods of engagement	· Community contribution
• Meetings	activities

#### An overview of our ongoing stakeholder engagement plan is represented in this infographic

•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••
EMPLOYEES	THE MEDIA
Key concerns • Staff involvement in corporate operations • Solving staff disuputes and ensuring employees' rights • Staff career path development • Working environment • Responses to staff's appeals	Key concerns • Advertising campaigns • PR topics • Technical information Methods of engagement • Digital marketing • Press releases
Methods of engagement • Open communication • Direct contact • Training • Intranet • Newsletter	Responsible party • PR • Investor relations
<b>Responsible party</b> • HR	

#### Key concerns

- · Product and service quality
- · After-sales support or warranty

#### Methods of engagement

- · Sales process
- Service center
- · Customer surveys
- Website
- · Publicity
- · Advertising
- · Trade fairs

#### **Responsible party**

- Sales
- · Marketing
- Service

CUSTOMERS

#### Key concerns

- Co-development
- · Mutual growth
- Support for suppliers' CSR activities

#### Methods of engagement

- · Supplier portal
- · Supplier events
- Satisfaction surveys
- · Proposal system
- · Supplier code of conduct

#### **Responsible party**

- Sourcing
- · Manufacturing

#### SUPPLIERS

#### INVESTORS

#### Key concerns

- · Financial performance and
- significant information disclosure
- · Company development

#### Methods of engagement

- · Website and mailings
- · Presentations
- · Direct contact
- · Investor days

#### **Responsible party**

· Investor relations

#### Key concerns

COMMUNITIES

- Solving energy problems
- · Minimizing environmental effects near factories
- Respecting local culture Contributing to the local
- economy through local hiring New development in
- coordination with state and local governments

#### Methods of engagement

- · Open dialogue with local stakeholders
- · Informed consultation and participation, particularly considering Indigenous People
- · Disclosure of information and consultation with external experts
- · Grievance procedure to be applied at individual facilities
- Community engagement e.g. in education, arts and sports
- · Annual corporate sustainability reporting on website

#### **Responsible party**

· HSE in coordination with Manufacturing

## IV. GOVERNANCE

**RESPONSE TO TOPICS AND CONCERNS RAISED BY STAKEHOLDERS** 

#### 1. Investors

Key investors are attracted by a diversified and therefore more stable base. We broadened our base with the purchase of Recurrent Energy in March 2015. It is a leading utility-scale solar project developer that provides competitive, clean electricity. It is also the largest company of its kind in North America.

#### 2. Customers

a) Many regions in Africa depend on kerosene for lighting and heating. The dangers this practice poses to safety and health are well documented. Canadian Solar has the specialist off-grid solutions needed to solve this problem and provide clean, safe and healthy energy at lower cost. Engaging this market is currently a strategic priority.

b) Market feedback revealed customers wanted greater security and an extended return on investment. In response our R&D department has made breakthroughs that will see a 30-year warranty on many of our PV panels in the near future.

c) Informed customers and many investors want products free of conflict minerals. Our policy is not to use them and, in addition, we require key suppliers to report on any use of conflict minerals.

#### 3. Communities

Canadian Solar gets involved in local communities across the world. We have a long-term commitment to the communities where we conduct business and both management and employees drive our various initiatives.

While we intend to keep doing and improving on the things that have made our business a financial success, we are determined to further develop our many social initiatives as our business grows, including donations to educational and scientific institutions, humanitarian organizations, sports and art sponsorships, community activities, environmental awareness initiatives, etc. Our ability to give back is the true measure of our success.

See page 148 and beyond of this report for examples and for a full overview of our community activities please consult our website at www.canadiansolar.com/making-the-difference.html

#### 4. Suppliers

Our Procurement Management Strategy follows a vertically integrated procurement pattern, controlled at group level and supported by each division. The goal of our strategy is to establish a sustainable, efficient and healthy supply chain that meets the development needs of our company and the interests of all our stakeholders, among which we count the environment as key.

Canadian Solar has comprehensive policies and/ or guidelines for all the following listed below. The thoroughness of these documents makes them too lengthy to include in this report but all are available online on the links provided.

#### a. Corporate Governance Guidelines

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MjQxMzE5fENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### b. Nominating and Corporate Governance **Committee Charter**

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MjI5ODcxfENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### c. Code of Business Conduct

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MTA1NTUwfENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### d. Compensation Committee Charter

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MjI5ODcyfENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### e. Insider Trading Policy

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MTA1NTQ4fENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### f. Whistle Blower Policy

phx.corporate-ir.net/External.File?item=UGFvZW50SU-Q9Mjc1NjA4fENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### g. Policy on Related Party Transactions

phx.corporate-ir.net/External.File?item=UGFvZW50SU-Q9OTExMjJ8Q2hpbGRJRD0tMXxUeXBIPTM=&t=1

#### h. Audit Committee Charter

phx.corporate-ir.net/External.File?item=UGFyZW50SU-Q9MTI1OTqzfENoaWxkSUQ9LTF8VHlwZT0z&t=1

#### **COMPLIANCE WITH FCPA**

We observe and comply with the "U.S. Foreign Corrupt Practices Act", known as the FCPA. It is a criminal statute that prohibits all U.S. based and listed companies from corruptly offering, promising, paying, or authorizing the payment of anything of value to any foreign official to influence that official in the performance of his or her official duties. This prohibition applies whether the offer or payment is made directly, or through a third person. Thus, the company could be held liable for payments made by its agents, contractors, or joint-venture partners. The full Canadian Solar FCPA compliance document is available here: investors.canadiansolar.com/ phoenix.zhtml?c=196781&p=irol-govHighlights

#### FRAUD PREVENTION

Through years of research and careful examination, Canadian Solar has devised a fraud and corruptionprevention system that underscores education and supervision. We do not tolerate any form of illegal conduct and firmly believe that prevention is the best policy. Therefore, Canadian Solar has implemented a host of measures to limit the risk of fraud. We have introduced new policies focusing on business ethics, retailored our system of company expense reports, improved internal auditing procedures and provided stricter guidelines for managing undisclosed information. Concrete details regarding these changes can be found under Section IV. Governance in G4-34 above. We will continue to offer greater transparency and commit to fighting illegal conduct. Canadian Solar demands only the highest standards of business ethics. We will do everything in our power to protect our staff, shareholders and suppliers. To that end, we promise to continue our pattern of honesty, fairness and morality. This is why we ask all our departments to provide detailed reports of their finances and activities, understanding that meticulous examination and careful auditing effectively prevents fraud.

**ETHICS & INTEGRITY** G4 - 56

# **ETHICS INTEGRITY**

At Canadian Solar we have subscribed to the following principles ever since we first founded our company 15 years ago. Despite the passing of time, they have never become dated, and they are the bedrock on which we have built our business.

#### MAKING THE DIFFERENCE

#### Canadian Solar exists to make the difference.

To customers, colleagues, partners, investors and all whose lives we touch. We are also here to make a positive difference to the environment and society as a whole. We do this by providing exceptional products and services that meet the specific needs of customers, employees, partners and investors.

#### HONESTY

A company's rise or downfall is dependent on honesty. Thus, we underscore the importance of constant communication between our customers and shareholders, realizing that only through consistent, honest dialogue can the ideas of progress spring forward.

#### COOPERATION

Beyond the cooperation between business partners and our company, or between the various departments within the company, we view cooperation as a type of trust. Cooperation is a primary ingredient in the foundation of our a brand.

#### EFFICIENCY

Only an efficient corporation can react to the continually changing demands of today's market characterized by a fast-paced and ultra-competitive society. We believe in creating a work culture and environment that encourages initiative and looks for ways to optimize management styles and manufacturing protocols, placing a premium on efficiency.

#### PRESERVING FAIRNESS IN INTERNATIONAL TRADE

Canadian Solar strictly abides by the principles of fair trade and fair competition, adhering to the standards of international trade. We believe that only by maintaining this premise can international trade be characterized by equality and win-win situations. Recently, we have come in contact with Euro-American trade laws.

As such, we have assembled our team of lawyers and cooperated with international trade organizations like the WTO in an effort to uphold our responsibilities as a company. On another note, Canadian Solar understands the possible repercussions of the above events and has made extensive efforts to be transparent and forthright in communicating recent events.



#### PROFESSIONALISM

Professionalism is of the utmost importance to Canadian Solar. We require staff to adhere to strict and standardized guidelines when carrying out their responsibilities. It is this uncompromising dedication to professionalism that enables us to reach the highest standard of service, bringing our customers unparalleled levels of satisfaction.

ETHICS & INTEGRITY G4 - 56

### NET REVENUES **IN 2015**



## **INCREASED OVER** 17% OR **\$510 MILLION USD**

WE ARE HERE TO DO GOOD, AND DO GOOD **BUSINESS** 

#### INNOVATION

Innovation is the key to staying relevant in a field that demands fresh ideas and scientific ingenuity. Our willingness to consider things from new perspectives and tackle uncharted territory affords us the inspiration to supersede the ordinary and conquer the most pressing of energy problems.

## VI. **SPECIFIC STANDARD** DISCLOSURES

Each of the following Specific Standard Disclosures relates to a particular aspect that is material to our organization and stakeholders in terms of economic, social or environmental sustainability. For each aspect we disclose our specific management approach and key indicators.

#### ASSESSMENT AND MANAGEMENT OF

ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

Canadian Solar's management has defined its commitment to continuous improvement of EHS performance in its corporate quality and EHS policy and considers these issues as central to their corporate strategy. The company has developed and implemented EHS management systems for the module assembling plants in Changshu, Luoyang, Ontario and Vietnam and the cells manufacturing plant in Suzhou that are certified against ISO 14001 and OHSAS 18001, environmental and OHS management systems respectively. Similar EHS policy and procedures have been developed for the Luoyang ingots/wafers manufacturing plant with the final ISO 14001 and OHSAS 18001 certification audit to occur in 2017.

All of Canadian Solar's key products are also certified against the guality management system ISO 9001, quality management system. Canadian Solar will develop and implement EHS management systems aligned with ISO 14001, OHSAS 18001 and the requirements of the Performance Standards for all future manufacturing plants whether developed or acquired.

Canadian Solar is currently also reviewing the requirements of ISO 26000 with the plan to work towards alignment with the requirements of its Seven Core Subjects in 2016 and 2017.

#### TAKING THE LONG VIEW

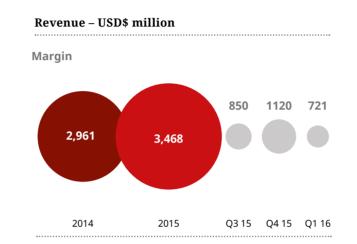
**"LONG-TERM THINKING IS** IN SHORT SUPPLY WHEN IT COMES TO STOCK MARKETS AND THE ENVIRONMENT, NEVERTHELESS, OUR FOCUS IS ON BUILDING A COMPANY THAT WILL REMAIN ECOLOGICALLY. SOCIALLY AND FINANCIALLY SOUND FAR INTO THE FUTURE."

Dr. Shawn Qu, Founder and CEO

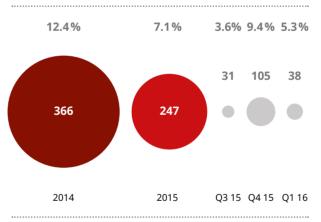


VI.A. **ECONOMIC ASPECTS** 

**ECONOMIC PERFORMANCE** 

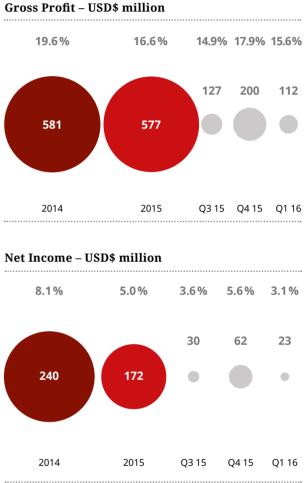


**Operating Income – USD\$ million** 



Canadian Solar enjoyed exceptional financial growth in 2015 as the Selected Financial and Operating Data in the following tables clearly illustrate. The continued financial success of our company is clearly important to the material and social well-being of all our stakeholders. The environment is better off by the very nature of the clean solar energy products we produce. The numbers below suggest that our current management approach is working extremely well. The following selected statement of operations data





for the years ended December 31, 2011, 2012, 2013, 2014 and 2015 and balance sheet data as of December 31, 2014 and 2015 have been derived from our consolidated financial statements in Canadian Solar Inc. financial reports for each of these years, respectively. All of our financial statements are prepared and presented in accordance with U.S. generally accepted accounting principles, or U.S. GAAP from our 2015 Annual Report.

FOR THE YEARS ENDED, OR AS OF, **DECEMBER 31, 2015** 

(in thousands of \$, except share and per share data, and operating data and percentages)

Excerpted from page 3 of the Canadian Solar 2015 Annual Report.

	2011	2012	2013	2014	2015
Statement of operations data					
Net revenues	1,898,922	1,294,829	1,654,356	2,960,627	3,467,626
Income (/loss) from operations	6,833	-142,516	130,816	366,314	247,371
Net income (/loss)	-90,903	-195,155	45,565	243,887	173,316
Net income (/loss) attributeable to Canadian Solar Inc.	-90,804	-195,469	31,659	239,502	171,861
Earnings (/loss) per share, basic	-2.11	-4.53	0.68	4.40	3.08
Shares used in computations, basic	43,076,489	43,190,778	46,306,739	54,408,037	55,728,903
Earnings (/loss) per share, diluted	-2.11	-4.53	0.63	4.11	2.93
Shares used in computation, diluted	43,076,489	43,190,778	50,388,248	59,354,615	60,426,056
OTHER FINANCIAL DATA					
Gross margin	9.6%	7.0%	16.7%	19.6%	16.6%
Operating margin	0.4%	-11.0%	7.9%	12.4%	7.1%
Net margin	-4.8%	-15.1%	2.8%	8.2%	5.0%

FOR THE YEARS ENDED, OR AS OF, **DECEMBER 31, 2015** 

(in thousands of \$, except share and per share data, and operating data and percentages)

Excerpted from page 4 of the Canadian Solar 2015 Annual Report.

	2011	2012	2013	2014	2015
Selcted operation data: Solar power products sold (in MW)					
Module segment <sup>(1)</sup>	1,291.5	1,528.9	1,809.0	2,436.4	4,085.0
Energy development and electricity generation segments <sup>(2)</sup>	31.0	14.2	85.0	376.2	298.8
Total	1,322.5	1,543.1	1,894.0	2,812.6	4,383.8
Average selling price (in \$ per watt) Solar module business	1.34	0.77	0.67	0.67	0.58
BALANCE SHEET DATA					
Net current assets (/liabilities)	59,131	-98,046	-59,003	366.621	-392,231
Total assets	1,879,809	2,259,313	2,453,735	3,072,424	4,417,254
Net assets	466,978	301,583	401,498	729,574	832,510
Long-term borrowings	88,249	214,563	151,392	134,300	606,577
Convertible notes	950	/	1	150,000	150,000
Common shares	502,403	502,562	561,242	675,236	677,103
Number of shares outstanding	43,155,767	43,242,426	51,034,343	55,161,856	55,965,443
Number of shares outstanding	43,155,767	43,242,426	51,034,343	55,161,856	55,96

<sup>(1)</sup> Numbers are calculated after inter-segmentation elimination and represent solar power products sold to third parties.

<sup>(2)</sup> Numbers are calculated after inter-segmentation elimination.

ECONOMIC ASPECTS G4 – DMA

ECONOMIC ASPECTS G4 – DMA

### **QUALITY**

#### Besides offering value to our customers, quality is also valuable to the environment

The longer a product lasts and performs the less often it has to be replaced and the lower its environmental impact. We do not believe in "built-in obsolescence". On the contrary, our PV modules are warrantied to last 25 years and beyond. Further, we anticipate we will be able to extend this warranty to 30 years in the very near future.

See Canadian Solar 2015 Annual Report, page 48-49 and section G4-15 of this report for our continually growing list of quality certifications, and read about our commitment to quality in detail there.

**OUALITY OUR CUSTOMERS** CAN BELIEVE IN

#### · 10-year product workmanship warranty · 25-year linear power output warranty

For polycrystalline module products:

• During the first year, Canadian Solar guarantees the actual power output of the module will be no less than 97.5% of the labeled power output. From year 2 to year 25, the actual annual power decline will be no more than 0.7%; by the end of year 25, the actual power output will be no less than 80.7% of the labeled power output.

For monocrystalline module products:

- · During the first year, Canadian Solar guarantees the actual power output of the module will be no less than 97% of the labeled power output.
- · From year 2 to year 25, the actual annual power decline will be no more than 0.7 %; by the end of year 25, the actual power output will be no less than 80.2% of the labeled power output.

For Dymond modules:

- First year annual degradation 2.5%,
- each subsequent year 0.5 %
- · 85.5% power output at year 25
- · 83% power output at year 30



"NO MATTER HOW GOOD A PRODUCT, IF IT'S NOT SUSTAINABLE, IT'S NOT GOOD QUALITY."

Guohua Tian, Manager of Quality Commission

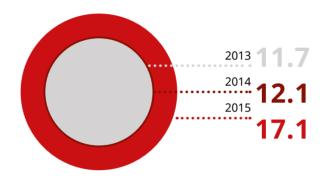
25 years

10

vears

## **RESEARCH & DEVELOPMENT** INNOVATION





The above table is excepted from page 87 of the 2015 Annual Report

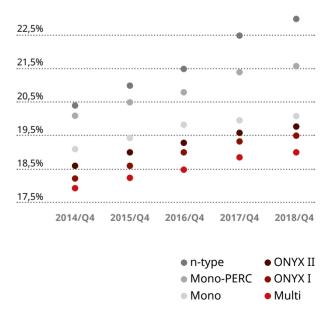
### **SUSTAINABLE** THINKING

**"IT IS CLEAR THAT THE IDEAS THAT MAKE OUR** COMPANY A SUCCESS TODAY WON'T CUT IT TOMORROW. THE ONLY WAY TO STAY AHEAD OF THE GAME IS TO KEEP COMING UP WITH BETTER, MORE SUSTAINABLE INNOVATIONS THAN COMPETITORS."

Yan Zhuang, Senior Vice President & Chief Commercial Officer

By definition, any improvement in the efficiency or cost of solar technology can only have a positive impact on environmental sustainability and improved economic success for all primary stakeholders.

With this in mind, Canadian Solar operates three stateof-the-art PV research centers - one in Canada and two in China - for cells, modules and systems. At these facilities our team of over 200 scientists, engineers and technicians conduct research to continuously improve our solar cell and solar module technologies. With R&D investments totaling well over 600 million USD to date, over 700 local and global patents, and strategic R&D partnerships with NREL, ECN and Fuji Film, Canadian Solar is a globally recognized innovator of the solar industry, to the point where our rate of innovation has become an expected feature in the market as the chart below showing improvements in cell efficiency over time illustrates.



