

## **Investor Day Presentation (Afternoon Session)**

JW Marriott, Essex House, New York City

May 18, 2015





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## Agenda Today



**Strategy Overview** 

**Module Business** 

Lunch Break

**Energy Business** 

**Global Energy Business** 

**US : Recurrent Energy** 

YieldCo Opportunity and Guidance

**Closing Remarks** 



## **Industry Leading Globally Diversified Pipeline**



Canadian Solar has a globally diversified pipeline of contracted / late stage projects in low risk geographies

Source: Company information as of May 18, 2015

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 2-3 years. Some projects may not reach completion due to failure to secure permits or grid connection, among other risk factors.

(2) Early to mid-stage of development: includes projects under assessment for co-development and acquisition, as well as projects being self-developed where the land has been identified or secured, and an energy off-take agreement is in place or there is a reasonable probability that it can be secured.



## **Global Energy Business Footprint**



## **Our Core Processes**





## **Engineering Oversight during Project Life Cycle**



## **Achieving Lower LCOE Through Learning and Innovation**



Lessons Learned and Root Cause Analysis

Monitor Performance of Project Under O&M Contract

Maintain Detail Project Cost Models

Projects Evaluation and Sponsorship

Market and Technology Intelligence

**Evaluate New Suppliers And Technologies** 

Assess 'Make Vs Buy' To Maintain Competitive Advantage



### We have an Industry Leading Track Record Delivering Utility Scale Power Plants





#### 24 DEVELOPER PROJECTS IN OPERATION<sup>1</sup> 310.4 MW DC 6 ENGINEERING, PROCUREMENT & CONSTRUCTION PROJECTS IN OPERATION 189 MW DC

Year	# of projects	MW DC
2011	2	19.0
2012	4	38.9
2013	3	36.4
2014	17	232.0
2015 (to date)	4	173.1
Total	30	499.4



1. Projects are not owned by Canadian Solar and not eligible for YieldCo.



## Samsung Phase I – Haldimand, Ontario













## **Thunder Bay, Ontario**





Thunder Bay, Ontario Canada CSI Role: 8.5 MW DC EPC Solution and O&M Provider Owner: Skypower LTD (FWFN) Construction Finance: Minsheng Bank Project Debt : Deutsche Bank Status: Completed December 2011



Thunder Bay, Ontario Canada CSI Role: 10.8 MW DC EPC Solution and O&M Provider Owner: Skypower LTD (FWFN) Construction Finance: Minsheng Bank Project Debt : Deutsche Bank Status: Completed March 2012





## 26 U.S PROJECTS IN OPERATION<sup>1</sup> 161.8 MW



Connected	# of Projects	MW DC
2013	15	73.7
2014	11	88.1
Total	26	161.8



1. Projects are not owned by Canadian Solar and not eligible for YieldCo. Does not include Recurrent Energy.









## 23 DEVELOPER PROJECTS IN OPERATION<sup>1,2</sup> 99 MW DC

Year	# of projects	MW DC
2012	1	10.0
2013	20	80.0
2014	4	29.0
Total	25	119.0



- Includes 30MW of Golden Sun projects that are counted as one project, 5MW of which is in process of grid-connection; Also includes a 15MW project that was only partially connected to the grid in December of 2014
- 2. All self-developed projects are owned by Canadian Solar; 17 projects built under the Golden Sun program





# 40.2 MW DC

Project	MW DC		
Moat Farm	4.6		
Coombe	7.4		
Hoplass	10.3		
Church Farm	17.9		
Total	40.2		

1. Projects are owned by Canadian Solar and eligible for YieldCo.





## Moat Farm – Nottinghamshire, UK







## The Regional Breakdown of our Project Pipeline



1. Excludes China, India and Pakistan MOUs



## The Utility Scale Project Opportunity in Canada

## \*

#### **Market Environment**

- LRP 140 MW 2016 and 140 MW 2017
- FIT program running out
- Transition to RFP system and then a cap and trade market
- No future local content requirement

