FIRST SOLAR

INVESTOR OVERVIEW

October 24, 2019

First Solar®

LEADING THE WORLD'S
SUSTAINABLE ENERGY FUTURE



IMPORTANT INFORMATION

Cautionary Note Regarding Forward Looking Statements

This presentation contains forward-looking statements which are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements in this presentation, other than statements of historical fact, are forward-looking statements. These forward-looking statements include, but are not limited to, statements concerning: effects resulting from certain module manufacturing changes and associated restructuring activities; our business strategy, including anticipated trends and developments in and management plans for our business and the markets in which we operate; our financial guidance for 2019, future financial results, operating results, net sales, revenues, gross margin, operating expenses, operating income, earnings per share, net cash balance, capital expenditures, products, projected costs (including estimated future module collection and recycling costs), warranties, shipments, bookings, booking opportunities, confirmations, supply, production, solar module technology and cost reduction roadmaps, restructuring, product reliability, investments in unconsolidated affiliates, and capital expenditures; renewable capacity expansion, solar PV growth; our ability to continue to reduce the cost per watt of our solar modules; our ability to expand manufacturing capacity worldwide; our ability to reduce the costs to construct photovoltaic ("PV") solar power systems; research and development ("R&D") programs; sales and marketing initiatives; the impact of U.S. tax reform; and competition. These forward-looking statements are often characterized by the use of words such as "estimate," "expect," "anticipate," "project," "plan," "intend," "seek," "believe," "forecast," "foresee," "likely," "may," "should," "goal," "target," "might," "will," "could," "predict," "continue" and the negative or plural of these words and other comparable terminology. Forward-looking statements are only predictions based on our current expectations and our projections about future events and therefore speak only as of the date of this presentation. You should not place undue reliance on these forward-looking statements. We undertake no obligation to update any of these forward-looking statements for any reason, whether as a result of new information, future developments or otherwise. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from those expressed or implied by these statements. These factors include, but are not limited to: structural imbalances in global supply and demand for PV solar modules; the market for renewable energy, including solar energy; our competitive position and other key competitive factors; reduction, elimination, or expiration of government subsidies, policies, and support programs for solar energy projects; the impact of public policies, such as tariffs or other trade remedies imposed on solar cells and modules; our ability to execute on our long-term strategic plans; our ability to execute on our solar module technology and cost reduction roadmaps; our ability to improve the wattage of our solar modules; interest rate fluctuations and both our and our customers' ability to secure financing; the creditworthiness of our offtake counterparties and the ability of our offtake counterparties to fulfill their contractual obligations to us; the ability of our customers and counterparties to perform under their contracts with us; the satisfaction of conditions precedent in our project sale agreements; our ability to attract new customers and to develop and maintain existing customer and supplier relationships; our ability to successfully develop and complete our systems business projects; our ability to convert existing production facilities to support new product lines, such as Series 6 module manufacturing; general economic and business conditions, including those influenced by U.S., international, and geopolitical events; environmental responsibility, including with respect to cadmium telluride ("CdTe") and other semiconductor materials; claims under our limited warranty obligations; changes in, or the failure to comply with, government regulations and environmental, health, and safety requirements; effects resulting from pending litigation, including the class action lawsuit against us; future collection and recycling costs for solar modules covered by our module collection and recycling program; our ability to protect our intellectual property; our ability to prevent and/or minimize the impact of cyber-attacks or other breaches of our information systems; our continued investment in R&D; the supply and price of components and raw materials, including CdTe; our ability to attract and retain key executive officers and associates; and the matters discussed under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Conditions and Results of Operations" of our most recent Annual Report on Form 10-K, and our subsequently filed Quarterly Reports on Form 10-Q, as supplemented by our other filings with the Securities and Exchange Commission.

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INVESTMENT THESIS

Market Opportunity

- Renewable capacity is set to expand globally by 1,200 GW from 2019 - 2024[(1)]
  - — Solar PV alone accounts for almost 60% of the expected growth
  - — 1,200 GW is equivalent to the total installed power capacity in the U.S.
- Unsubsidized utility-scale solar has a lower levelized cost of energy compared to conventional generation including coal, nuclear and natural gas peaking plants[(2)]

First Solar Advantage

- Differentiated thin-film technology offering long term energy advantages
- Market leading Series 6 product, largely sold out through the second quarter of 2021
- Trusted global partner with over 25 GWs of modules shipped since the company's founding
- Industry leading balance sheet which enables investment in a disruptive technology roadmap







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(1) IEA Renewables 2019 Analysis and Forecast to 2024; (2) Lazard Levelized Cost of Energy Analysis – Version 13.0