#### **CELL EFFICIENCY ROADMAP**

ECONOMIC ASPECTS *G4 - DMA* 

## COMPETITIVE PIPELINE OF HOMEGROWN TECHNOLOGIES



ONYX I – BLACK SILICON

0.4% cell efficiency and 4 watts module power gain over baseline to over 19% by end of 2016
Over 3 years in-house R&D, self-owned IPs
Production roll out begun in 2015 Q1
Ramp up as future multi baseline
Pleasing aesthetics

#### MONO PERC

- Mono PERC enhances back side passivation and increases cell efficiency to near 21%
- · Low Light Induced Degradation (LID), and Potential Induced Degradation (PID) resistant
- Premium product: 60-cell module power to reach 290 Watt
- Production roll out begin in 2016 Q1, will gradually ramp up within the year





**RESEARCH AND DEVELOPMENT** Excerpted from page 99 of 2015 Annual Report

We have two research and development centers with state-of-the-art equipment—the Center for Solar Cell Research and the Center for Photovoltaic Testing and Reliability Analysis. The Center for Solar Cell Research is focused on developing new high efficiency solar cells and advanced solar cell processing technologies. The Center for Photovoltaic Testing and Reliability Analysis has been accredited and running according to ISO/IEC17025 standard since 2009 and is focused on solar module and module components reliability testing and gualification, and solar module performance analysis.

The Center for Photovoltaic Testing and Reliability Analysis actively participates in and contributes to IEC standard development on solar modules, such as IEC 62804 test method on PID and has been qualified by VDE, CSA, Intertek and TÜV Rheinland in their Test Data Acceptance Programs.



As of December 31, 2015, we had approximately 202 employees in research, product development and engineering. Our research and development activities are generally focused on the following areas:

- · Continuously improving solar cell conversion efficiency and developing new structures and technologies for higher efficiencies:
- · Developing modules with improved design and assembly methods to have higher power output;
- Improving manufacturing yield and reliability of solar modules and reducing manufacturing costs;
- · Testing, data tracing and analysis for module performance and reliability;
- · Designing and developing customized solar modules and products to meet customer requirements; and
- · Developing new methods and equipment for analysis and guality control of incoming materials (such as polysilicon, wafers, cells and other module components).

Going forward, we will focus on the following research and development initiatives which we believe will enhance our competitiveness:

• High efficiency cells. We have begun commercializing our in-house developed black silicon technology, onyx technology, on multi wafers. This self-developed wet chemical texturing is a unique, IP-protected and cost effective technology and will significantly increase solar cell efficiency due to advanced light absorption and surface passivation. We also have developed PERC (passivated emitter and rear cell) technology in order to further increase cell efficiency. The mass

production of PERC commenced in our Funing facility in March 2016. We also have very focused research and development initiatives on N-type bifacial cells, heterojunction cells, IBC cells and other high efficiency cell designs. With these advanced technologies, we can significantly lower the LCOE (levelized cost of energy) on the system level and improve our products' market competitiveness.

#### · Solar cell and module technologies.

Since the opening of our Center for Photovoltaic Testing and Reliability Analysis back in 2008, we have focused on developing state-of-the-art testing and diagnostic techniques in order to improve the yield, efficiency and reliability of our solar modules produced. In 2015, our R&D team worked on developing 5 bus bar cell modules and prepared the commercial production of this more reliable cell technology in 2016. Due to the nature of this cell technology. modules with 5 bus bar cells have an improved cell efficiency by reducing the reverse current resistance in between two bus bar cell areas. At the same time. the 5 bus bar cell has effectively controlled the issue of cell microcracks. We will have extended our product competitiveness by introducing volume production of our 5 bus bar cells and modules (Quintech Modules) with higher module wattage by the second guarter of 2016. We have developed new technology for PIDresistant modules, which have received certifications by TÜV SÜD and the VDE testing and certification institutes. Our black silicon and Quintech module technology has improved the power output of our products. We also have introduced our premium double-glass Dymond modules with a 30-year warranty on power performance, considerably enhancing the return on investment for our customers.

· Solar power system development, energy storage system, off-grid power system, micro grid system and smart grid system. As we continue to move into the downstream energy development and electricity generation segments, we have hired additional engineering staff and increased investment in these areas in 2015.

#### THE MAIN RESEARCH AND DEVELOPMENT GOALS **OF CANADIAN SOLAR IN 2015**

In 2015, R&D continued making our products more effective, focusing on black silicon solar cells. Black silicon solar cells are equipped with a low-reflection nano-sized textured surface, improving the poly-silicon cell efficiency to 18.8%, up by 0.4% compared to regular poly-silicon solar cells. With regard to the black silicon solar cell, Canadian Solar filed 10 patents and one PCT case. Canadian Solar filed 13 patents in China and one PCT case related to anti-PID technology, of which 7 patents have already been granted in China.

As of March 31, 2016, we had 468 patents and 165 patent applications pending in the PRC for products. We have seven U.S. patents. We also have three patents in Europe. See page 31 of the 2015 Annual Report.



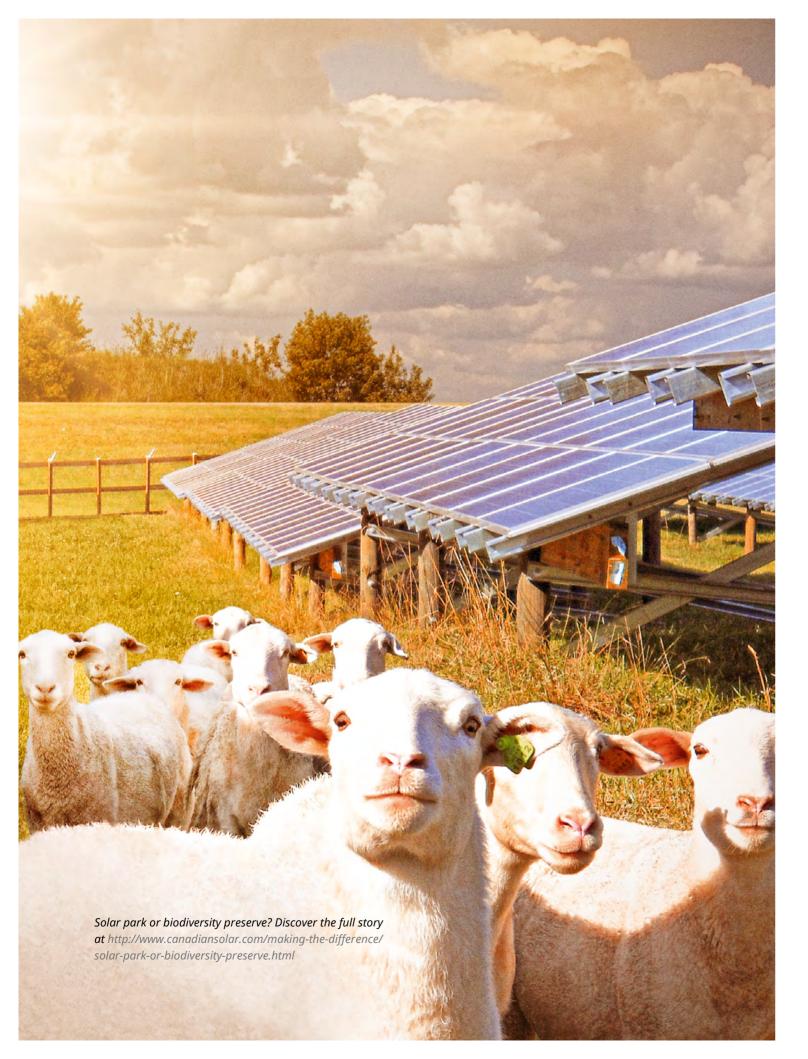
## **468 PATENTS AWARDED AS OF MARCH** 2016

#### Canadian Solar at Google Patents:

www.google.com/?gfe\_rd=cr#tbm=pts&q=%22canadian+ solar%22

#### Canadian Solar at the European Patent Office:

worldwide.espacenet.com/searchResults?locale=en\_ EP&query=%22canadian+solar%22



# VI.B. **ENVIRONMENTAL ASPECTS**

#### DMA ENVIRONMENTAL COMPLIANCE

The potential threats associated with climate change and the impact pollutant non-renewables have on the environment are well known. In addition to delivering products that provide a part of the solution to these problems, we go out of our way to implement policies and follow government directives that help minimize negative environmental impacts and maximize the positive, as disclosed in our 2015 Annual Report (page 56 – 59): "We believe we have obtained the environmental permits necessary to conduct the business currently carried on by us at all our existing manufacturing facilities. In addition, we have also conducted environmental studies in conjunction with our solar power projects to assess and reduce the environmental impact of such projects."

Further, our products always comply with the environmental regulations of the jurisdictions in which they are installed. For example, we have ensured that our products comply with the EU's

Restriction of Hazardous Substances Directive, which took effect in July 2006, by reducing the amount of lead and other restricted substances used in our solar module products.

Our operations are subject to regulation and periodic monitoring by local environmental protection authorities. If we fail to comply with present or future environmental laws and regulations, we could be subject to fines, suspension of production or cessation of operations.

# PRESERVATION **"WHAT WE DO TO** THE ENVIRONMENT WE DO TO OURSELVES, WHICH IS WHY WE RESPECT THE **ENVIRONMENT.**"

Michael Duffy, EHS Director, Energy Group

#### ENVIRONMENTAL ASPECTS G4 - DMA



# OUR ENVIRONMENTAL AIMS

Currently, our sales are increasing at an accelerating rate as our business grows (solar module shipment increased 51.6% in 2015) and there is necessarily a parallel environmental impact in terms of manufacturing. Even so, there is a potentially far greater net benefit to the environment because the more solar panels we sell and commission, the greater the potential there is to offset  $CO_2$  emissions from non-renewable energy sources. While our rapidly growing business and rate of innovation is near impossible to predict over five years, what we can predict with certainty is that our core values, which focus on making a positive difference to all stakeholders, including the environment, will remain unchanged. This means that at all times we strive:

TO ENSURE WE BECOME INCREASINGLY ABLE TO BETTER SATISFY CUSTOMERS' NEEDS FOR CLEAN SOLAR ENERGY SOLUTIONS THAN OUR COMPETITORS

## 2.

TO REDUCE POTENTIALLY HARMFUL EMISSIONS AND EFFECTS ON THE ENVIRONMENT

## 3.

TO MAXIMIZE ACTIVITIES THAT HAVE A POSITIVE IMPACT ON THE ENVIRONMENT, WHICH TRANSLATES DIRECTLY TO THE NUMBER OF PV MODULES WE CAN PRODUCE AND SELL

#### 4.

TO PROMOTE A HEALTHY AND SAFE WORKING ENVIRONMENT THROUGH PREVENTION

## 5.

TO MOTIVATE, EDUCATE, AND INVOLVE OUR EMPLOYEES IN THE QUALITY, HEALTH, SAFETY AND ENVIRONMENTAL ASPECTS OF THEIR WORK

## 6.

TO PRIORITIZE SUPPLIERS AND BUSINESS PARTNERS THAT PRACTICE SIMILAR STANDARDS IN TERMS OF QUALITY, HEALTH, SAFETY AND ENVIRONMENTAL POLICY

# **7.** TO ENSURE COMPLIANCE WITH LEGISLATION AND APPLY RECOGNIZED NORMS AND STANDARDS

8. TO SET TARGETS, EVALUATE RESULTS AND CONTINUOUSLY IMPROVE THESE AND BE AMONG THE BEST IN THE INDUSTRY

**9.** TO COMMUNICATE OPENLY ABOUT TARGETS AND RESULTS RELATING TO QUALITY, HEALTH, SAFETY AND THE ENVIRONMENT



Bird nest of a magpie on a chimney at our module manufacturing site in Suzhou. In Chinese culture, a magpie symbolizes happiness and good luck, it's Chinese name "xi que" translates to "happy magpie". They are said to be among the world's most intelligent and emotional animals, and to be excellent indicators of their ecosystem's health.

#### **ENVIRONMENTAL TARGETS 2020**

Our general policy is to reduce all potentially harmful emissions and effects on the environment as far as possible and to maximize those activities that have a positive impact on the environment. Currently, our sales are increasing at an accelerating rate as our business grows (solar module sales volume increased by over 51% in 2015) and there is necessarily a parallel environmental impact in terms of manufacturing. Even so, there is a potentially far greater net benefit to the environment because the more solar panels we sell and commission, the greater the potential there is to offset CO<sub>2</sub> emissions from non-renewable energy sources.

#### **RESOURCE EFFICIENCY & POLLUTION PREVENTION**

Canadian Solar undertakes monitoring of energy and water consumption and the data is used for planning of activities to reduce resources consumption. It continuously identifies projects so as to decrease use of raw materials as well as reduce waste generation and air emissions. In addition, the company implements various energy efficiency initiatives such as application of power saving lighting and replacement of technological equipment by equipment with lower power costs per production unit.

#### MATERIALS USED

#### China (total)

- Total materials used (in metric tons)
- ... thereof materials purchased from external suppliers
- ... thereof materials obtained from internal sources\*\*
- ... non-renewable materials
- ... recycled input materials use
- ... recycled input materials as a % of total materials used

#### China Suzhou

- Total materials used (in metric tons)
- ... thereof materials purchased from external suppliers
- ... thereof materials obtained from internal sources
- ... non-renewable materials
- ... recycled input materials use
- ... recycled input materials as a % of total materials used

#### China Luoyang

- Total materials used (in metric tons)\*\*\*
- ... thereof materials purchased from external suppliers
- ... thereof materials obtained from internal sources
- ... non-renewable materials
- ... recycled input materials use
- ... recycled input materials as a % of total materials used

#### **China Changshu**

- Total materials used (in metric tons)
- ... thereof materials purchased from external suppliers
- ... thereof materials obtained from internal sources
- ... non-renewable materials
- ... recycled input materials use
- ... recycled input materials as a % of total materials used

NOTE Our Canadian plant does not produce emissions of any kind as it is assembly only.

- Recycling in Luoyang was reduced as the mortar online recovery system was put into operation in 2015. Silicon carbide and cutting fluid recycling are repeated.
- \*\* Internal sources refer to domestic procurement procedures.
- \*\*\* and as the annual production of Luoyang was only 92 MW in 2013 due to a shut-down for more than four months.

2015	2014	2013
244,479.15	172,464.45	121,437.92
2,040.98	2455.62	1,178.63
242,438.21	170,008.83	120,259.29
209,592.64	143,767.50	100,538.92
34,886.51	28,696.95	20,899.00
14,3%	16,6%	17,2%
	244,479.15 2,040.98 242,438.21 209,592.64 34,886.51	244,479.15         172,464.45           2,040.98         2455.62           242,438.21         170,008.83           209,592.64         143,767.50           34,886.51         28,696.95

2015	2014	2013
 12,183.90	11,472.10	14,041.90
 42.29	29.54	24.26
12,141.61	11,442.56	14,017.64
 7,664.10	8,144.60	10,166.50
 4,519.80	3,327.50	3,875.40
37%	29%	28%

2015	2014	2013
37,502.73	9,214.05	5,294.46
332.33	1,144.57	233.74
37,170.40	8,069.48	5,060.72
34,571.47	5,023.60	2,743.86
2,931.26	4,190.45	2,550.60
8%*	52%	50%
	37,502.73 332.33 37,170.40 34,571.47 2,931.26	37,502.739,214.05332.331,144.5737,170.408,069.4834,571.475,023.602,931.264,190.45

2015	2014	2013
193,786.72	151,778.3	102,101.56
1,665.44	1,281.51	920.63
192,121.32	150,496.79	101,180.93
166,436.72	130,599.30	87,628.56
27,350.00	21,179.00	14,473.00
14,1%	14,0%	14,2%
	193,786.72 1,665.44 192,121.32 166,436.72 27,350.00	193,786.72151,778.31,665.441,281.51192,121.32150,496.79166,436.72130,599.3027,350.0021,179.00

The materials used in Luoyang significantly increased from 2013 to 2015 due to an expansion of the production capacity,

China Euripa	2045	2044	2042
China Funing	2015	2014	2013
Total materials used (in metric tons)	1,005,804	0	0
thereof materials purchased from external suppliers	0,92	0	0
thereof materials obtained from internal sources	1,004,884	0	0
non-renewable materials	920,354	0	0
recycled input materials use	85,45	0	0
recycled input materials as a % of total materials used	8,50%	0	0

Indonesia	2015
Total materials used (in metric tons)	64
thereof materials purchased from external suppliers	64
thereof materials obtained from internal sources	0
non-renewable materials	64
recycled input materials use	0
recycled input materials as a % of total materials used	0%

NOTE The manufacturing plant in Indonesia was set up late 2015, recycling processes are to be set up early 2016.

Canada	2015 London	2015 Guelph	2014	2013
Total materials used (in metric tons)	3,942.00	35,145.76	30,683.42	13,140.66
thereof materials purchased from external suppliers	3,942.00	35,145.76	30,683.42	13,140.66
thereof materials obtained from internal sources	0.00	0	0	0
non-renewable materials	3,548.00	0	0	0
recycled input materials use	394.00	0	0	0
recycled input materials as a % of total materials used	0.10%	0	0	0

78

Please note that production in our Brazil and Indonesia plants is scheduled to commence in 2016 so they are not included in the 2015 reporting period. Vietnam production started late 2015, data is still being collected.

NOTE Our Canadian plant does not produce emissions of any kind as it is assembly only.

China (total)	2015	2014	2013
Energy consumption – Total kWh consumed	18,958,100	24,434,900	19,670,210
of which gas	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which steam	27,083	34,907	28,100
Energy consumption – Total MJ consumed	67,707,500	87,267,500	70,250,750
of which gas	0	0	0
of which heating oil	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which other	0	0	0
Total electricity consumed – kWh	283,624,877	231,358,716	201,231,630
Total electricity consumed – MJ	1,021,049,557	832,891,378	724,433,868
Self-generated electricity in kWh	94,830,284	70,833,133	4,263,260
Proportion of renewable energy produced relative to total energy consumed in %	33.4%	30.6%	2.1%

-			
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Indonesia	
Energy consumption – Total kWh consumed	
of which gas	
of which diesel	
of which gasoline	
of which steam	
Energy consumption – Total MJ consumed	
of which gas	
of which heating oil	
of which diesel	
of which gasoline	
of which other	
Total electricity consumed – kWh	
Total electricity consumed – MJ	
Self-generated electricity in kWh (from own PV systems) fed into the grid	

2015
0
0
0
0
0
0
0
0
0
0
0
130,488
469,757
0

Suzhou	2015	2014	2013
Energy consumption – Total kWh consumed	15,758,400	23,315,600	19,224,100
of which gas	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which steam	22,512	33,308	27,463
Energy consumption – Total MJ consumed	56,280,000	83,270,000	68,657,500
of which gas	0	0	0
of which heating oil	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which other	0	0	0
Total electricity consumed – kWh	124,371,793	103,698,976	113,924,200
Total electricity consumed – MJ	447,738,455	373,316,314	410,127,120
Self-generated electricity in kWh (from own PV systems) fed into the grid	0	0	0

Luoyang	2015	2014	2013
Energy consumption – Total kWh consumed	1,623,300	1,119,300	446,110
of which gas	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which steam	2,319	1,599	637.3
Energy consumption – Total MJ consumed	5,797,500	3,997,500	1,593,250
of which gas	0	0	0
of which heating oil	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which other	0	0	0
Total electricity consumed – kWh	74,774,200	65,473,280	36,292,600
Total electricity consumed – MJ	269,187,120	235,703,808	130,653,360
Self-generated electricity in kWh (from own PV systems) fed into the grid	26,328	0	0

Changshu	2015	2014	2013
Energy consumption – Total kWh consumed	0	0	0
of which gas	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which steam	0	0	0
Energy consumption – Total MJ consumed	0	0	0
of which gas	0	0	0
of which heating oil	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which other	0	0	0
Total electricity consumed – kWh	75,836,332	62,186,460	51,014,830
Total electricity consumed – MJ	273,010,795	223,871,256	183,653,388
Self-generated electricity in kWh (from own PV systems) fed into the grid	6,017,764	6,045,254	3,267,995

Funing	2015	2014	2013
Energy consumption – Total kWh consumed	1,576,400	0	0
of which gas	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which steam	2,252	0	0
Energy consumption – Total MJ consumed	5,630,000	0	0
of which gas	0	0	0
of which heating oil	0	0	0
of which diesel	0	0	0
of which gasoline	0	0	0
of which other	0	0	0
Total electricity consumed – kWh	8,642,552	0	0
Total electricity consumed – MJ	31,113,187	0	0
Self-generated electricity in kWh (from own PV systems) fed into the grid	885,510	0	0

# SOONER IS BETTER **"IN A WORLD OF** FINITE RESOURCES, THE **ONLY THING WE CAN DECIDE IS WHETHER TO RECYCLE SOONER,** LATER, OR TOO LATE."