#### **Active Pipeline COD Schedule\***

Canadian Solar developed	MW <sub>DC</sub>	Status	Expected COD
Alfred	14.1	Engineering	2015 Q4
Illumination LP	14.0	In Construction	2015 Q4
Beam Light LP	14.0	In Construction	2015 Q4
Earth Light LP	14.1	Engineering	2015 Q4
Lunar Light LP	14.0	In Construction	2015 Q2
Aria LP	14.8	In Construction	2015 Q4
Total CSIQ Developed (SALE in 2015)	85.0		
3 <sup>rd</sup> Party Developed (EPC)	MW <sub>DC</sub>	Status	Expected COD
Samsung Phase I	133.6	In Construction	2015 Q2
Samsung Phase II	141.0	In Construction	2015 Q3
Total EPC Projects	274.6		
EPC MW Recognized into Revenue in Prior Quarters	175.4		
Total Project Backlog	184.2		

\* As of May 18<sup>th</sup> 2015



## The Utility Scale Project Opportunity in Japan

#### Market Environment

- In 5 utility areas (Hokkaido, Tohoku, Shikoku, Kyushu and Okinawa) grid capacity is saturated.
- For newly approved projects in the above regions, developers need to bear curtailment risk or add storage.
- Kansai region has room to accept solar , but grid capacity in Tokyo and Chubu areas approach saturation.
- No major impact in our pipeline: In Kyushu we have 95 MW, only one 2 MW project is affected. In Tohoku, around 124 MW can potentially be exposed to risk of unlimited curtailment.
- <sup>+</sup> The current FIT stands at ¥29 per kWh, which is equivalent to ~\$0.24 per kWh, and remains the highest in the world.
- TEPCO announced that they are increasing grid capacity in Fukushima; 5 nuclear power plants to be demolished (which can free-up grid capacity)./



- Weighted average FIT for the entire pipeline ¥36.2/kWh
- ~90 MW at NTP/RTB

1. Actual results may differ materially from current expectations. The forecasted COD schedule is subject to change without notice



## The Utility Scale Project Opportunity in China

#### **Market Environment**

- The current FIT ranges from at RMB0.90 to RMB1.0 per kWh, which is equivalent to ~\$0.15 per kWh.
- The government has set targets for solar PV installations to reach a cumulative total of 70 GW by 2017, and 100 GW by 2020
- Cumulative installations reached ~35GW in March 2015, implying ~65GW has yet to be installed to reach the 2020 target
- There is a possibility China will increase solar installation targets when the next
   5 year plan is published



Our Late-Stage Pipeline: **340MW** 

#### **Canadian Solar Position**

- Canadian Solar has approximately 85 MW connected to the grid in China and generating electricity
- Canadian solar expects to connect 320 MW in 2015
- We have approximately 65 MW in construction in China today, with the balance in late stages of permitting

#### **Challenges**

- FIT payment delays of up to 2 years
- High curtailment in the west part of the country

1. One 15MW project is partially connected, and one 5MW Golden Sun project is pending grid-connection.



## The Utility-Scale Project Opportunity in the UK



#### Market Environment

- The UK government introduced the ROC in 2002, FiT in 2010 and CfD in 2014.
- The current ROC ranges from at £0.113 to £0.120 per kWh, which is equivalent to ~\$0.177 per kWh. Current FIT ranges from at £0.114 to £0.118 per kWh (~\$0.176 per kWh).
- The government has set targets for solar PV installations to reach a cumulative total of 20GW by 2020. <sup>(1)</sup>
- Cumulative installations reached 5.7GW in March 2015 <sup>(2)</sup>, implying a demand of ~3.3GW range per year to reach the 2020 target.
- Overall, Solar PV capacity at the end of 2014 stood at 5.1GW, an increase of 79% compared to 2013 year end. <sup>(3)</sup>
- Deutsche Bank estimates \$1.71 per watt to build utility scale plant by 2017. Currently \$2.00. <sup>(4)</sup>



Our Late-Stage Pipeline: 114.9MW

#### **Canadian Solar Position**

- Canadian Solar has 40.2 MW connected to the grid in the UK and generating electricity.
- Canadian Solar will connect to the grid in Q2 2015 6.16 MW and is expecting to connect additionally 46.5 MW in Q3 2015 and 62.2 MW in Q4 2015.
- In addition to the 40.2MW connected in Q1, Canadian Solar expects to connect a total of 114.86MW by 2015 close.