Dr. Guoqiang Xing, VP Technology

#### **ENERGY CONSUMPTION**

Canada	2015 London	2015 Guelph	2014	2013
Energy consumption – Total kWh consumed	1,740,190	13,274,678	13,492,897	7,602,053
of which gas in m³	16,330	235,043	267,119	294,954
of which heating oil	0	0	0	0
of which diesel	0	0	0	0
of which gasoline	0	0	0	0
of which other	0	0	0	0
Energy consumption – Total MJ consumed	0	0	0	0
of which gas	0	0	0	0
of which heating oil	0	0	0	0
of which diesel	0	0	0	0
of which gasoline	0	0	0	0
of which other	0	0	0	0
Total electricity consumed – kWh	1,740,190	13,274,678	13,492,897	7,602,053
Total electricity consumed – MJ	6,264,428	47,788,842	485,744,430	27,367,392
Self-generated electricity in kWh (from own PV systems) fed into the grid	0	0	0	0
Proportion of renewable energy produced relative to total energy consumed in %	0	0	0	0

Water is used for cleaning and cooling of components, as well as for preparation of chemical solutions. The highest consumption of water is at the Suzhou plant followed by Changshu and Luoyang plants. Canadian Solar monitors and controls energy and water consumption. Each calendar year, we set a target for the reduction of these two resource consumptions. At the same time, Canadian Solar sets annual targets for waste and air emissions. In addition, the company implements various energy efficiency initiatives such as the application of energy consumption management systems and the upgrade of existing equipment to enable a higher energy efficiency of each unit.

GLOBAL WATER CONSUMPTION

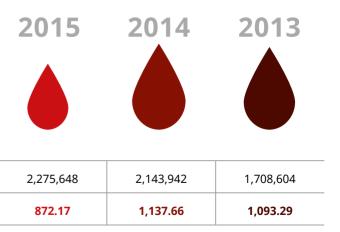
	2015	2014	2013
Total water withdrawal in m <sup>3</sup>	2,275,648	2,143,942	1,708,604
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	2,275,648	2,143,942	1,708,604
of which ground water	0	0	0

GLOBAL WATER USE OF ALL PLANTS IN LITERS PER MW. A REDUCTION OF 25% IN ONLY THREE YEARS.

Total water use in m<sup>3</sup>

Total water use in m<sup>3</sup>/MW

We have always been committed to water reuse and recycling programs. Canadian Solar has successfully implemented projects for the collection and reuse of RO (reverse osmosis) rejected water, HVAC condensate water, and even preliminarily-treated wastewater. This water is used for washing, heating, cooling, cleaning and gardening, aiming to decrease waste discharge and reduce the consumption of fresh water, achieving the win-win objective of both economic development and environmental protection.





GLOBAL WASTEWATER DISCHARGE VOLUME IN M<sup>3</sup> PER MW PRODUCED. A REDUCTION OF OVER 31% IN ONLY THREE YEARS.

Total Discharge Volume in m <sup>3</sup>	1,698,510	1,662,765	1,339,194
Discharge Volume in m³/MW produced	650.66	882.33	856.91

2015

2013

2014

#### WATER CONSUMPTION

Suzhou	2015	2014	2013
Total water withdrawal in m³	1,267,108	1,320,000	1,240,000
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	1,267,108	1,320,000	1,240,000
of which ground water	0	0	0
Luoyang	2015	2014	2013
Total water withdrawal in m³	632,396	619,912	318,751
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	632,396	619,912	318,751
of which ground water	0	0	0
Changshu	2015	2014	2013
Total water withdrawal in m³	242,318	204,030	149,853
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	242,318	204,030	149,853
of which ground water	0	0	0
Funing	2015	2014	2013
Total water withdrawal in m³	133,826	0	0
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	133,826	0	0

Total water withdrawal in m <sup>3</sup>	
of which surface water	
of which rainwater	
of which water from municipal water supply	
of which ground water	

Total water withdrawal in m³
of which surface water
of which rainwater
of which water from municipal water supply
of which ground water

Suzhou	2015	2014	2013
Total water withdrawal in m <sup>3</sup>	1,267,108	1,320,000	1,240,000
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	1,267,108	1,320,000	1,240,000
of which ground water	0	0	0
Luoyang	2015	2014	2013
Total water withdrawal in m <sup>3</sup>	632,396	619,912	318,751
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	632,396	619,912	318,751
of which ground water	0	0	0
Changshu	2015	2014	2013
Total water withdrawal in m³	242,318	204,030	149,853
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	242,318	204,030	149,853
of which ground water	0	0	0
Funing	2015	2014	2013
Total water withdrawal in m³	133,826	0	0
of which surface water	0	0	0
of which rainwater	0	0	0
of which water from municipal water supply	133,826	0	0
of which ground water	0	0	0

	1	1	1	1	
Canada	London 2015	Guelph 2015	2014	2013	2012
Total water withdrawal in m <sup>3</sup>	0	3,435	3,585	3,333	3,007
of which surface water	0	0	0	0	0
of which rainwater	0	0	0	0	0
of which water from municipal water supply	0	3,435	3,585	3,333	3,007
of which ground water	0	0	0	0	0

NOTE Our Canadian plant does not produce emissions of any kind as it is assembly only. Our Indonesian Plant first opened in December 2015 and no water was recycled and reused.

#### WATER RECYCLED

#### AND REUSED

China (total)	2015	2014	2013
Water recycled/reused in m³	897,119	939,316	657,577
Water recycled/reused as % of total water withdrawal	39.4%	43.8%	38.5%
Total wastewater discharge in m <sup>3</sup>	1.698,510	1.662,765	1.339,194
Suzhou	2015	2014	2013
Water recycled/reused in m³	517,681	742,542	551,152
Water recycled/reused as % of total water withdrawal	41%	56%	44.45%
Total wastewater discharge in m <sup>3</sup>	801,000	1,056,000	992,000
	2015	2014	2013
Luoyang Water recycled/reused in m <sup>3</sup>	379,438	196,774	106,425
Water recycled/reused as % of total water withdrawal	60%	32%	33%
Total wastewater discharge in m <sup>3</sup>	252,958	423,138	212,326
Changshu	2015	2014	2013
Water recycled/reused in m <sup>3</sup>	0	0	0
Water recycled/reused as % of total water withdrawal	0	0	0
Total wastewater discharge in m <sup>3</sup>	218,086	183,627	134,868
Funing	2015	2014	2013
Water recycled/reused in m <sup>3</sup>	0	0	0
Water recycled/reused as % of total water withdrawal	0	0	0
Total wastewater discharge in m³	426,466	0	0

NOTE Our Canadian plant does not produce emissions of any kind as it is assembly only. Our Indonesian Plant first opened in December 2015 and no water was recycled and reused.

#### **RESOURCE EFFICIENCY** AND POLLUTION PREVENTION

Water is used for cleaning and cooling of components, as well as for preparation of chemical solutions. The highest consumption of water is at the Suzhou plant followed by Changshu and Luoyang processing plants. Canadian Solar undertakes monitoring of energy and water consumption and the data is used for planning of activities to reduce resources consumption. Canadian Solar continuously identifies projects so as to decrease use of raw materials as well as reduce waste generation and air emissions. In addition, the company implements various energy efficiency initiatives such as application of power saving lighting and replacement of technological equipment by equipment with lower power costs per production unit.

Total GHG emissions are estimated at 226,465 tons CO<sub>2</sub>equivalent based on 2014 process activities (excluding suppliers). The company estimates it currently produces up to 4,619 tons of wastewater per day at its plants in China, which is treated via on site treatment plants prior to discharge. Wastewater is mainly generated during texturing and the phosphorous doping processes at the Suzhou plant. About 60% of this wastewater is treated onsite and re-used in production processes with the remaining discharged to the municipal sewage treatment system. None of the company's plants discharge wastewater directly to a surface water body. Generally, wastewater which is discharged into the municipal wastewater system is treated in accordance with local standards before being discharged. The company measures wastewater quality discharged on a quarterly basis and undertakes an investigation if the concentration level of fluoride, oil, nitrogen ammonia, biological and chemical oxygen demand exceeds locally permitted levels. Corrective measures (e.g., modernization of the wastewater treatment plant in Luoyang, minimization of chemicals usage) are being implemented. A similar approach to wastewater management will be adopted in design and applied by the company at its future operations to ensure compliance with relevant national requirements and the World Bank Group's EHS Guideline requirements.

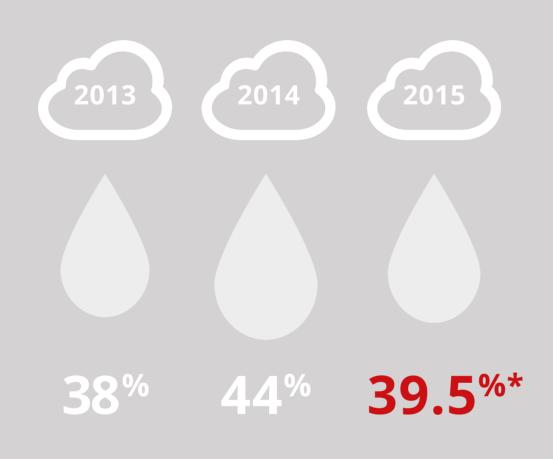
Each facility has gas emission processing silos to treat gas before it is emitted to the atmosphere. The government monitoring tests of the gas emissions has demonstrated compliance with national limits and is aligned with the WBG EHS Guidelines for Electronics and Semiconductors. The company handles solid wastes according to national regulatory requirements. The waste management policy clearly defines the respective responsibilities of the departments involved and their collaboration standards to ensure proper waste management. Hazardous waste (e.g., fluoride sludge, chemicals tanks, used oil and chemicals, etc.) is disposed of by licensed contractors at all facilities. This procedure will similarly apply at new operations. Silicon slurry is generated at the Luoyang ingots/wafers plant during the cutting process. Silicon slurry wastes are pumped into closed tanks and collected by an external treatment company for further silicon material recycling.

Hazardous materials (various chemicals used in the manufacturing process e.g. hydrochloric acid, sulfuric acid, nitric acid and hydrogen fluoride, etc.) are stored in tanks/cylinders and are automatically dispensed in closed systems to mitigate fire and explosion risks along with accidental leakage.

The company facilities are served by a centralized storm water collection and distribution system in the industrial parks in which they are located.

Similar to the other existing plants of Canadian Solar, the wastewater from the process is treated at an on-site wastewater treatment facility and then sent to the municipal wastewater treatment facility. During the EIA various measures were designed to ensure compliance with local standards on air emissions and wastewater discharge treatment, wastes handling and hazardous materials management. As outlined above, the company will amend the EIA for the total production capacity.





\* 2015 has seen a decline in total water recycling and reuse, as new recycling processes are still being established at our new manufacturing sites.

#### WINNING FORMULA

**"SOLAR PANELS ARE UNIQUE IN** THAT THE CO<sub>2</sub> PRODUCED IN THEIR MANUFACTURE IS CANCELLED OUT MANY TIMES OVER BY THE CO<sub>2</sub> PRODUCTION THAT THEIR USE PREVENTS."

Chuangen Li, EHS Director China

WATER USAGE REDUCTION MEASURES 2015 INCLUDE

#### Luoyang manufacturing site:

Tail water of the purified water system is reused for the degumming process, which doesn't require high water quality

Suzhou manufacturing site: Treated wastewater is added to the pure water system

#### A 42% decrease in CO, over the course of the last four years, as confirmed by TÜV SÜD for our bestselling product CS6P-P 250 Wp. The annual TÜV SÜD evaluations on our CO<sub>2</sub> emissions can be reviewed in detail after contacting service@canadiansolar.com.

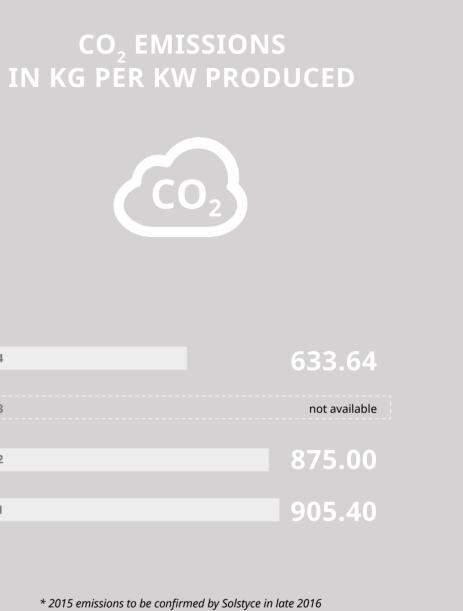
2013

2012

2011

#### MANAGING OUR CARBON FOOTPRINT

As a frontrunner of the photovoltaic industry, Canadian Solar cares a great a deal about the environmental



footprint of its products. As such we were one of the first solar companies worldwide to implement holistic environmental management systems to reduce our carbon emissions. To meet our ambitious pollution reduction targets, Canadian Solar has partnered with Intertek in 2009 – 2012 and with TÜV SÜD in 2014 and 2015 to quantify and improve our GHG emissions. Canadian Solar continues to carry out the recommendations put forth by these third parties to improve product efficiency and lower carbon emissions.

#### **BREAKDOWN OF CO<sub>2</sub> FOOTPRINT** OF ONE OF OUR MOST PRODUCED **PV PANELS: THE CS6P-250P**

CS6P-250P Module	unit: quantification of every component for 1 kWp	unit: quantification of every component	Q (unit/ kWp)	Manufacturing Country	GWPij (kg CO <sub>2</sub> eq/unit) 1. value from French call 2. real inventory value	Gj, amount of required energy in manufacturing process for each site and each component (kg CO <sub>2</sub> eq/kWp)
		/module	/kWp			
		0.6	2.38	China	116.875	221.87
Poly-silicon		0.6	2.38	China	141.023	50.77
r ory-sincon	unit: kg	0.6	2.38	Germany	87.724	4.96
		0.6	2.38	Korea	85.555	5.25
		0.6	2.38	China	12.226	23.21
Ingot	unit: kg	0.6	2.38	China	18.323	5.90
		0.6	2.38	China	18.323	2.86
		60	240.00	China	0.670	21.78
Wafer unit: number of wafers	60	240.00	China	0.397	76.08	
	60	240.00	China	0.991	14.03	
		60	240.00	China	0.341	16.92
Cell	unit: number of cells	60	240.00	Taiwan	0.248	18.13
		60	240.00	China	0.432	50.57
Module	unit: m³	1.61	6.43	China	4.461	28.70
Glass		12.42	49.68	China	1.010	22.14
01855	unit: kg	12.42	49.68	China	1.164	32.30
Glass tempering	unit: kg	12.42	49.68	China	0.243	12.07
EVA	unit: kg	1.35	5.40	China	2.666	14.39
Backsheet	unit: kg	0.48	1.92	China	2.821	5.07
(PET)	unit: kg	0.48	1.92	Japan	2.705	0.33
Backsheet	unit: kg	0.06	0.25	China	25.892	5.98
(PVF)	unit: kg	0.06	0.25	Japan	21.061	0.34
Total CO <sub>2</sub> emission of 1 kWp						633.64

#### SUMMARY OF SIMPLIFIED **CARBON FOOTPRINT OF CANADIAN SOLAR INC. PV MODULES**

#### CS6P-\*\*\*P series for 60 cells Simplified Carbon Footprint (kg CO<sub>2</sub>-eq/kWp)

Power (Wp)	250	255	260	265	270	275	280	284
CS6P-***P series	633.64	618.24	606.47	595.13	584.21	573.68	563.53	553.73

#### CS6X-\*\*\*P series for 72 cells Simplified Carbon Footprint (kg CO<sub>2</sub>-eq/kWp)

Power (Wp)	300	305	310	315	320	325	330	335	340	345
CS6X-***P series	627.77	616.28	606.42	596.87	587.61	578.64	569.94	561.50	553.30	545.34

#### CS6K-\*\*\*P-FG series for 60 cells Simplified Carbon Footprint (kg CO<sub>2</sub>-eq/kWp)

Power (Wp)	255	260	265	270	275	280	285
CS6X-***P series	654.34	641.88	629.88	618.32	607.18	596.44	586.06

Cahier des charges de l'appel d'offres portant sur la réalisation et l'exploitation d'installations de produciton d'électricité à partir de l'énergie solaire d'une puissance supérieure à 250 kWc.

The simple calculation was performed by Kevin Chung, TÜB Süd Taiwan 21. September 2015

Written by <Signature>

Kevin Chung

International Standards Body, TÜV issued a Product Carbon Footprint report for Canadian Solar modules in 2015.



Simplified carbon footprint "bilan carbone simplife" results for Canadian Solar Inc. PV Modules manufactured in China

according to

Approved by <Signature>

Bill Y=-

# NO<sub>x</sub>, SO<sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS

As is standard practice in our organization, we observe all local and international laws and regulations related to emissions. On-going monitoring assessment of all relevant emissions is carried out and we employ

sophisticated exhaust and filtration technology at all manufacturing facilities to reduce emissions as far as possible.

2015 Air emissions	Luoyang Wafers	Luoyang Modules	Suzhou Cells	Funing Cells	Changshu Modules
Total Hazardous air pollutants – Tons Emitted	0.30	0.29	22.93	3.95	NC
Total Hazardous air pollutants – Tons / MW	0.00084	0.00069	0.01268308	0.127	NC
NO <sub>x</sub> – Tons Emitted	0.003	NC	8.74	2.29	NC
NO <sub>x</sub> – Tons / MW	0.00001	NC	0.00483207	0.07	NC
Fine dust (PM10) – Tons Emitted	0.13	0.21	1.00	0.08	NC
Fine dust (PM10) – Tons / MW	0.00037	0.00050	0.000557547	0.0026	NC
Persistent organic pollutants – Tons Emitted	NC	NC	NC	NC	NC
Persistent organic pollutants – Tons / MW	NC	NC	NC	NC	NC
SO <sub>x</sub> – Tons Emitted	NC	NC	NC	0.0655	NC
SO <sub>x</sub> – Tons / MW	NC	NC	NC	0.00211	NC
Exhaust gas and fugitive emissions – Tons Emitted	NC	NC	NC	0.00731	NC
Exhaust gas and fugitive emissions – Tons / MW	NC	NC	NC	0.000236	NC
VOC – Tons Emitted	0.013	0.027	0.836	0.3931	NC
VOC – Tons MW	0.00004	0.00006	0.00046241	0.0126	NC
Other standard air emissions – Tons Emitted	0.15	0.05	19.35	NC	0,8
Other standard air emissions – Tons / MW	0.00043	0.00012	0.0107029	NC	0,003

2014 Air emissions	Luoyang Wafers	Luoyang Modules	Suzhou Cells	Funing Cells	Changshu Modules
Total Hazardous air pollutants – Tons Emitted	0.004	0.343	22.04	NC	NC
Total Hazardous air pollutants – Tons / MW	0.00002	0.00114	0.016558978	NC	NC
NO <sub>x</sub> – Tons Emitted	0.004	NC	4.64	NC	NC
NO <sub>x</sub> – Tons / MW	0.00002	NC	0.0034861	NC	NC
Fine dust (PM10) – Tons Emitted	NC	0.26	NC	NC	NC
Fine dust (PM10) – Tons / MW	NC	0.00087	NC	NC	NC
Persistent organic pollutants – Tons Emitted	NC	NC	NC	NC	NC
Persistent organic pollutants – Tons / MW	NC	NC	NC	NC	NC
SO <sub>x</sub> – Tons Emitted	NC	NC	NC	NC	NC
SO <sub>x</sub> – Tons / MW	NC	NC	NC	NC	NC
Exhaust gas and fugitive emissions – Tons Emitted	NC	NC	NC	NC	NC
Exhaust gas and fugitive emissions – Tons / MW	NC	NC	NC	NC	NC
VOC – Tons Emitted	NC	0.083	0.02	NC	NC
VOC – Tons MW	NC	0.00028	0.000015	NC	NC
Other standard air emissions – Tons Emitted	NC	NC	17.40	NC	3,2
Other standard air emissions – Tons / MW	NC	NC	0.013073	NC	0.0015

ENVIRONMENTAL ASPECTS G4 – DMA

#### **OVERVIEW OF TOP SUPPLIERS FOR CANADIAN SOLAR 2015**

2013 air emissions	Luoyang Wafers	Luoyang Modules	Suzhou Cells	Funing Cells	Changshu Modules
Total Hazardous air pollutants – Tons Emitted	NC	0.55	10.66	NC	NC
Total Hazardous air pollutants – Tons / MW	NC	0.00235	0.008624	NC	NC
NO <sub>x</sub> – Tons Emitted	NC	NC	1.30	NC	NC
NO <sub>x</sub> – Tons / MW	NC	NC	0.00105	NC	NC
Fine dust (PM10) – Tons Emitted	NC	0.51	0.09	NC	NC
Fine dust (PM10) – Tons / MW	NC	0.00217	0.000072	NC	NC
Persistent organic pollutants – Tons Emitted	NC	NC	NC	NC	NC
Persistent organic pollutants – Tons / MW	NC	NC	NC	NC	NC
SO <sub>x</sub> – Tons Emitted	NC	NC	NC	NC	NC
SO <sub>x</sub> – Tons / MW	NC	NC	NC	NC	NC
Exhaust gas and fugitive emissions – Tons Emitted	NC	NC	NC	NC	NC
Exhaust gas and fugitive emissions – Tons / MW	NC	NC	NC	NC	NC
VOC – Tons Emitted	NC	0.04	0.92	NC	NC
VOC – Tons MW	NC	0.00018	0.000744	NC	NC
Other standard air emissions – Tons Emitted	NC	NC	9.27	NC	NC
Other standard air emissions – Tons / MW	NC	NC	0.007501	NC	NC

	Supplier Name	%	Supplier Name	%	Supplier Name	%
CELLS						
1	Tongwei	28%	NSP	35%	NSP	32%
2	NSP	22%	Tongwei	16%	Shunfeng	8%
3	Shunfeng	15%	Shunfeng	15%	Tongwei	< 1%
WAFERS						
1	GCL	74%	GCL	29%	GCL	92%
2	Nanbo	8%	Nanbo	2%	LDK	< 1%
3	LDK	5%	LDK	2%	Nanbo	< 1%
EVA						
1	First	85%	First	>92%	First	100%
2	3M	6%	-	-	-	-
3	Tegu	5%	-	-	-	-
ALU-FRAMES						
1	Donghua	32%	Donghua	37%	Donghua	36%
2	Mihuang	26%	Mihuang	28%	Mihuang	19%
3	Xiehe	21%	Xiehe	18%	Jingcheng	15%
BACK SHEETS						
1	Cybird	30%	Cybird	46%	Crown	37%
2	Jolywood	25%	Toyal	14%	Isovoltaic	20%
3	Fuji	21%	Jolywood	13%	Cybrid	15%
GLASS						
1	Xinyi	55%	Xinyi	46%	Nanbo	42%
2	Almaden	12%	Nanbo	22%	Almaden	22%
3	Xiuqiang	11%	Almaden	12%	Xiuqiang	15%
JUNCTION BOXES						
1	Changshu Friends Connector Technology	69%	Changshu Friends Connector Technology	93%	Changshu Friends Connector Technology	99%
2	Changshu Tlian	20%	Zhejiang Renhe PV Technology	7%	Jinghua	< 1%
3	Zhejiang Renhe PV Technology	11%	Jinghua	< 1%	-	-

#### **ENVIRONMENTAL DATA OF TOP-3 CELL SUPPLIERS 2015**

	TONGWEI					
PRODUCTION	2015	2014	2013			
TOTAL ANNUAL PRODUCTION (TONS)	5,370	2,152	172			
Products sold to Canadian Solar (tons)	1,181	452	3			
% of products supplied to Canadian Solar	22%	21%	2%			
ENERGY CONSUMPTION	2015	2014	2013			
Steam (tons)	0	0	0			
Diesel (tons)	0	0	0			
Gasoline (tons)	0	0	0			
Total energy consumption (kWh)	147,171,056	81,770,530	947,568			
Energy consumption per t	27,406	37,997	5,509			
WATER CONSUMPTION	2015	2014	2013			
Total water consumption (m <sup>3</sup> )	2,378,888	1,197,120	101,074			
Water consumption per t	443.00	556.28	587.64			
WATER RECYCLED AND REUSED	2015	2014	2013			
Total water recycling (m³)	1,903,110	957,696	80,859			
Water recycling per t	354.40	445.03	470.11			
GREENHOUSE GAS EMISSIONS	2015	2014	2013			
CO <sub>2</sub> emissions (tons)	157,326	87,413	1,013			
CO <sub>2</sub> emissions per t	29.30	40.6	5.9			
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013			
NO <sub>x</sub> (t)	40	32	5			
Fine dust PM10 (t)	0.10	0.05	<0.01			
SO <sub>x</sub> (t)	0	0	0			
Exhaust gas and fugitive emissions (t)	0	0	0			
VOC (t)	0.50	0.30	<0.01			
Other standard air emissions (t)	0	0	0			

		NCD			CUMPTERIC	
		NSP			SHUNFENG	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	4,968	5,226	3,778	911	629	507
Products sold to Canadian Solar (tons)	752	798	375	195	134	96
% of products supplied to Canadian Solar	15%	15%	10%	21%	21%	19%
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	0	0	0	0	0	0
Diesel (tons)	3.30	3.80	2.50	0	0	0
Gasoline (tons)	0	0	0	0	0	0
Total energy consumption (kWh)	40,377,313	42,846,922	20,129,907	47,595,156	47,313,921	41,419,192
Energy consumption per t	8,127	8,199	5,328	52,245	75,209	81,695
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	369,555	392,156	184,237	715,611	653,567	502,269
Water consumption per t	74.39	75.04	48,77	785.52	1,038.89	990.67
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m³)	325,208	345,097	162,129	347,938	409,548	293,201
Water recycling per t	65.46	66.03	42.91	381.93	651.01	578.31
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	17,351	18,412	8,650	39,310	39,008	34,260
CO <sub>2</sub> emissions per t	3.49	3.52	2.29	43.15	62.01	67.57
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	1.00	1.00	0.50	8	6	4
Fine dust PM10 (t)	0	0	0	0	0	0
SO <sub>x</sub> (t)	0.10	0.10	0.04	0	0	0
Exhaust gas and fugitive emissions (t)	0	0	0	0	0	0
VOC (t)	1	1	0.96	0.5	0.3	0.1
Other standard air emissions (t)	0	0	0	0	0	0

#### **ENVIRONMENTAL DATA OF TOP-3** WAFER SUPPLIERS 2015

		GCL	
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	55,936	48,203	33,140
Products sold to Canadian Solar (tons)	3,465	2,835	2,415
% of products supplied to Canadian Solar	6%	6%	7%
ENERGY CONSUMPTION	2015	2014	2013
Steam (tons)	22,021	33,329	32,551
Diesel (tons)	34,179	52,041	35,273
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	914,670,000	904,120,000	697,420.000
Energy consumption per t	16,352	18,757	21,045
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m <sup>3</sup> )	2,500,974	1,981,504	3,263,738
Water consumption per t	44.71	41.11	98.48
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m <sup>3</sup> )	2,273,613	1,648,000	3,103,974
Water recycling per t	40.65	34,.19	93.66
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	753,927	752,244	583,131
CO <sub>2</sub> emissions per t	13.48	15.61	17.60
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	1.48	14.02	13.98
Fine dust PM10 (t)	5.71	1.75	1.76
SO <sub>x</sub> (t)	0	0	0
Exhaust gas and fugitive emissions (t)	0	0	0
VOC (t)	0	0	0
Other standard air emissions (t)	0	0	0

		NANBO			LDK	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	1,554	706	512	8,893	8,864	6,941
Products sold to Canadian Solar (tons)	369	85	7	443	117	21
% of products supplied to Canadian Solar	24%	12%	1%	5%	1%	< 1 %
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	0	0	0	0	0	0
Diesel (tons)	0	0	0	0	0	0
Gasoline (tons)	0	0	0	0	0	0
Total energy consumption (kWh)	116,448,310	58,956,736	38,949,939	437,279,040	468,232,160	388,088,800
Energy consumption per t	74,935	83,487	76,064	49,173	52,826	55,916
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	1,061,661	521,812	330,790	6,625,790	7.578,420	7,101,278
Water consumption per t	683.18	738.92	645.99	745.08	855.00	1,023.16
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m³)	572,000	180,000	132,000	5,845,790	6,848,420	6,411,278
Water recycling per t	368.08	254.89	257.78	657.37	772.64	923.75
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	113,234	57,330	37,875	425,712	455,831	380,275
CO <sub>2</sub> emissions per t	72.87	81.18	73.96	47.87	51.43	54.79
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	2	2	0	0.04	0.04	0.04
Fine dust PM10 (t)	0.50	0.30	0	0.71	0.69	0.69
SO <sub>x</sub> (t)	0	0	0	0	0	0
Exhaust gas and fugitive emissions (t)	0.20	0.20	0.20	0	0	0
VOC (t)	0	0	0	0	0	0
Other standard air emissions (t)	0	0	0	0	0	0

#### **ENVIRONMENTAL DATA OF TOP EVA SUPPLIER 2015**

		FIRST	
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	51,820	50,379	35,354
Products sold to Canadian Solar (tons)	12,530	10,140	8,715
% of products supplied to Canadian Solar	24%	20%	25%
ENERGY CONSUMPTION	2015	2014	2013
Steam (tons)	0	0	0
Diesel (tons)	0	0	0
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	25,243,200	24,865,600	17,672,800
Energy consumption per t	487	494	500
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m³)	61,033	59,269	40,175
Water consumption per t	1.18	1.18	1.14
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m³)	54,929	53,342	36,157
Water recycling per t	1.06	1.06	1.02
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	20,434	20,129	14,306
CO <sub>2</sub> emissions per t	0.39	0.40	0.40
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	4.80	4.20	3
Fine dust PM10 (t)	0.40	0.38	0.35
SO <sub>x</sub> (t)	0.80	0.60	0.45
Exhaust gas and fugitive emissions (t)	0	0	0
VOC (t)	6	5.40	4
Other standard air emissions (t)	0	0	0



ENVIRONMENTAL ASPECTS G4 – DMA

#### **ENVIRONMENTAL DATA OF TOP-3 ALUMINIUM FRAME SUPPLIERS 2015**

		DONGHUA	
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	250,000	250,000	220,000
Products sold to Canadian Solar (tons)	15,000	15,000	12,000
% of products supplied to Canadian Solar	6%	6%	5%
ENERGY CONSUMPTION	2015	2014	2013
	9,414		
Steam (tons)		10,793	11,190
Diesel (tons)	0	0	0
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	133,668,362	108,489,030	110,014,000
Energy consumption per t	535	434	500
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m <sup>3</sup> )	1,237,297	1,166,433	1,418,790
Water consumption per t	4.95	4.67	6.45
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m <sup>3</sup> )	595,000	580,000	580,000
Water recycling per t	2.38	2.32	2.64
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	7,000	6,500	6,000
CO <sub>2</sub> emissions per t	0.03	0.03	0.03
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	17.28	17.50	18.62
Fine dust PM10 (t)	5.78	6.50	7.85
SO <sub>x</sub> (t)	11.52	12.50	15
Exhaust gas and fugitive emissions (t)	0	0	0
VOC (t)	0	0	0
Other standard air emissions (t)	0	0	0

		MIHUANG			XIEHE	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	49,600	39,500	29,500	195,000	121,500	105,000
Products sold to Canadian Solar (tons)	8,850	9,520	4,150	9,800	7,350	6,300
% of products supplied to Canadian Solar	18%	24%	14%	4%	3%	3%
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	6,770	5,942	4,878	6,200	4,570	3,950
Diesel (tons)	0	0	0	0	0	0
Gasoline (tons)	0	0	0	0	0	0
Total energy consumption (kWh)	49,195,000	40,885,000	32,420,000	89,805,640	65,899,080	56,140,712
Energy consumption per t	992	1,035	1,099	461	542	535
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	451,000	474,000	545,000	816,615	601,326	519,600
Water consumption per t	9.09	12.00	18.47	4.19	4.95	4.95
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m <sup>3</sup> )	418,000	403,000	463,000	392,700	290,170	250,000
Water recycling per t	8.43	10.20	15.69	2.01	2.39	2.38
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	2,600	2,400	1,750	4,890	3,400	2,950
CO <sub>2</sub> emissions per t	0.05	0.06	0.06	0.03	0.03	0.03
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	6.50	6.45	5.40	11.60	8.50	7.25
Fine dust PM10 (t)	2.20	2.40	2.30	3.96	2.80	2.42
SO <sub>x</sub> (t)	4.20	4.60	4.30	7.90	5.60	4.83
Exhaust gas and fugitive emissions (t)	0	0	0	0	0	0
VOC (t)	0	0	0	0	0	0
Other standard air emissions (t)	0	0	0	0	0	0

#### **ENVIRONMENTAL DATA OF TOP-3 BACK SHEET SUPPLIERS 2015**

		CYBIRD	
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	24,546	13,100	6,655
Products sold to Canadian Solar (tons)	2,946	3,498	939
% of products supplied to Canadian Solar	12%	26%	14%
ENERGY CONSUMPTION	2015	2014	2013
Steam (tons)	9,898	6,220	5,683
Diesel (tons)	1.63	1.47	1.3
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	7,952,791	7,111,253	6,908,125
Energy consumption per t	324	543	1,038
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m <sup>3</sup> )	61,504	73,255	57,813
Water consumption per t	2.51	5.59	8.69
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m³)	55,353	65,930	52,032
Water recycling per t	2.26	5.03	7.82
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	6,438	5,757	5,592
CO <sub>2</sub> emissions per t	0.26	0.44	0.84
	2015	2014	2012
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	0.32	0.28	0.23
Fine dust PM10 (t)	0.12	0.96	0.81
SO <sub>x</sub> (t)	0	0	0
Exhaust gas and fugitive emissions (t)	0.04	0.03	0.03
VOC (t)	0.27	0.25	0.23
Other standard air emissions (t)	0	0	0

		JOLYWOOD			FUJI	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	18,584	9,480	6,148	924	396	185
Products sold to Canadian Solar (tons)	3,018	1,394	436	250	140	0
% of products supplied to Canadian Solar	16%	15%	7%	27%	35%	0%
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	0	0	0	0	0	0
Diesel (tons)	1.43	1.15	0.79	18	8.4	3.6
Gasoline (tons)	0	0	0	0	0	0
Total energy consumption (kWh)	22,710,000	17,710,000	11,840,000	3,960	1,800	840
Energy consumption per t	1,222	1,868	1,926	4	5	5
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	137,905	181,233	209,005	7,000	3,500	1,700
Water consumption per t	7.42	19.12	34.00	7.58	8.84	9.19
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m <sup>3</sup> )	123,975	165,432	183,063	7,200	3,600	1,800
Water recycling per t	6.67	17.45	29.78	7.79	9.09	9.73
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	18,384	14,336	9,584	104	46	22
CO <sub>2</sub> emissions per t	0.99	1.51	1.56	0.11	0.12	0.12
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	0.32	0.28	0.23	0.12	0.05	<0.01
Fine dust PM10 (t)	0.12	0.96	0.81	0	0	0
SO <sub>x</sub> (t)	0	0	0	0.01	<0.01	<0.01
Exhaust gas and fugitive emissions (t)	0.04	0.03	0.03			
VOC (t)	0.27	0.25	0.23	0.06	0.04	0.01
Other standard air emissions (t)	0	0	0			

#### **ENVIRONMENTAL DATA OF TOP-3 GLASS SUPPLIERS 2015**

		ALMADEN	
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	213,333	185,185	166,667
Products sold to Canadian Solar (tons)	21,333	16,667	10,000
% of products supplied to Canadian Solar	10%	9%	6%
ENERGY CONSUMPTION	2015	2014	2013
Steam (tons)	0	0	0
Diesel (tons)	0	0	0
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	132,927,989	126,874,645	102,225,226
Energy consumption per t	623.10	685.12	613.35
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m <sup>3</sup> )	92,466	76,886	70,485
Water consumption per t	0.43	0.42	0.42
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m <sup>3</sup> )	69,420	45,317	42,158
Water recycling per t	0.33	0.24	0.25
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	107,605	102,705	82,751
CO <sub>2</sub> emissions per t	0.50	0.55	0.50
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	0	0	0
Fine dust PM10 (t)	0	0	0
SO <sub>x</sub> (t)	0	0	0
Exhaust gas and fugitive emissions (t)	0	0	0
VOC (t)	0	0	0
Other standard air emissions (t)	0	0	0

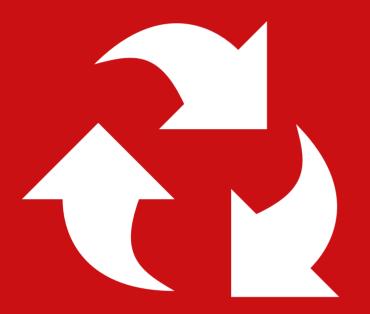
		XIUQIANG			ANCAI	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	159,064	7,295,781	16,284,779	221,000	221,000	221,000
Products sold to Canadian Solar (tons)	15,906	729,578	1,628,478	20,270	7,850	6,316
% of products supplied to Canadian Solar	10%	10%	10%	9%	4%	3%
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	0	0	0	58,465	65,105	70,371
Diesel (tons)	0	0	0	256	287.28	274.74
Gasoline (tons)	0	0	0	60	68.12	64.35
Total energy consumption (kWh)	103,442,600	82,108,800	79,917,300	143,806,969	146,351,416	129,913,774
Energy consumption per t	650	11	5	651	662	588
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	686,460	570,400	604,900	2,101,864	1,691,424	1,703,236
Water consumption per t	4.32	0.08	0.04	9.51	7.65	7.71
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m³)	652,137	541,880	574,665	1,681,491	1,353,139	1,362,589
Water recycling per t	4.10	0.07	0.04	7.61	6.12	6.17
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	83,737	66,467	64,693	152,148	154,840	137,449
CO <sub>2</sub> emissions per t	0.53	0.01	0.00	0.69	0.70	0.62
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	0	0	0	806	862	1,005
Fine dust PM10 (t)	0	0	0	19.30	20.80	21
SO <sub>x</sub> (t)	0	0	0	24	20	22
Exhaust gas and fugitive emissions (t)	0.06	0.05	0.05	0	0	0
VOC (t)	3.82	3.44	3.09	0	0	0
Other standard air emissions (t)	0	0	0	0	0	0