#### **Challenges**

- ROC program for large utility projects (>5MW) no longer in existence.
- CfD program for large utility projects challenging because of the low strike price. (Low Project IRR)
- UK new government policy actually unpredictable.

(4) Source: Deutsche Bank



<sup>(1)</sup> https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/255182/UK\_Renewable\_Energy\_Roadmap - 5\_November - FINAL\_DOCUMENT\_FOR\_PUBLICATIO\_\_\_port

<sup>(2) &</sup>lt;u>https://www.gov.uk/government/statistics/solar-photovoltaics-deployment</u>

<sup>(3)</sup> https://www.gov.uk/government/statistics/solar-photovoltaics-deployment

## **Selected Latin America Opportunities**

Brazil	<ul> <li>26% of total LATAM market by 2019</li> <li>Remarkable irradiation values</li> <li>Two tenders are scheduled for 2015 and regional tender is expected</li> <li>Challenges: Limited PPA prices, cumbersome tax system, grid quality concerns, local content requirement, currency risk</li> </ul>
Mexico	<ul> <li>Over 14% of total LATAM market by 2019</li> <li>Outstanding irradiation values</li> <li>Structure reforms may bring a positive impact</li> <li>Challenges – Mexico: Grid quality concerns, New "Energy Reform" causing delays, legal framework under development</li> </ul>



### **Canadian Solar Late-Stage Project COD schedule**



- 2 Evolutions mid stage projects that will move into late
- 2. Excludes mid-stage projects that will move into late-stage



A subsidiary of Canadian Solar

Leading Solar Project Developer Transforming Our World To Sustainably Meet Its Energy Needs With Clean Electricity

4.0

## **Recurrent Energy History**





<sup>1</sup> Contracts include Power Purchase Agreements ("PPAs"), Interconnection Agreements ("IAs"), Iand purchase agreements, Module Supply Agreements ("MSAs"), Engineering Procurement and Construction ("EPC") agreements, Operation and Maintenance ("O&M") agreements, project debt and equity agreements and Management Service agreements ("MASAs")



## **Capabilities – An Integrated Team Approach**



### **In-House Core Competencies**

Policy	Development <sup>8</sup> Origination	Finance	EPC	O&M, Asset
<ul> <li>Advocates with political officials</li> <li>Identifies policy driven market opportunities and risk</li> </ul>	<ul> <li>Site Acquisitions</li> <li>Permitting</li> <li>Entitlements</li> <li>interconnection</li> <li>M&amp;A</li> <li>Power Marketing (PPAs and structured)</li> </ul>	<ul> <li>Debt</li> <li>Equity</li> <li>Tax Equity</li> <li>Credit/LCs</li> <li>Corporate</li> <li>Mezzanine</li> </ul>	<ul> <li>Directly manages contractors, throughout development and construction process</li> <li>Procures equipment directly</li> </ul>	<ul> <li>Works with 3<sup>rd</sup> party providers</li> <li>Directly manages operating portfolio</li> <li>Currently manages 312 MWp of projects</li> </ul>



## Leading Off-takers, Counterparties & Partners







59 projects totaling more than 680MWp developed and/or sold

More than **\$4B** in project finance secured to date

More than **1.5 GWp** of contracts won









## **Market Leader Across North America**





Project C | 120 MWp Rosamond, CA Project B | 200 MWp • West Texas

## RE Mustang | 134 MWp Lemoore, CA

Recurrent Energy's **1.0 GW** late-stage pipeline is one of the largest solar project portfolios scheduled to be built by the end of 2016

## Project A | 81 MWp California City, CA



RE Astoria 1 and 2 | 231 MWp Rosamond, CA

Images are artist renderings of the solar projects



Tax Equity	Monetizes the ITC and Modified Accelerated Cost Recovery System (MACRS) depreciation, which can not be efficiently used by developers
Debt	Robust market of banks, institutions and public bonds; 30-45 active lenders
Sponsor Equity	Contributed to project by the developer



## Late-Stage Pipeline Financing Update



## Financings for six of the seven projects in the late-stage portfolio are in process







RECURRENT ENERGY A subsidiary of Canadian Solar

## Continued growth for Solar is expected, despite 10% ITC, in TX and CA in 2018-2020.



- Long-term growth driven by California carbon reduction policies and consumer interest
- Near-term procurement driven by satisfying remaining current RPS and municipal demand
- Long-term growth driven by load growth and coal retirements
- Near-term procurement driven by an increase in customer and municipal demand
- Storage-friendly policies in 2013-14 created near-term procurement demand
- Will leverage experience in PV market to expand into storage and other complementary technologies



## **Transformation Drives Market Opportunity**



Macro Customer, Policy, and Cost Trends will drive clean energy transformation and demand in the U.S.