#### **ENVIRONMENTAL DATA OF TOP-3 JUNCTION BOX SUPPLIERS 2015**

	CHANGSHU FRIE	NDS CONNECTOR	TECHNOLOGY
PRODUCTION	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	4,410	3,514	2,170
Products sold to Canadian Solar (tons)	2,426	1,933	1,194
% of products supplied to Canadian Solar	55%	55%	55%
ENERGY CONSUMPTION	2015	2014	2013
Steam (tons)	0	0	0
Diesel (tons)	1.5	1.5	1.5
Gasoline (tons)	0	0	0
Total energy consumption (kWh)	2,500,000	2,200,000	1,300,000
Energy consumption per t	567	626	599
WATER CONSUMPTION	2015	2014	2013
Total water consumption (m <sup>3</sup> )	300	300	200
Water consumption per t	0.07	0.09	0.09
WATER RECYCLED AND REUSED	2015	2014	2013
Total water recycling (m <sup>3</sup> )	270	270	180
Water recycling per t	0.06	0.08	0.08
GREENHOUSE GAS EMISSIONS	2015	2014	2013
CO <sub>2</sub> emissions (tons)	2,024	1,781	1,052
CO <sub>2</sub> emissions per t	0.46	0.51	0.48
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013
NO <sub>x</sub> (t)	0	0	0
Fine dust PM10 (t)	0	0	0
SO <sub>x</sub> (t)	0	0	0
Exhaust gas and fugitive emissions (t)	0	0	0
VOC (t)	0	0	0
Other standard air emissions (t)	0	0	0

	СН4	NGSHU TLI	AN	7HEITANG	RENHE PV TE	
PRODUCTION	2015	2014	2013	2015	2014	2013
TOTAL ANNUAL PRODUCTION (TONS)	633	0	0	7,260	3,630	0
Products sold to Canadian Solar (tons)	633	0	0	427	226	0
% of products supplied to Canadian Solar	100%		-	6%	6%	0%
	100,0			0,0	0,0	0,0
ENERGY CONSUMPTION	2015	2014	2013	2015	2014	2013
Steam (tons)	0	0	0	0	0	0
Diesel (tons)	0.238	0	0	0	0	0
Gasoline (tons)	0	0	0	0	0	0
Total energy consumption (kWh)	532,400	0	0	1,990,910	995,451	0
Energy consumption per t	841	-	-	274	274	-
WATER CONSUMPTION	2015	2014	2013	2015	2014	2013
Total water consumption (m <sup>3</sup> )	50	0	0	850	425	0
Water consumption per t	0.08	-	-	0.12	0.12	-
WATER RECYCLED AND REUSED	2015	2014	2013	2015	2014	2013
Total water recycling (m <sup>3</sup> )	50	0	0	445	280	132
Water recycling per t	0.08	-	-	0.06	0.08	-
GREENHOUSE GAS EMISSIONS	2015	2014	2013	2015	2014	2013
CO <sub>2</sub> emissions (tons)	430.98	0	0	1,612	806	0
CO <sub>2</sub> emissions per t	0.68	-	-	0.22	0.22	-
NO <sub>x</sub> , SO <sub>x</sub> AND OTHER SIGNIFICANT AIR EMISSIONS	2015	2014	2013	2015	2014	2013
NO <sub>x</sub> (t)	0	0	0	0	0	0
Fine dust PM10 (t)	0	0	0	0	0	0
SO <sub>x</sub> (t)	0	0	0	0	0	0
Exhaust gas and fugitive emissions (t)	0	0	0	0	0	0
VOC (t)	0	0	0	0	0	0
Other standard air emissions (t)	0	0	0	0	0	0

# WASTE AND RECYCLING



WASTE INCREASED IN 2015 DUE TO HIGHER PRODUCTION VOLUMES, BUT THE RELATIVE AMOUNT OF WASTE PER PRODUCTION UNIT DECREASED AS IS DISCUSSED IN THE **DISCLOSURE ON ENVIRONMENTAL TARGETS** 

Improper management of waste will not only cause land contamination and soil balance destruction, but also pollute the water and air. Canadian Solar manages waste as a resource, adhering to the 3R (reduce, reuse, recycle) principles to collect and store waste by class. In order to gradually reduce the waste discharge per unit of product, we have taken the following measures:

- $\cdot$  To consider ways of reducing waste generation during the product design phase
- · To maximize the use of recyclable materials for packaging, reducing landfill disposal and increasing the recycling rate of wastes

#### WASTE GENERATION

Waste generation 2015	Luoyang Wafers	Luoyang Modules	Suzhou Cells
Total solid waste generated – Metric tons	3,415.63	537.82	7882.70
Total solid waste recycled – Metric tons	3,182.68	422.83	899.66
Percent solid waste recycled – %	93.18%	78.62%	11.84%
Solid waste generated – Tons / MW	9.69	1.28	4.36
Total hazardous waste generated – Metric tons	1.30	4.73	7,016.04
Total hazardous waste recycled – Metric tons	1.30	4.73	0
Percent hazardous waste recycled – %	100%	100%	0%
Total hazardous waste generated per MW – Tons / MW	< 0.01	0.01	3.88

Waste generation 2015	
Total solid waste generated – Metric tons	
Total solid waste recycled – Metric tons	
Percent solid waste recycled – %	
Solid waste generated – Tons / MW	
Total hazardous waste generated – Metric tons	
Total hazardous waste recycled – Metric tons	
Percent hazardous waste recycled – %	
Total hazardous waste generated per MW – Tons / MW	

- · To establish a waste management procedure that collects hazardous waste according to the national list of hazardous wastes and their hazardous characteristics, implements a hazardous waste transfer application and waste management system in accordance with national laws and regulations, and entrusts a qualified vendor to perform the harmless disposal
- · To raise employees' awareness to minimize waste generation and discard it according to its class after receiving appropriate training

Funing Cells	Changshu Modules	Vietnam
130.51	9,241.37	92.78
2.36	6,654.56	89.81
1.81%	72.01%	96.80%
4.21	3.32	3.57
128.16	36.74	0.37
0	0	0
0%	0%	0%
4.13	0.01	0.01

#### HAZARDOUS WASTE DISPOSAL 2015

Waste generation 2014	Luoyang Wafers	Luoyang Modules	Suzhou Cells	Changshu Modules
Total solid waste generated – Metric tons	4,953.48	383.49	6,013.38	4,394.60
Total solid waste recycled – Metric tons	4,635.47	334.02	430.00	3,817.50
Percent solid waste recycled – %	93.58%	87.10%	7.15%	86.87%
Solid waste generated – Tons / MW	9.64	1.28	4.52	2.04
Total hazardous waste generated – Metric tons	0.70	1.92	5,583.38	23.08
Total hazardous waste recycled – Metric tons	0.70	1.92	0	0
Percent hazardous waste recycled – %	100%	100%	0%	0%
Total hazardous waste generated per MW – Tons / MW	< 0.01	< 0.01	4.19	0.01

Waste generation 2013	Luoyang Wafers	Luoyang Modules	Suzhou Cells	Changshu Modules
Total solid waste generated – Metric tons	3,312.68	300.44	4,972.15	2,956.20
Total solid waste recycled – Metric tons	3,206.01	261.68	245.00	2,160.10
Percent solid waste recycled – %	96.78%	87.10%	4.93%	73.07%
Solid waste generated – Tons / MW	36.13	1.28	4.02	2.01
Total hazardous waste generated – Metric tons	0.94	1.09	4,727.15	6.57
Total hazardous waste recycled – Metric tons	0.94	1.09	0	0
Percent hazardous waste recycled – %	100%	100%	0%	0%
Total hazardous waste generated per MW – Tons / MW	0.01	< 0.01	3.82	< 0.01

Suzhou, China	Paste wiper	Oil	Activated carbon	Tubes	Solder strips	Sludge containing chromium	Sludge containing fluorine
Total amount	2.76 t	5.80 t	19.82 t	2,000 pieces	0.51 t	6,011 t	2,000 t
Frequency	monthly	monthly	quarterly	monthly	monthly	daily	daily
Contrac- tor	The Environmental Protection Service Center of Suzhou New District	The Environmental Protection Service Center of Suzhou New District	The Environmental Protection Service Center of Suzhou New District	Suzhou Wei Xiang Electronic Waste Treament Technology Co., Ltd.	Suzhou Wei Xiang Electronic Waste Treament Technology Co., Ltd.	Everbright Environmental Protection Solid Waste Disposal Suzhou Co., Ltd.	Everbright Environmental Protection Solid Waste Disposal Suzhou Co., Ltd.
Treatment	burning	burning	burning	harmless disposal	recycling	landfill	landfill
Disposal facility	Zhongfeng Street 61, Suzhou New District, Suzhou City, China	Zhongfeng Street 61, Suzhou New District, Suzhou City, China	Zhongfeng Street 61, Suzhou New District, Suzhou City, China	Xiangjiang Road 1468, Suzhou New District, Suzhou City, China	Xiangjiang Road 1468, Suzhou New District, Suzhou City, China	Qi Zi Village, Mudu Town, Wuzhong District, Suzhou City, China	landfill

Luoyang, China		Oil	Activated carbon	Tubes
	module	wafer	module	module
Total amount	4.55 t	1.30 t	0.18 t	1,965 pieces
Frequency	bimonthly	biannually	bimonthly	bimonthly
Contractor	Luoyang HaoHai Industry Trade Co., Ltd.	Luoyang HaoHai Industry Trade Co., Ltd.	Henan Tianchen Environmental Protection Technology Co., Ltd.	Henan Tianchen Environmental Protection Technology Co., Ltd.
Treatment	recycling	recycling	recycling	recycling
Disposal facility	Huang Heqiao North, Jili District, Luoyang, China	Huang Heqiao North, Jili District, Luoyang, China	Tianchen Road 9, GuoDian Town, Xinzheng, Zhengzhou, China	Tianchen Road 9, GuoDian Town, Xinzheng, Zhengzhou, China

Changsu, China	Mineral oil	Oil duster	Organic solvent	Tubes
Total amount	28.37 t	4.518 t	2.8 t	3,427 pieces
Frequency	monthly	monthly	monthly	monthly
Contractor	Changshu City Fuxin Environment Engineering Co., Ltd. Kunshan City Oil Products Recycling Co., Ltd.	Jiangsu Kangbo Industrial Solid Waste Treatment Co., Ltd.	Jiangsu Kangbo Industrial Solid Waste Treatment Co., Ltd.	Suzhou Weixiang Electronic Waste Treatment Technology Co., Ltd.
Treatment	recycling	burning	burning	harmless disposal
Disposal facility	Xinxiaoqiao Village, Haiyu Town, Changshu City , China Xinnan Road 98, Zhangpu Town, Kunshan City, China	Changchun Road 102, Changshu City Economic Development District, China	Changchun Road 102, Changshu City Economic Development District, China	Xiangjiang Road 1488, Suzhou New District, Suzhou City, China

Funing China	Paste wiper	Oil	Activated carbon	Tubes	Silver salt	Sludge containing fluorine
Total amount	0.054 t	0	0.15 t	0	0.05 t	200 t
Frequency	annually	annually	annually	annually	annually	annually
Contractor	NA	NA	NA	NA	NA	NA
Treatment	NA	NA	NA	NA	NA	NA
Disposal facility	NA	NA	NA	NA	NA	NA

Guelph, Canada	Pulp rags	Oil	Activated carbon	Lamp	Ribbon	Sludge containing chromium	Sludge containing fluorine
Total amount	0 t	1,600 l	0 t	380 kg	8 t	0 t	0 t
Frequency	NA	quarterly	NA	annually	as required	NA	NA
Contractor	NA	Clean Harbors	NA	Clean Harbors	BenMet	NA	NA
Treatment	NA	incineration	NA	macro encapsulation	recycling	NA	NA
Disposal facility	NA	Corunna, Ontario	NA	Corunna, Ontario	Guelph, Ontario	NA	NA

Hai Phong, Vietnam	
Total amount	
Frequency	
Contractor	
Treatment	
Disposal facility	

# **SOLAR PANEL** RECYCLING

The amended WEEE directive of the European Union (WEEE, 2012/19/EU) was implemented into national law in Germany by the Electrical and Electronic Equipment Act (ElektroG). The new ElektroG entered into force on 24th October, 2015. Photovoltaic modules fall within the scope of the category 4 "devices of consumer electronics and photovoltaic modules". Thus manufacturers of photovoltaic modules must be ElektroG registered as of February 1, 2016. PV modules must be registered before being offered or sold in Germany.

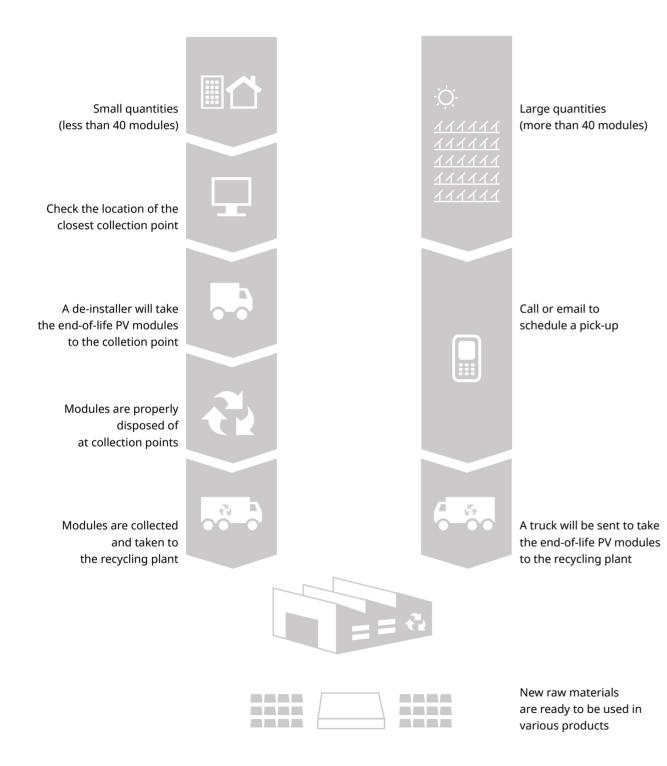
Additionally, inverters / converters have fallen within the scope of the ElektroG since 2005. Storage systems must also be registered as industrial batteries according to the Battery Act (BattG, Battery directive). We are committed to recycling solar panels as far as possible and, in Europe we currently work with Take-E-Way to manage the return and recycling of panels and are working toward a long-term goal of achieving 100% recycling of retired solar modules. For more details see www.take-e-way.com

Oil duster	Oil	Selica gel
0 t	0 t	0 t
NA	NA	NA



#### TAKE-E-WAY STANDARD **OPERATING PROCEDURE**

#### **TAKE-BACK AND RECYCLING SYSTEM**



**"CANADIAN SOLAR HOPES OTHER PV PANEL** MANUFACTURERS WILL FOLLOW **OUR LEAD AND COMMIT TO ENVIRONMENTAL EXCELLENCE AND SUSTAINABILITY."** 

#### Daniel Ruoss, General Manager South-East Asia & Australia Region

**PV MODULE RECYCLING PARTNERSHIP** IN AUSTRALIA

As a leader of product quality in the solar industry and taking environmental issues very seriously, Canadian Solar Australia has pledged to a recycling program with Reclaim PV Recycling for old and damaged solar panels.

This much needed initiative commenced in 2015 and is on the forefront of tackling the PV waste management challenge facing the solar industry in the country. The partnership is expected to start an efficient recycling system which will greatly decrease the overall environmental footprint of solar modules and build awareness for sustainable waste management.

Crystalline solar panels are manufactured using few components; predominantly aluminum, glass and silicon - and over 90% of a panel's weight can be recycled. A recently published global report predicts the total annual recycled product value of crystalline silicon solar panels will hit USD \$12 billion in 2035.

#### INFORMATION TECHNOLOGY

Our main IT department, located in Canada and China, made specific sustainability efforts of its own for the 2015 reporting period.

- · It recycled or had all items with a potentially harmful effect on environment disposed of by a qualified supplier.
- · Centralized control of printers lead to a decrease in print volume from 220 thousand sheets per month to 210 thousand per month. In addition, the implementation of e-flow publishing saved an additional 10,000 sheets.

- · Server virtualization reduced the scale of our data center, power supply and cooling system. On average, our 50 physical servers consumed 365 MW annually. Virtualization has helped reduce energy consumption by 52 MW.
- · Idle computers are automatically put to sleep to comply with our group policy to save energy. All of our hardware uses energy-saving energy modes by default wherever applicable.
- · Green hosting solutions were chosen wherever possible, with server farms powered by renewable energy.

#### **GRIEVANCE MECHANISMS REGARDING** CUSTOMER SUPPORT

Canadian Solar has trained a customer-support team of over 150 who, combined, are fluent in over 10 languages. This team stands ready to answer questions on PV modules, systems and financing any time, 24/7. Canadian Solar's target for handling any grievance is an initial response within 24h, while reaching a mutually satisfying resolution with the customer within 14 days. In mature markets with deep solar penetration (e.g. Europe) it usually takes longer to settle grievances due to the more complex structure (e.g. legal regulations, antidumping measures, changing legislation etc.). In order to improve our service quality in the EMEA region several measures were recently taken: i.e. an increase in personnel, a combined service inbox and a service hotline.

#### **ENVIRONMENTAL INITIATIVES**

In addition to the relevant formal initiatives described in disclosure G4-15 of this document we also actively engage in community initiatives like the following:



**Tree-planting Day** for which we organize tree-planting day activities every year.

#### Earth Day

for which we publish a "Green Proposal", advocate energy conservation, consumption reduction, and low-carbon lifestyle.

> No Tobacco Day for which we advocate non-smoking and cherishing life.

Healthy Life Style for which we advocate aerobic exercise, sensible diet and environmentally friendly lifestyle.

**Public transportation** Busses pick up employees to avoid individual transportation.

No Car Day, Lights Out Time, Family & half marathon, Tournaments for Basketball, Soccer, Badminton & Ping-pong

# VI.C. **SOCIAL ASPECTS**

While we intend to keep doing and improving on the things that have made our business a financial success, we are as determined to further develop our many social initiatives as our business grows. Our ability to give back is the true measure of our success.

#### **DELIVERING ACCESS TO CLEAN ENERGY**

We subscribe to the long-term ideal that everyone on earth should have sufficient access to clean energy regardless of their location or financial standing. To this end we are already engaged in community projects like the First Nations solar project in Canada. For detail see: www.canadiansolar.com/making-the-difference/ remote-communities-gain-access-to-real-power.html

#### SUPPORTING LOCAL COMMUNITIES

We understand that we have a long-term role in the communities where our facilities and projects are sited. Every community is unique, so our team works closely with local stakeholders to answer questions and address concerns. As a key part of our process, across regions where we are active, we seek to have a consistently positive impact that supports the priorities of the community.

OUR SOCIAL ACTION **PLAN** 

> We regularly support community projects that promote environmental awareness. These include art contests, music festivals and even community rice farming in Japan. In 2105 our subsidiary Recurrent Energy gave **\$266,497** to 76 organizations through its local community social investment and RE gifting programs across California and Texas.

For detail see examples below: www.canadiansolar.com/making-the-difference/

putting-art-and-solar-into-saving-the-environment.html

www.canadiansolar.com/making-the-difference/ singing-for-solar.html

www.canadiansolar.com/making-the-difference/ farming-team-spirit.html

SOCIAL ASPECTS G4 - 10

#### REPORTING

We will report on all action, as done in this report, year on year so that we, and all interested parties, are able to track developments.



Movie scene from "The Burden" film sponsored by Canadian Solar

#### SPONSORING AWARENESS

We are always on the lookout for opportunities to sponsor projects that create greater awareness of clean energy, like "The Burden" film that promotes renewable energy in favor of fossil fuels.

For detail see: www.canadiansolar.com/making-the-difference/ solar-will-lighten-the-burden.html

In addition, we create awareness of the need for more rapid adoption of clean energy by publishing stories in social media and on our website.

#### For detail see:

www.canadiansolar.com/making-the-difference/ solar-must-speed-up-to-slow-down-runaway-carbon.html

www.canadiansolar.com/making-the-difference/oil-andsolar-a-phantom-relationship-with-real-consequences.html

#### PROMOTING EDUCATION

At Canadian Solar, we regularly support academic research and talent development at universities and colleges by donating funds and other resources.

#### For detail see:

www.canadiansolar.com/making-the-difference/ powering-solar-research-and-talent-development.html

www.canadiansolar.com/making-the-difference/investing-in-the-future-of-renewable-energy-brain-power.html

#### DONATING TO ENVIRONMENTAL RESEARCH

To help better understand and protect the environment we all live in, we are always open to making donations to environmental research facilities like the innovative and inspiring Orcalab off the coast of British Columbia, Canada.

#### For detail see:

www.canadiansolar.com/making-the-difference/ when-tracking-orcas-solar-shows-the-way.html



Orcas enjoy a sunset cruise off the solar powered OrcaLab Whale Research Centre at Alert Bay, British Columbia.



VALUABLE **OUR BUSINESS BY** LOOKING OUT FOR **OUR PEOPLE. THEY ARE OUR BUSINESS.**"

Gary Robertson, Vice President Human Resources & Administration, Energy Group

At Canadian Solar we have been an equal-opportunity employer from the outset and we recognize that our employees are the single most important factor to the company's success. We respect and treat them accordingly. Over and above whatever legal requirements may exist in any region we operate in, we are committed to creating a cooperative, healthy and harmonious working environment with a nurturing work-life-balance. In addition, we want each of our employees to realize his or her full potential and have subsequently put in place numerous policies designed to develop talent and nurture professional growth. A full overview over the workforce by employment type, gender and contracts can be found on the following pages.

Office employees in Munich

# **"WE LOOK OUT FOR**

SOCIAL AS	PECTS
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#### TOTAL LABOR COMPOSITION

Canadian Solar has created almost 9,000 jobs worldwide so far. In addition, our subsidiary Recurrent Energy's 1.2 GW of solar projects started construction in 2015 and will reach operation mid to late 2016, creating approximately 2,000 additional construction jobs.

We strictly follow the labor laws to protect the legal rights

#### GLOBAL WORKFORCE COMPOSITION

IN 2015

66% 

34% 

GLOBAL WORKFORCE COMPOSITION	2015	2014	2013	2012
Total employees	8,969	8,592	7,569	6,953
Women	3,082	2,866	2,626	2,614
percentage	34%	33%	35%	38%
Men	5,853	5,726	4,943	4,339
percentage	65%	67%	65%	62%
Below age 30	5,919	7,254	6,735	6,340
percentage	66%	84%	89%	91%
Age 30 and above	2,964	1,338	834	613
percentage	33%	16%	11%	9%
Length of service 1-3 years	5,854	NDA	NDA	NDA
percentage	65%	NDA	NDA	NDA
Length of service above 3 years	2,447	NDA	NDA	NDA
percentage	27%	NDA	NDA	NDA

and inter	rests of our employees in each region and country
we operation	ate in. We are an equal opportunity employer and
will not o	discriminate against any employee or applicant on
the basis	s of age, color, disability, gender, national origin,
race, reli	gion, sexual orientation, veteran status, or any
classifica	ation protected by federal, state, or local law.

WORKFORCE COMPOSITION	Global	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
Total employees	8,969	7,138	574	973	2,265	414
Women	3,082	2,403	276	278	787	128
percentage	34%	34%	48%	29%	35%	319
Men	5,853	4,735	298	695	1,478	28
percentage	65%	66%	52%	71%	65%	69%
Below age 30	5,919	5,245	237	716	1,821	29
percentage	66%	73%	41%	74%	80%	709
Age 30 and above	2,964	1,893	337	257	444	124
percentage	33%	27%	59%	26%	20%	30%
Length of service 1-3 years	5,854	5,078	319	557	1,655	384
percentage	65%	71%	56%	57%	73%	93%
Length of service above 3 years	2,447	2,060	255	416	610	3
percentage	27%	29%	44%	43%	27%	79

WORKFORCE COMPOSITION	China Changshu	Indonesia	Vietnam	Americas (total)	Canada	US, CA, SA
Total employees	2,912	35	497	964	742	79
Women	921	10	272	285	219	28
percentage	32%	29%	55%	30%	29.51%	35%
Men	1,904	25	225	659	523	51
percentage	68%	71%	45%	68%	70.49%	65%
Below age 30	2,181	17	429	200	154	9
percentage	75%	49%	86%	21%	20.75%	11%
Age 30 and above	731	18	68	764	588	70
percentage	25%	51%	14%	79%	79.25%	89%
Length of service 1-3 years	2,163	-	2	542	442	72
percentage	74%	0%	0%	56%	59.57%	91%
Length of service above 3 years	749	33	6	288	218	7
percentage	26%	94%	1%	30%	29.38%	9%

#### WORKFORCE BY EMPLOYMENT TYPE,

#### CONTACT AND GENDER



Total headcount (incl. temporary workers)

WORKFORCE BY EMPLOYMENT TYPE, CONTRACT AND GENDER	Global 2015	Global 2014	Global 2013	Global 2012
Total headcount (incl. temporary workers)	8,969	8,539	7,616	7,078
Total headcount (excl. temporary workers)	8,337	6,003	4,799	4,747
Employees excl. trainees (FTE)	8,502	5,306	4,279	4,386
Employees excl. trainees	8,515	5,308	4,293	4,397
of which women	2,981	1,856	NDA	NDA
of which men	5,534	3,543	NDA	NDA
Part-time workers	17	7	3	0
of which women	6	3	0	0
of which men	11	4	3	0
Employees on permanent contract	1,940	1,157	421	468
of which women	785	381	NDA	NDA
of which men	1,155	779	NDA	NDA
Temporary workers	579	2,508	2.747	2.301
of which women	207	795	NDA	NDA
of which men	372	1,713	NDA	NDA
Temporary workers (FTE)	13	2,497	2,747	2,301
of which women	3	785	NDA	NDA
of which men	10	1,712	NDA	NDA
Temporary workers taken over	0	0	0	0
Trainees	454	763	884	978
of which women	151	231	150	363
of which men	303	531	734	526

WORKFORCE COMPOSITION	Recurrent	EMEA	Japan	APAC (HK, India, SGP, Au, Korea)
Total employees	143	94	200	41
Women	38	25	76	11
percentage	41%	27%	38%	27%
Men	85	69	110	30
percentage	59%	73%	55%	73%
Below age 30	37	16	12	NDA
percentage	26%	17%	6%	NDA
Age 30 and above	106	78	143	NDA
percentage	74%	83%	72%	NDA
Length of service 1-3 years	28	78	123	31
percentage	19%	83%	62%	76%
Length of service above 3 years	63	16	32	12
percentage	44%	17%	16%	29%



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WORKFORCE BY EMPLOYMENT TYPE, CONTRACT AND GENDER	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
Total headcount (incl. temporary workers)	7,138	574	973	2,265	414
Total headcount (excl. temporary workers)	6,700	574	973	2,202	414
Employees excl. trainees (FTE)	6,696	566	946	1,988	372
Employees excl. trainees	6,697	566	946	1,988	372
of which women	2,256	270	269	683	113
of which men	4,441	296	677	1,305	259
Part-time workers	6	4	0	0	0
of which women	0	0	0	0	0
of which men	6	4	0	0	0
Employees on permanent contract	316	78	14	96	4
of which women	155	42	5	34	0
of which men	161	36	9	62	4
Temporary workers	438	0	0	63	0
of which women	139	0	0	25	0
of which men	299	0	0	38	0
Temporary workers (FTE)	0	0	0	0	0
of which women	0	0	0	0	0
of which men	0	0	0	0	0
Temporary workers taken over	0	0	0	0	0
Trainees	441	8	27	277	42
of which women	147	6	9	104	15
of which men	294	2	18	173	27

WORKFORCE BY EMPLOYMENT TYPE, CONTRACT AND GENDER	China Changshu	Indonesia	Vietnam	Americas (total)
Total headcount (incl. temporary workers)	2,912	35	497	964
Total headcount (excl. temporary workers)	2,537	5	497	904
Employees excl. trainees (FTE)	2,825	35	497	957
Employees excl. trainees	2,825	35	497	959
of which women	921	10	272	302
of which men	1,904	25	225	657
Part-time workers	2	0	0	6
of which women	0	0	0	3
of which men	2	0	0	3
Employees on permanent contract	124	5	497	851
of which women	74	1	272	263
of which men	50	4	225	588
Temporary workers	375	30	0	58
of which women	114	9	0	21
of which men	261	21	0	37
Temporary workers (FTE)	0	0	0	2
of which women	0	0	0	1
of which men	0	0	0	1
Temporary workers taken over	0	0	0	0
Trainees	87	0	0	5
of which women	13	0	0	2
of which men	74	0	0	3

WORKFORCE BY EMPLOYMENT TYPE, CONTRACT AND GENDER	Canada	US, CA, SA	Recurrent
Total headcount (incl. temporary workers)	742	79	143
Total headcount (excl. temporary workers)	689	75	140
Employees excl. trainees (FTE)	737	77	143
Employees excl. trainees	737	79	143
of which women	216	28	58
of which men	521	51	85
Part-time workers	2	2	2
of which women	0	1	2
of which men	2	1	0
Employees on permanent contract	634	77	140
of which women	178	27	58
of which men	456	50	82
Temporary workers	53	2	3
of which women	20	1	0
of which men	33	1	3
Temporary workers (FTE)	0	2	0
of which women	0	1	0
of which men	0	1	0
Temporary workers taken over	0	0	0
Trainees	5	0	0
of which women	2	0	0
of which men	3	0	0

WORKFORCE BY EMPLOYMENT TYPE, CONTRACT AND GENDER	
Total headcount (incl. temporary workers)	
Total headcount (excl. temporary workers)	
Employees excl. trainees (FTE)	
Employees excl. trainees	
of which women	
of which men	
Part-time workers	
of which women	
of which men	
Employees on permanent contract	
of which women	
of which men	
Temporary workers	
of which women	
of which men	
Temporary workers (FTE)	
of which women	
of which men	
Temporary workers taken over	
Trainees	
of which women	
of which men	

Japan	EMEA
200	94
155	86
186	86
186	86
96	24
90	62
1	4
1	2
0	2
144	86
59	24
85	62
45	8
37	1
8	7
33	8
28	1
5	7
0	0
0	8
0	2
0	6
	200 155 186 186 96 90 90 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

SOCIAL ASPECTS G4 – DMA

**PV PANELS ARE NOT** THE ONLY THING WE MAKE. **250 BABIES BORN TO OUR STAFF IN 2015.** 

# \* $\mathbf{x}$ $\mathbf{\mathbf{x}}$ $\mathbf{x}$ **.** $\mathbf{x}$ $\mathbf{x}$ \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

#### PARENTAL LEAVE

Employees in all regions are entitled to parental leave as is indicated in the following tables. While we have complete data for China, we only have 2014 and 2015 data for other regions at time of reporting. In accordance to Chinese law, any pregnant female employee is entitled to 98 days of leave: 15 days pre-labor and 83 days post labor. For special circumstances, an additional 15 days is granted. For each additional child, an extra 15 days is also granted. Mothers over 24 years of age receive all the benefits as well as an additional 30 days. During the first year following childbirth, mothers are granted an extra hour of leave per work day to care for the child. Fathers are granted a total of 15 days of leave if they are expecting a child.

#### PARENTAL LEAVE

Global	2015	2014	2013	2012
Women entitled to take parental leave	All	All	All	All
Men entitled to take parental leave	All	All	All	All
Women who took parental leave	142	114	114	116
Men who took parental leave	116	118	101	130
Percentage of employees who took parental leave	3%	3%	3%	4%
Return rate after parental leave (% of the total workforce)	96%	84%	87%	86%

Parental leave	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
Women entitled to take parental leave	All	All	All	All	All
Men entitled to take parental leave	All	All	All	All	All
Women who took parental leave	132	30	16	62	1
Men who took parental leave	98	13	23	33	9
Percentage of employees who took parental leave	3%	6%	10%	3%	2%
Return rate after parental leave (% of the total workforce)	95%	93%	88%	96%	100%

Parental leave	China Changshu	Indonesia	Vietnam	Americas (total)	Canada
Women entitled to take parental leave	All	All	All	All	All
Men entitled to take parental leave	All	All	All	All	All
Women who took parental leave	23	0	0	6	2
Men who took parental leave	20	1	0	11	5
Percentage of employees who took parental leave	1%	3%	0%	2%	1%
Return rate after parental leave (% of the total workforce)	100%	100%	100%	100%	100%

Parental leave	US, CA, SA	Recurrent	EMEA
Women entitled to take parental leave	All	All	All
Men entitled to take parental leave	All	All	All
Women who took parental leave	1	3	3
Men who took parental leave	0	6	1
Percentage of employees who took parental leave	1%	6%	5%
Return rate after parental leave (% of the total workforce)	100%	100%	NDA

Parental leave	Japan	APAC (HK, India, SGP, Au, Korea)
Women entitled to take parental leave	All	All
Men entitled to take parental leave	All	All
Women who took parental leave	1	0
Men who took parental leave	5	0
Percentage of employees who took parental leave	3%	0%
Return rate after parental leave (% of the total workforce)	100%	0%

**"CANADIAN SOLAR IS VERY MUCH A MERIT** BASED ORGANIZATION AND ADVANCEMENT HAS NOTHING TO DO WITH GENDER OR ETHNICITY."

> Jennifer Balles Human Resources Manager EMEA

#### TRAINING

Our employees receive training as and where it is needed to facilitate both the growth of our enterprise and personal development. We have seen consistent and significant growth in the average number of hours invested in training employees each year in China, as well as growth in training investment for all regions, which the tables below illustrate. It is the intention of senior management to facilitate this trend further as our business grows.

#### **EMPLOYEES TRAINING**

#### Global

Total training expenditure in US dollars Training expenditure per employee in dollars Number of hours spent on training (total) Number of training programs Number of employees having completed training programs Percentage of employees undergoing training per year Average number of hours spent for training

				¢	
Employees Training	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
Total training expenditure in US dollars	146,947	40,544	4,923	56,553	2,070
Training expenditure per employee in dollars	20.59	64	5	26	5
Number of hours spent on training (total)	110,418	6,941	16,687	4,336	1,200
Number of training programs	1,822	84	215	69	300
Number of employees having completed training programs	8,471	1,822	466	1,859	466
Percentage of employees undergoing training per year	74%	69%	50%	84%	100%
Average number of hours spent for training	8	11	2	11	4



# **OVER 6,000 MEMBERS OF OUR WORKFORCE** WERE TRAINED IN 2015.

	2015	2014	2013	2012
	673,192	118,192	NDA	NDA
	75.06	13.84	NDA	NDA
	111,059	152,256	112,968	33,414
	1,966	1,810	35,139	394
าร	10.273	NDA	NDA	NDA
	70%	NDA	NDA	NDA
	6,14	NDA	NDA	NDA

	1		1	
Employees Training	China Changshu	Indonesia	Vietnam	Americas (total)
Total training expenditure in US dollars	42,857	15,075	0	415,780
Training expenditure per employee in dollars	15	431	0	431.31
Number of hours spent on training (total)	81,255	221	0	
Number of training programs	1,154	3	0	86
Number of employees having completed training programs	3,858	22	0	1746
Percentage of employees undergoing training per year	67%	67%	0%	97%
Average number of hours spent for training	14	10	-	6,39

Employees Training	Canada	US, CA, SA	Recurrent	EMEA
Total training expenditure in US dollars	157,029	10,194	248,557	39,073
Training expenditure per employee in dollars	211.6	127	1,738	416
Number of hours spent on training (total)	9.373	584	unknown	NDA
Number of training programs	33	3	50	45
Number of employees having completed training programs	1,666	80	No tracking	24
Percentage of employees undergoing training per year	100%	100%	80%	26%
Average number of hours spent for training	6,45	7	No tracking	NDA

Employees Training	EMEA	Japan	APAC
Total training expenditure in US dollars	39,073	56,317	NDA
Training expenditure per employee in dollars	416	282	NDA
Number of hours spent on training (total)	NDA	420	NDA
Number of training programs	45	10	NDA
Number of employees having completed training programs	24	10	NDA
Percentage of employees undergoing training per year	26%	40%	NDA
Average number of hours spent for training	NDA	5	NDA



**DIVERSITY IN GLOBAL POWER AND** UTILITIES SECTOR

Canadian Solar had 19% female representation in top tier management in 2015. A recent Ernst & Young survey found that women made up only 5% of board executives across the global power and utilities sector in 2015, and only 13% of utility senior management teams had female representation. This, despite the fact that the top 20 most diverse utilities significantly outperformed the lower 20 on a return on investment basis. See the full survey at *http://www.ey.com/GL/en/* Industries/Power---Utilities/Women-power-and-utilities

We are an equal opportunity employer and do not discriminate on the basis of gender, ethnicity, nationality, age, physical disability, or anything else. While the tables below show that there is an overall employment bias toward men, this in an industrywide phenomenon. Despite this we seek to actively promote diversity in our organization as this article on our website makes clear: www.canadiansolar.com/ making-the-difference/womenclaim-their-place-in-thesun.html

Women are better represented at Canadian Solar than at most other organizations in the technology manufacturing sector. People with disabilities are underrepresented in terms of the total proportion of disabled people in the population but we are limited by the number of people with disabilities who apply to work in our organization. We have very few applicants with disabilities.

#### **GENDER MATTERS**

**"THE FACT THAT OVER A THIRD** OF OUR TOTAL WORKFORCE IS FEMALE IS UNUSUALLY HIGH FOR THE TECH MANUFACTURING SECTOR AND, WE BELIEVE, A TIPPING POINT. IT'S NOT UNREALISTIC TO ASSUME **GENDERS WILL BE EQUALLY** REPRESENTED AT OUR COMPANY IN THE NEAR FUTURE AND THAT THIS WILL PERMEATE ALL LEVELS OF MANAGEMENT."