**Strategy Overview** 

**Module Business** 

Lunch Break

**Energy Business** 

YieldCo Opportunity and Guidance

**Closing Remarks** 



### **Income Statement Summary**

**Revenue – US\$ million** 









## **Operating Expenses as % of Net Revenue**



**Research & development expenses** 

0.7%



Source: Company filings Note: Percentages are of the total net revenue in the corresponding period.

**General & administrative expenses** 



**Total operating expenses** 



## **Selected Balance Sheet & Cash Flow Items**



Total debt – US\$ million

![](_page_41_Figure_3.jpeg)

Cash flow from operations – US\$ million(1)

![](_page_41_Figure_5.jpeg)

Depreciation & amortization – US\$ million

![](_page_41_Figure_7.jpeg)

Source: Company filings Note: (1) Working capital calculated as total current assets less total current liabilities (2) Including US\$150 million in aggregate principal amount of 4.25% convertible senior notes due 2019

## Guidance

	Q1 2015	Q2 2015	FY2014	FY2015	ΥοΥ ∆%
Module shipments	1,000 MW – 1,030 MW	950 MW – 1,000 MW	3.1 GW	4.0 GW – 4.3 GW	+33.1%
Revenue	\$ 725 m to \$ 775 m	\$ 570 m to \$ 620 m	\$2.96 bn	\$2.8 bn to \$3.0 bn	Flat <sup>(2)</sup>
Gross margin	16% – 18% <sup>(1)</sup>	13% – 15% <sup>(1)</sup>	19.6%	NA	NA

1-Includes module business and project business

2-Absent change in energy business model from build to sell, to build and operate, revenue for

2015 would be higher by over \$1.0 billion.

![](_page_42_Picture_5.jpeg)

## **Evolution of our Business**

![](_page_43_Figure_1.jpeg)

![](_page_43_Picture_2.jpeg)

## Why Launch a Yieldco?

#### **Build-to-Sell**

- Trade long term cash flow for shorter term profit
- → Recycles equity faster
- Higher revenue and EPS under GAAP

#### <u>Yieldco</u>

- Cash from sale of projects to Yieldco plus recurring cash flow from dividends and IDRs drives greater retained value
- Look-through value of Energy business enhanced by Yieldco
- Capture more total value for shareholders
- ✓ Competitive cost of capital

We do not control many parts of the timing of a potential Yield Co launch, especially regulatory reviews, project development and construction including permitting.

![](_page_44_Picture_11.jpeg)

## **Effect of Change in Business Model – Build to Hold**

![](_page_45_Figure_1.jpeg)

- Projects that would have been sold are now being kept, which results in a reduction of an estimated \$1 Billion in revenue in 2015
- Because we are not selling projects at NTP cash burden to build the projects increases:
  - > No deposits, or milestone payments
- We are responsible for all financing, e.g., tax equity, construction loans
- Projects are now fixed assets, instead of current assets
- Depending on timing of Yieldco launch and other opportunities may require additional capital

![](_page_45_Picture_8.jpeg)

## **Cash Available For Distribution (CAFD) : Preliminary Estimates**

![](_page_46_Figure_1.jpeg)

- > These CAFD estimates are internal modeling numbers and represent the run rate at end of each year.
- Assume only late-stage projects from OECD+ countries are included USA, Japan, UK and Canada
- Assumes a more conservative COD schedule than planned to allow for risk
- > Does not include project acquisitions or partnerships under consideration that are potentially accretive
- > May not be the actual numbers used in any Yieldco offering should one be launched.

1. Cash available for distribution after assumed project level financing and tax equity

![](_page_46_Picture_8.jpeg)

![](_page_47_Picture_0.jpeg)

## THANK YOU!