> Hang Chen, VP Human Resources and *Corporate Development*

#### DIVERSITY, EQUAL OPPORTUNITIES AND

#### EMPLOYEES WITH DISABILITIES

Global	Global 2015	Global 2014	Global 2013	Global 2012
Women on the management board/in management	135	85	57	55
percentage	24%	23%	26%	25%
Number of employees in 1st tier of management	211	76	67	58
Number of women in the 1st tier of management	42	14	17	16
percentage	20%	18%	25%	28%
Number of men in the 1st tier of management	169	62	50	42
percentage	80%	82%	75%	72%
Number of employees in other tiers of management	342	299	202	214
Number of women in other tiers of management	93	71	56	54
percentage	27%	24%	25%	25%
Number of men in other tiers of management	249	228	146	160
percentage	73%	76%	75%	75%
Number of non-executive employees	8,906	8,164	6,075	5,949
Number of women in non-executive positions	3,101	2,559	NDA	NDA
percentage	35%	31%	NDA	NDA
Number of men in non-executive positions	5,805	5,980	NDA	NDA
percentage	65%	69%	NDA	NDA
Number of trainees	455	763	884	978
of which women	151	232	150	363
percentage	33%	30%	17%	46%
of which men	304	531	734	526
percentage	67%	70%	83%	54%
Total workforce (incl. trainees)	8,969	8,539	7,616	7,078
of which women	3,105	2,871	NDA	NDA
percentage	35%	34%	NDA	NDA
of which men	5,864	5,668	NDA	NDA
percentage	65%	66%	NDA	NDA
Employees with disabilities	53	7	8	9
percentage	0.59%	0.08%	0.10%	0.13%

Diversity	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
	(LOLAI)	(Holding)	Luoyang	Suzilou	Fulling
Women on the management board/ in management	66	51	3	4	0
percentage	28%	32%	33%	15%	0%
Number of employees in 1st tier of management	84	67	0	4	2
Number of women in 1st tier	20	17	0	0	0
percentage	24%	25%	0%	0%	0%
Number of men in 1st tier	64	50	0	4	2
percentage	76%	75%	100%	100%	100%
Number of employees in other tiers of management	151	92	9	22	6
Number of women in other tiers	46	34	3	4	0
percentage	30%	37%	33%	18%	0%
Number of men in other tiers	105	58	6	18	6
percentage	70%	63%	67%	82%	100%
Number of non-executive employees	7,131	571	973	2,263	413
Number of women in non-executive positions	2,403	276	278	787	128
percentage	34%	48%	29%	35%	31%
Number of men in non-executive positions	4,728	295	695	1,476	285
percentage	66%	52%	71%	65%	69%
Number of trainees	442	9	27	277	42
of which women	147	6	9	104	15
percentage	33%	75%	33%	38%	36%
of which men	295	3	18	173	27
percentage	67%	38%	67%	62%	64%
Total workforce (incl. trainees)	7,139	575	973	2,265	414
of which women	2,403	276	278	787	128
percentage	34%	48%	29%	35%	31%
of which men	4,736	299	695	1,478	286
percentage	66%	52%	71%	65%	69%
Employees with disabilities	53	0	16	6	2
percentage	0.74%	0.00%	1.64%	0.26%	0.48%

Т

Diversity	China Changshu	Indonesia	Vietnam	Americas (total)	US, CA, SA
Women on the management board/ in management	8	1	5	43	2
percentage	24%	14%	45%	24%	6%
Number of employees in 1st tier of management	11	4	5	80	20
Number of women in 1st tier	3	0	0	19	1
percentage	27%	0%	0%	24%	5%
Number of men in 1st tier	8	4	5	61	19
percentage	73%	100%	100%	76%	95%
Number of employees in other tiers of management	22	3	6	97	13
Number of women in other tiers	5	1	5	24	1
percentage	23%	33%	83%	35%	0%
Number of men in other tiers	17	2	1	81	2
percentage	77%	67%	17%	84%	100%
Number of non-executive employees	2,911	26	486	937	71
Number of women in non-executive positions	934	9	267	301	28
percentage	32%	35%	55%	32%	39%
Number of men in non-executive positions	1,977	17	219	636	43
percentage	68%	65%	45%	68%	61%
Number of trainees	87	0	0	5	0
of which women	13	-	-	2	-
percentage	15%	-	-	40%	-
of which men	74	-	-	3	-
percentage	85%	-	-	60%	-
Total workforce (incl. trainees)	2,912	35	497	964	79
of which women	934	10	272	304	28
percentage	32%	29%	55%	32%	35%
of which men	1.978	25	225	660	51
percentage	68%	71%	45%	68%	65%
Employees with disabilities	29	0	0	0	0
percentage	1.00%	0%	0%	0%	0%

Diversity	Canada
Women on the management board/ in management	6
percentage	11%
Number of employees in 1st tier of management	21
Number of women in 1st tier	1
percentage	5%
Number of men in 1st tier	20
percentage	95%
Number of employees in other tiers of management	35
Number of women in other tiers	5
percentage	14%
Number of men in other tiers	30
percentage	86%
Number of non-executive employees	739
Number of women in non-executive positions	218
percentage	29%
Number of men in non-executive positions	521
percentage	71%
Number of trainees	5
of which women	2
percentage	40%
of which men	3
percentage	60%
Total workforce (incl. trainees)	742
of which women	218
percentage	29%
of which men	524
percentage	71%
Employees with disabilities	NDA
percentage	NDA

APAC	Japan	EMEA	Recurrent
5	4	11	35
17%	12%	19%	40%
15	8	15	39
2	0	1	17
13%	0%	7%	44%
13	8	14	22
86,67%	100%	93%	56%
15	26	44	49
3	4	10	18
20%	15%	23%	20%
12	22	34	49
80%	85%	77%	100%
37	198	91	127
11	86	24	55
30%	43%	26%	43%
26	112	67	72
70,27%	57%	74%	57%
0	0	8	NDA
-	-	2	NDA
-	-	25%	NDA
-	-	6	NDA
-	-	75%	NDA
0	200	94	143
-	86	25	58
-	43%	27%	41%
-	114	69	85
-	57%	73%	59%
0	0	0	NDA
0%	0%	0%	NDA
0.10	0,0	070	NDA

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# **HEALTH AND SAFETY**

In addition to our commitment to spreading clean energy around the world, Canadian Solar also stresses the importance of Occupational Health and Safety (OHS). Through the establishment of a strict set of corporate guidelines, we have built a safe, sanitary and cooperative work environment. To ensure this continues we have established EHS teams within various key departments of the company. In addition, we have implemented a three-stage management system with a set of policies that tracks each EHS team. This policy has earned us ISO 14001 Environmental Management and the OHSAS 18001 Occupational Health and Safety Assessment Series certificates.

The company has established clear roles and responsibilities regarding OHS management at the plant level. The overall coordination of OHS management for plants located in China is carried out by the EHS department based in Suzhou. Each plant in China reports key OHS data to a centralized EHS team based in Suzhou on a monthly basis. Such reports include detailed data on employee injuries. The data reporting on OHS performance in Canada is assigned to the EHS team based in Ontario.

## INJURIES, OCCUPATIONAL DISEASES, LOST DAYS, ABSENTEEISM AND WORK-RELATED FATALITIES

#### Global

Actual hours worked
Number of reportable occupational accidents
Number of fatalities
Absence due to accidents in hours
Accident rate (per 1,000 employees)
Accident rate (per 100 employees)
Absence rate due to accidents (per 100 employees)

China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
18,727,053	1,426,554	2,557,153	7,968,148	655,198
6	1	0	1	0
0	0	0	0	0
4,492	16	0	464	587.5
0.64	1.40	0.00	0.25	0.00
0.06	0.14	0.00	0.03	0.00
47.97	2.24	0.00	11.65	179.34
	(total) 18,727,053 6 0 4,492 0.64 0.06	(total)         (Holding)           18,727,053         1,426,554           6         1           0         0           4,492         16           0.64         1.40           0.06         0.14	(total)         (Holding)         Luoyang           18,727,053         1,426,554         2,557,153           6         1         0           0         0         0           4,492         16         0           0.64         1.40         0.00           0.06         0.14         0.00	(total)         (Holding)         Luoyang         Suzhou           18,727,053         1,426,554         2,557,153         7,968,148           6         1         0         1           0         0         0         1           4,492         16         0         464           0.64         1.40         0.00         0.25           0.06         0.14         0.00         0.03

	China Changshu	Vietnam	Americas (total)	Canada	US, CA, SA
Actual hours worked	6,120,000	102,120	1,639,267	1,278,614	126,318
Number of reportable occupational accidents	4	0	12	12	0
Number of fatalities	0	0	0	0	0
Absence due to accidents in hours	3,424	0	869	869	0
Accident rate (per 1,000 employees)	1.31	0.00	14.64	18.77	0.00
Accident rate (per 100 employees)	0.13	0.00	1.46	1.88	0.00
Absence rate due to accidents (per 100 employees)	111.90	0.00	106.02	135.93	0,00

2014	2015
17,761,120	21,092,810
31	19
0	0
NDA	5,400
3.49	1.80
0.35	0.18
NDA	51.20
	17,761,120 31 0 NDA 3.49 0.35



Fully automated gluing process at our new manufacturing site in Vietnam.

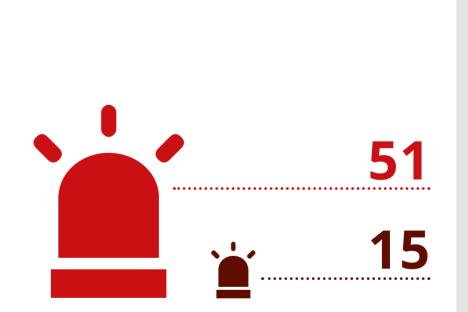
	Recurrent	EMEA	Japan	APAC
Actual hours worked	234,335	180,480	364,834	68,000
Number of reportable occupational accidents	0	1	0	0
Number of fatalities	0	0	0	0
Absence due to accidents in hours	0	40	0	0
Accident rate (per 1,000 employees)	0.00	11.08	0.00	0.00
Accident rate (per 100 employees)	0.00	1.11	0.00	0.00
Absence rate due to accidents (per 100 employees)	0.00	44.33	0.00	0.00

"CANADIAN SOLAR REQUIRES THAT CONTRACTORS WILL COMPLY WITH APPLICABLE LEGAL REQUIREMENTS COVERING BUT NOT LIMITED TO MINIMUM WAGE, HOURS OF WORK, **OVERTIME PAYMENTS, HEALTH &** SAFETY CONDITIONS, CONTRIBUTIONS TO THE HEALTH CARE AND PENSION SCHEDULES, AND OTHER LEGALLY MANDATED EMPLOYMENT TERMS WITH REGARD TO ALL WORKERS ENGAGED BY THIRD PARTIES."

NOTE Hours per 1,000 employees (annual) 2,000,000 Hours per 100 employees (annual) 200,000 The company implements various programs to improve safe behavior and if any incident occurs, it is recorded and an investigation is carried out.

All incidents listed by our human resources department follow a global standard for incident classification the Occupational Health and Safety Administration (OSHA) Recordability Standard, which is the standard from the US Department of Labor and the most used standard globally. All incidents recorded are incidents where medical treatment was sought and provided.

#### MISCELLANEOUS



# Global Number of discrimination cases Number of child or forced labor cases

Number of emergency drills performed

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2012	2013	2014	2015
0	0	0	0
0	0	0	0
NDA	NDA	15	51

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Miscellaneous	China (total)	China (Holding)	China Luoyang	China Suzhou	China Funing
Number of discrimination cases	0	0	0	0	0
Number of child or forced labor cases	0	0	0	0	0
Number of emergency drills performed	44	2	10	12	7

Miscellaneous	China Changshu	Vietnam*	Americas (total)	Canada
Number of discrimination cases	0	0	0	0
Number of child or forced labor cases	0	0	0	0
Number of emergency drills performed	13	0	6	5

Miscellaneous	US, CS, SA	Recurrent	EMEA	Japan	APAC
Number of discrimination cases	0	0	0	0	0
Number of child or forced labor cases	0	0	0	0	0
Number of emergency drills performed	0	1	0	1	0

\* Note: Vietnam has limited data due to its production start in late 2015.

# OUR FIVE CORE EHS PRINCIPLES

#### 1.

COMPLY WITH THE ENVIRONMENTAL AND HEALTH & SAFETY LAWS AND REGULATIONS, SATISFYING ANY RELATED REQUIREMENTS.

#### 2.

IMPLEMENT SAFEGUARDS AGAINST POLLUTION, ELIMINATING ANY POSSIBILITY OF DETRIMENTAL EFFECTS ON THE ENVIRONMENT. PREVENT WORK HAZARDS AND DISEASES, ENSURING THE SAFETY AND HEALTH OF OUR EMPLOYEES.

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#### 3.

STRENGTHEN EMPLOYEE AWARENESS OF ENVIRONMENTAL PROTECTION AND OCCUPATIONAL HEALTH. ENCOURAGE EMPLOYEES TO ACTIVELY PARTICIPATE IN ENVIRONMENTAL-AWARENESS ACTIVITIES AND COMMUNITY EVENTS.

#### 4.

CONTINUALLY IMPROVE CORPORATE EHS MANAGEMENT POLICIES.

#### 5.

UPHOLD SOCIAL RESPONSIBILITIES BY BEING TRANSPARENT IN MATTERS REFERRING TO ENVIRONMENT AND EMPLOYEE HEALTH.

#### FOCUS ON SAFETY

For the past 15 years, Canadian Solar has always insisted on a "Safety First" policy, placing the well-being of our employees at the forefront of our priorities. In addition, by supplying various community and employee benefits, Canadian Solar aims to assist all employees in maintaining a safer, healthier and better lifestyle.

Canadian Solar's EHS management owes its effectiveness to the implementation of rigorous safety procedures and effective protocols. As a group, Canadian Solar follows the belief that "to manage production, one must first manage the safety of the crew." As such, the heads of every department, the managers of the assembly line, and the regular staff members are all responsible for checking the safety of their individual area. Production starts only after all parties have declared their areas safe.

#### **SAFETY & EMPLOYEE HEALTH**

- · Safety inspections: These include daily / weekly /
- monthly / specialized and pre-holiday inspections. · Listening to Input: We have an established system
- of hazard reporting and mechanisms for responding to such hazards.
- · Traffic Safety: Various safety campaigns and events, paying attention to employee safety even after work.
- · Health in Work Environments: Includes standardized health inspections, monitoring of work environments, meetings to discuss related issues, small infirmaries and health consultation services.
- Emergency Drills & Safety Measures: Continued and improved emergency drills and evacuation procedures. 15 drills every year with 5,000 employees participating.

Canadian Solar manufacturing facilities have adequate firefighting equipment in place and the fire response teams have been trained. The facilities are designed in accordance with the recommendations of the local Fire Protection Regulations and are remotely located from residential areas. The transport of chemicals is organized by third party suppliers. All buildings have demarcated emergency routes and exits, fire extinguishers, hydrants, smoke detectors and alarms. Emergency response procedures define roles and actions in case of emergency. Fire drills as well as training on various emergencies (e.g., leakages of hazardous materials) are regularly planned and implemented by the company.

#### HUMANE MANAGEMENT

Canadian Solar is committed to a cooperative and harmonious working environment. We want each of our employees to realize his or her full potential and have subsequently put in place numerous policies designed to develop talent and nurture professional growth.

Canadian Solar has developed a Corporate HR Policy stipulating key principles on labor rights and working conditions. This policy specifies rights related to non-discrimination and equal opportunities and includes procedures related to recruitment, working hours and overtime, leaves, grievances, occupational health and safety, training and development. Overall the policy is fully aligned with IFC Performance Standard 2 requirements.

#### LIFESTYLE

At Canadian Solar, we care about the health of our employees. In addition to handing out free fruit in the offices and offering training and assistance for a variety of needs, we have also set up a host of events (corporate activities, field-trips and sporting events) so that employees have a fun and healthy work experience.

#### **REGARDING SPECIFIC GROUPS**

· Women's Day Recognition

Every annual Women's Day on the 8th of March, all female employees receive a small token of appreciation from the company.

#### · Migrant Worker Benefits

(refers to workers from outside provinces): Benefits follow directly from conditions stipulated by local law. Canadian Solar also handles any Collective Registered Residence. During extended holidays, Canadian Solar confirms that factory staff-members have holiday plans set. In addition, the company is happy to help with any problems and hardships employees might have, work-related or not.

#### WORKING OVERTIME

We ensure employees do not exceed the 36 - 40 hour/week limits laid out by national laws.

#### CHILD AND FORCED LABOR

WE DO NOT ENGAGE IN THE EMPLOYMENT OF EITHER CHILD OR FORCED LABOR OF ANY KIND, AND NEVER HAVE. BESIDES BEING CONTRARY TO THE LAWS OF MOST COUNTRIES IN WHICH WE OPERATE, CANADIAN SOLAR IS COMMITTED TO MAKING A POSITIVE DIFFERENCE TO ALL THOSE WHOSE LIVES WE TOUCH AND BOTH CHILD AND FORCED LABOR RUN CONTRARY TO THIS COMMITMENT.

#### **GRIEVANCE MECHANISMS REGARDING** SOCIAL ASPECTS

Canadian Solar gets involved in local communities across the world. We understand that we have a long-term place in the communities where we conduct business. Initiatives are driven by business in a community, a priority initiative from management, or some are instigated by employees. Canadian Solar's involvement in these initiatives is the result of our desire to contribute to the communities of which we are part of.

Every solar project developed and brought to operation is the product of a highly collaborative process. Our team of developers, engineers, and site specialists work closely with local and regional stakeholders to guide projects through all stages of development, from siting and design to permitting, construction, and operation.

We understand that we have a long-term place in the communities where our projects are sited. Community outreach and consultation is an integral part of our project development process, from very early stages and onward. Every project and community is unique, so our team works closely with regional authorities as well as local residents in order to better understand priorities for the community and address questions. We believe that our solar farms should fit in with the communities within which we operate. As a key part of our process, we engage directly with local residents to identify, understand and address any concerns and to help illustrate why solar PV is well suited to communities of all sizes.

As part of federal, state, local or regional required permitting processes, the solar industry regularly works with regulatory agencies and environmental groups, and employs agency-approved biologists at project sites to identify and address potential concerns.

With an individual site, first and foremost we will ensure that neighbors bordering a proposed site will be consulted, and all efforts will be made to ensure that our neighbors are kept informed with the most up to date information regarding the project. During any time in the process, we will meet directly with

neighbors. Once a project is approved by the local authority, we develop a unique engagement plan specific to the construction process to execute communications based on the requirement of the local authority, often surpassing their requirements, to the relevant community stakeholders.

We welcome comments, suggestions or feedback from community members anytime via a number of channels including local meetings, open house events, local hotline numbers, direct email, website communications and 1:1 direct contact and ensure a timely response.

#### CONFLICT MINERALS

At Canadian Solar, we believe to the best of our knowledge, that we haven't used any conflict minerals that may have originated in the Democratic Republic of the Congoor an adjoining country based on the following steps mandated by the United States Securities and Exchange Commission. The disclosure is publically available on this link: www.sec.gov/ Archives/edgar/data/1375877/000110465914043845/ a14-14782 1sd.htm

As of the beginning of 2013, we have taken the following steps as part of our "reasonable country of origin inquiry" to determine whether minerals may have originated in the Democratic Republic of the Congo or an adjoining country:

- · Listed the materials and equipment used during the production of our products
- · Determined which conflict minerals were necessary to the functionality or production of our products
- · Requested our suppliers to provide information on where they obtained their products and materials

Canadian Solar determined that during the 2014 and 2015 reporting periods, the only conflict mineral necessary to the functionality or production of our products was tin. We requested all our suppliers of tin-containing products to describe the source of the tin used in their products and provide supporting documentation. Canadian Solar does not make purchases of raw ore or unrefined conflict minerals and makes no purchases in the Democratic Republic of the Congo or adjoining countries.

SOCIAL ASPECTS G4 – DMA



**GLOBAL PROMOTION OF SOLAR** AND SOCIAL RESPONSIBILITY

Canadian Solar actively promotes corporate social responsibility, clean energy and other solar related topics through the inspiring and insightful keynote speeches of CEO and founder Dr. Shawn Qu, as called upon for the United Nations Climate Change Conference, the International Economic Forum of the Americas, the China Green Companies Summit, the Wall Street Journal ECO:nomics forum, the International Forum on Energy Transitions, the Bloomberg New Energy Finance Summit, TEDx, SNEC, Intersolar and many other prestigious forums.

VALUABLE "IT'S GOOD TO WORK FOR A COMPANY THAT WORKS FOR THE COMMUNITY."

Taegyu Son, Country Manager Korea

DONATIONS, SPONSORSHIPS, EDUCATION SUPPORT, COMMUNITY SUPPORT

Canadian Solar gets involved in the local communities across the world. Some initiatives are driven from management, while employees initiate others. Canadian Solar's involvement in the following initiatives is the result of our desire to contribute to the communities of which we are part.

#### CHINA

Conferences we took part in: 2015 Oct. 23rd, Canadian Solar organized the "Solar PV Frontier Technology Development High Level Forum". More than 40 solar companies and more than 10 solar experts took part in the forum and discussed the future development of solar industry, especially on how to upgrade the production technology and equipment to produce modules with higher efficiency and reliability.

2015 Nov. 5-7th, sponsored and assisted the organization of International Forum of Energy Transitions. Released the paper "The Solar Industry in 2025" that explained the development trends of solar PV technology, and how intelligent manufacturing can

innovate higher quality, lower cost solar products. The International Forum on Energy Transitions was co-hosted by the National Energy Administration, the People's Government of Jiangsu Province and the International Renewable Energy Agency (IRENA), in Suzhou city of Jiangsu Province on 5-7 November 2015. More: http://www.cnrec.org.cn/english/news/2015-11-09-504.html

2015 Dec. 18th, Canadian Solar 's CEO Dr. Shawn Qu took part in "2015 China Energy Leader Summit", organized by Economic Observer (a famous mainstream economic paper in China). Dr. Shawn Qu made a speech on "How to use high technology to accelerate the revolution of energy generation and consumption."

2015, middle of Dec., took part in China Renewable Energy Photovoltaic Annual Conference in Jiaxing, Zhejiang Province. Canadian Solar's R&D department introduced Canadian Solar's double-glass solar module Dymond, which has at least 30-year life span and higher weather resistance than traditional solar modules.

#### EMEA

#### GIFT TO CHILDREN'S HOME

To support children in need and to bring a bit of sun into their lives, Canadian Solar donated 60 backpacks to a Munich Children's Home. Some of the children are German, while others are refugees. All are without parents.

#### CHRISTMAS CARD COLLECTION

Canadian Solar sold Christmas Cards to collect money for a children's charity in Germany with 15c from the sale of each card going to the charity.

#### JAPAN

**Community Rice Farming** 

To help boost community awareness of environmental issues facing agriculture in Japan we started the "Canadian Solar Farm" in 2011. We now have 22.2 acres in Japan's Tottori agricultural region under cultivation, and the land is worked by our employees and their families. Read the full story here: www.canadiansolar. com/making-the-difference/ farming-team-spirit.html



Employees of Canadian Solar EMEA handing out donations to a Munich Children's Home

#### **Children's Art Contest**

This contest is designed to build environmental awareness among Japanese children and educate them on the benefits of solar energy. We have supported the contest every year since 2012. A detailed account of our involvement is available here:

www.canadiansolar.com/makina-the-difference/ putting-art-and-solar-into-saving-the-environment.html

#### Sapporo City Jazz Festival

We've sponsored this popular annual music event since 2013. It takes place between July 1st and August 31st every year and approximately 160,000 people attend. Our involvement is dealt with in more detail in this article:

www.canadiansolar.com/making-the-difference/ singing-for-solar.html

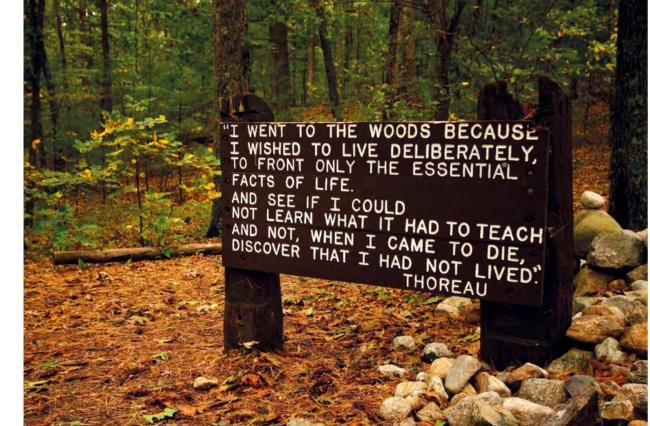




Sports sponsorships

Canadian Solar Japan sponsored the two sports teams below as part of their 2015 CSR activities:

- 1. Japan Pacific League "Saitama Seibu Lions" Donated uniforms and signage. The team has been supported by Canadian Solar since 2011.
- 2. J. League division 1 "Vegalta Sendai" Donated uniforms and digital screen at Yurtec Stadium Sendai. The team has been supported by Canadian Solar since 2014.



A famous quotation of Thoreau, near his cabin site at Walden Pond

#### AMERICAS

**Donation of panels to Thoreau Farm** Canadian Solar contributed panels for a nine-kilowatt system that was installed free of charge on Thoreau Farm, the birthplace of Henry David Thoreau, in Concord, Mass. Thoreau Farm's move toward solar began a decade ago when plans were first implemented to rehabilitate and renovate the 18th century farm house where transcendentalist Henry David Thoreau was born 199 years ago. With the help of Concord's Green Team, Thoreau Farm made use of a series of green efficiency materials, including an electric heat pump for heating and cooling, environmentally sound shingles, a rainwater collection unit, greywater disposal system, and a composting toilet. The solar installation represents the latest chapter in the sustainable rehabilitation of the farmhouse.

Donation of solar kits for Habitat For Humanity For "Operation Playhouse", Canadian Solar has donated several solar panel kits to Habitat for Humanity again, an organization dedicated to building homes, communities and hope for those in need.

Several playhouses were hand decorated for the children of local veteran families, helping build strength, stability, self-reliance, and playhouses for deserving families.

#### **RECURRENT ENERGY**

#### Our subsidiary Recurrent Energy regards social investment as a core value:

"WE RECOGNIZE THAT OUR ACTIONS HAVE AN IMPACT ON THE COMMUNITIES WHERE WE LIVE, WORK AND DEVELOP OUR PROJECTS. COMMUNITY OUTREACH IS ACCORDINGLY AN INTEGRAL PART OF RECURRENT ENERGY'S **PROJECT DEVELOPMENT PROCESS."** 

#### Recurrent Energy Social Investment Report 2015/2016

#### Below are just some of the projects Recurrent Energy has invested in:

West Side Youth - Fresno County, CA West Side Youth provides after-school activities for children in Mendota, Fresno. Last summer, Recurrent Energy helped West Side Youth purchase new computers for its technology lab. This spring it made a follow-up contribution to support West Side Youth's programs, including boxing, martial arts, reading, homework and playing video games.

For more information please view the Recurrent Energy video at https://vimeo.com/181709939

Das, reacusting Energy Are:11 thanks for the Schol: Mendota computers and the sources that the computers have And the 689 WROCSCIECO 94 has on the front and it has a Webcam 97 95 699 the computers and bok up b?9. 50

#### Letters from children thanking Recurrent Energy.

2016 Kings County Farm Day – Kings County, CA Recurrent Energy is a long-time member of the Kings County Farm Bureau, the premier non-profit advocacy group for the local agricultural community. Most recently, it sponsored the Bureau's Farm Day, an event tailored to 2,300+ local third graders who spent a day learning "Where does our food come from?".



One of the playhouses built for children in need by Habitat for Humanity with support from Canadian Solar

occuring Energy donateing the computers to the center. Dear Reoccoring Energy Hank you for things but

Tropico Middle School – Kern County, CA Recurrent Energy recently helped Tropico Middle School purchase new track & field jerseys and renovate its practice grounds. As 2016 spring track season kicked off, the school sent a letter acknowledging the contribution's impact. Recurrent Energy is the team's sole corporate sponsor, and our logo hangs in the school gym.



Football time at Tropico Middle School

SOCIAL ASPECTS G4 – DMA



# **AWARDS &** RECOGNITIONS

#### **CHINA 2015**

- 1. Canadian Solar's Nano Metal Catalyzed Chemical Etching Cell Technology (MCCE) receives a 2015 China Innovation Technology Award at the 15th China Economic Forum.
- 2. Canadian Solar Inc. is recognized as one of the Top 500 Global New Energy Enterprises by the China Institute of Energy Economics Research (CIER).
- 3. Dr. Shawn Qu, Chairman and Chief Executive Officer of Canadian Solar, is recognized as Global New Energy Business Leader.
- 4. Canadian Solar Inc. is awarded as one of China's Top 500 Foreign Trade Enterprises by the Ministry of Commerce of P.R.C. China Foreign Trade Statistics Association.

#### **CHINA 2014**

#### **BEST CORPORATE CITIZEN OF THE YEAR**

In 2014, Dr. Shawn Qu, Chairman and Chief Executive Officer of Canadian Solar was awarded "Best Corporate Citizen of The Year" by CBN (the financial media arm of China's SMG media group). The event is recognized as the "Oscars of China's business sector". The Best Corporate Citizen of the Year Award is given to the business leader who made the most remarkable contribution to art, education, environment and social development.

#### CHANGSHU: UNIVERSAL HEALTH AWARD

Canadian Solar's Changshu factory founded a Healthy Lifestyle Team to promote healthy living, encourage work-break exercises and establish a zero-smoking factory area. Due to its outstanding activities, as well as the organization and dissemination of knowledge on healthy lifestyle, the factory was formally recognized as a Universal Health & Lifestyle Demonstration Unit by Changshu municipal government in 2014.

#### LUOYANG: ADVANCED ENTERPRISE AWARD

Canadian Solar's Luoyang Factory was recognized by the Luoyang Luolong District because it achieved sales revenue of RMB 1,364 million in 2014. It also contributed greatly to local economic development and increased local job opportunities in the region.



#### **RANDSTAD AWARDS**

Canadian Solar was named Canada's Most Attractive Employer in the sixth-annual Randstad Award at a ceremony in Toronto in May 2016. Randstad Canada is the country's leading staffing, recruitment and HR services company and its Award program recognizes the country's top employers through an independent survey of more than 9,500 Canadians. When announcing the award, Marc-Étienne Julien, CEO of Randstad Canada, said: "Clearly, Canadian Solar's commitment to providing sustainable energy solutions and a positive work environment is resonating with Canadians looking for an employer of choice."

This is the third consecutive year Canadian Solar placed near the top, and our first win. Placing first out of the 150 largest companies in Canada, we were in impressive company, with the 2016 top 10 rankings being:

SOCIAL ASPECTS G4 – DMA



#### 1. CANADIAN SOLAR INC.

- 2. IBM Canada Ltd.
- 3. Air Canada
- 4. Indigo Books & Music Inc.
- 5. Fairmont Hotels & Resorts Inc.
- 6. Bombardier Inc.
- 7. Coca-Cola Refreshments Canada Company
- 8. Thomson Reuters Canada Limited
- 9. Canadian National Railway Company
- 10. Costco Wholesale Canada Ltd.

The complete list of award winners can be found on the Randstad Awards website:

https://www.randstad.ca/randstadaward/

This follows on our success in 2015 where we were ranked #1 in corporate social responsibility for our approach to environmental and social issues. Read the full story in this article:

www.canadiansolar.com/making-the-difference/a-top-5employer-that-puts-people-first.html

# VII. APPENDIX

#### DISCLAIMER

This report is for information purposes only and no legal consequences may be drawn from it. The entities in which Canadian Solar directly or indirectly owns interests are separate legal entities. Canadian Solar shall not be held liable for their acts or omissions. This document may contain forward-looking information and statements that are based on business and financial data and assumptions made in a given business, financial, competitive and regulatory environment. They may prove to be inaccurate in the future and are subject to a number of risk factors. Neither Canadian Solar nor any of its affiliates assumes any obligation to investors or other stakeholders to update in part or in full any forward-looking information or statement, objective or trend contained in this document, whether as a result of new information, future events or otherwise. Additional information concerning factors, risks and uncertainties that may affect Canadian Solar's financial results or activities is provided in the Canadian Solar 2015 Annual Report.

# GRI CONTENT INDEX

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# С

CAFD	Cash available for distribution
CanSIA	Canadian Solar Industries Associations
CEC	California Energy Commission
CED	Cumulative Energy Demand
COD	Commercial operation date
CO <sub>2</sub> eq	Carbon dioxide equivalent
CSA	Canadian Standards Association
CSI	Canadian Solar International
CS6P-M	Canadian Solar Panel-Monocrystalline
CS6P-P	Canadian Solar Panel-Polycrystalline
CSR	Corporate Social Responsibility

Alternating current

## D

DC Direct current DLG DLG is a German testing institute (Deutsche Landwirtschafts-Gesellschaft)

## Ε

Е	Estimation
EHS	Environmental, Health and Safety
EIA	U.S. Energy Information Administration
EL	Electroluminescence
EPC	Engineeering, Procurement, Construction
ESAP	Environmental and social action plan
ESDD	Environmental and safety due diligence
ESIA	Environmental and safety impact assessment
ESMS	Assessment and management of
	environmental and social risks and impacts
EVA	Ethylvinylacetate (a plastic polymer)

## G

GHG Greenhouse Gas GRI Global Reporting Initiative GW Gigawatt

## Н

H <sub>2</sub> SO <sub>4</sub>	Sulphuric acid
HCI	Hydrochloric acid
HF	Hydrogen fluoride
HNO,	Nitric acid
HR	Human Resources

#### Т

IEA	International Energy Agency
IEC	International Electrotechnical Commission
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standards Organization

JET Japan Electrical Technologies Laboratory JPEA Japan Photovoltaic Energy Association

## Κ

- КОН Potassium hydroxide KPIs Key Performance Indicators
- kWh Kilowatt hours
- kWp Kilowatt peak

LCOE Levelized cost of energy

## Μ

MJ	Megajoule
A & M	Mergers & Acquisitions
MJeq	Megajoule equivalent
MW	Megawatt
MWh	Megawatt hours

## Ν

N <sub>2</sub> O	Nitrous oxide
NaOH	Sodium hydroxide
NGOs	Non-Governmental Organizations
NH3	Ammonia
NO <sub>x</sub>	Nitrogen oxides

## 0

OSEA	Ontario Sustainable Energy Association
OEM	Original Equipment Manufacturer

#### Ρ

PA	A polymide material
PAN	PAN files describe module performance under
	a wide range of environmental conditions
PET	Polyethylene terephthalate, a polymer
PCT	Patent Cooperation Treaty
PID	Potential Induced Degradation
POCI <sub>3</sub>	Phosphorous oxychloride
PO <sub>4</sub> -	Phosphate ion equivalent
PPA	Power purchase agreement
PR	Public Relations
PV	Photovoltaic/s
PVF	Polyvinyl fluoride is a polymer

### F

FY Financial year

<b>Q</b> QHSE	Quality, Health, Safety and Environment
R&D R&D ROA	Research and Development Return on assets
Sb SEIA SEP SO <sub>2</sub> eq SO <sub>x</sub>	Antimony equivalent Solar Energy Industry Association Stakeholder Engagement Plan Sulphur dioxide equivalent Sulphur oxides
TCO <sub>2</sub> eq TÜV	Tons of carbon dioxide equivalent Technische Überwachungsverein (Technical Standards Monitoring Organization)
U	

UL Underwriters Laboratories	inc.
------------------------------	------

## V

VDE	VDE is an electronic goods certification institute
	(Verband der Elektrotechnik, Elektronik
	und Informationstechnik e.V.)

## W

W	Watt
WBG	World Bank Group
WP	Watt peak
WTO	World Trade Organization



## **A LOOK BEHIND THE SCENES OF OUR PRODUCTION SITES**





Are you interested in seeing the quality of our module production facilities and the practices of our factories in China, Canada, Vietnam, Indonesia or Brazil?

Canadian Solar would like to offer you the opportunity to take a comprehensive tour of our production facilities.

What areas are you interested in? Quality control, certification, test labs, planning, order processing? Or are you more interested in getting an overall impression of our production capacities? Decide for

\* Please note that these arrangements are the only support we will be able to provide. The law unfortunately prevents us from covering any of the cost of your visit.

yourself which area you want to have a closer look at. A competent local team will accompany you on your visit and answer any questions you might have.

Please inform your sales manager or contact us via our website if you want to visit the factory. They will pass your request on to our customer service center. The team there will set a date for you and arrange the transfer to the hotel and the manufacturing facility. They will also organise your hotel and meals\*. Our team will make sure that every aspect of your on-site visit goes smoothly.

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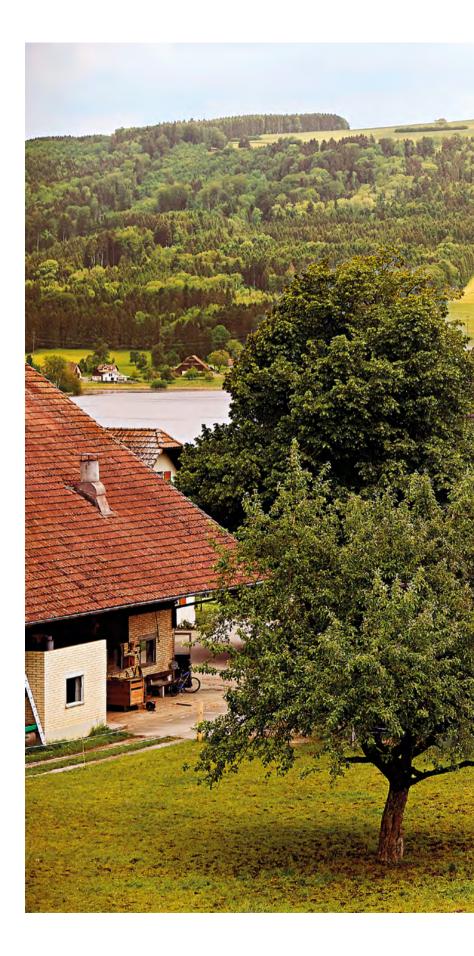
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