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CORPORATE OVERVIEW

UNSUBSIDIZED SOLAR IS COMPETITIVE WITH CONVENTIONAL GENERATION

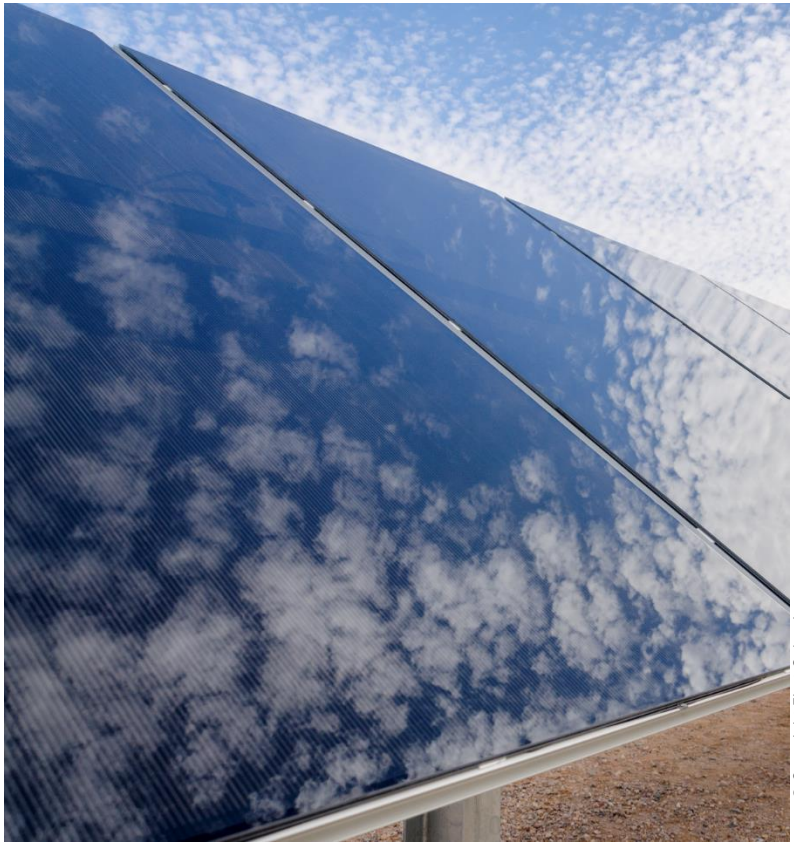


Source: Lazard Levelized Cost of Energy Analysis – Version 13.0

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FIRST SOLAR AT A GLANCE

- Over **25GW** shipped worldwide and nearly **$18B** in project financing facilitated
- **Partner of choice** for leading utilities and global power buyers since 2006
- Solar energy that is **economically competitive with fossil fuel**
- Strongest **financial stability** & **bankability** in the industry



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TRUSTED PARTNER

UTILITY-SCALE



CORPORATE RENEWABLES



COMMUNITY SOLAR



DEVELOPERS & 3rd PARTY EPC



O&M



"We create **enduring value for our customers** by powering their worlds through clean and affordable energy."

— Mark Widmar
First Solar CEO

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TECHNOLOGY & MANUFACTURING ADVANTAGE

FIRST SOLAR MANUFACTURING ADVANTAGE

First Solar Fully Integrated, Automated and Continuous Thin Film Process

GLASS → Semi-conductor Deposition → Cell Definition → Final Assembly & Test → First Solar MODULE

<3.5 HRS

1 Factory

- Large glass substrate vs. individual Si wafers
- Fully integrated, continuous process
- 98% less semiconductor material vs Si
- Quality controlled under one roof

Polysilicon → Output Ingot → Output Wafer → Output Solar Cell → Output Module









<3 DAYS

4+ Factories

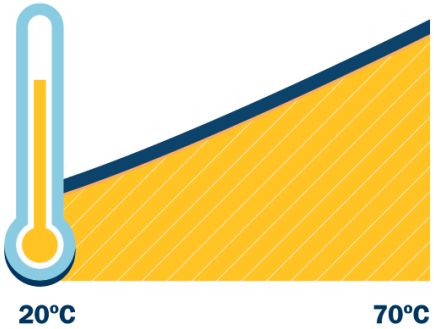


Crystalline Silicon Wafer Based Batch Technology

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SPECIFIC ANNUAL ENERGY YIELD ADVANTAGE
(RELATIVE TO FRAMED BSF AND PERC, MULTI AND MONO)

SUPERIOR TEMPERATURE **COEFFICIENT**



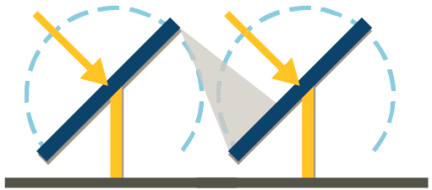
UP TO 3%
MORE THAN C-Si
IN HOT CLIMATES

BETTER SPECTRAL **RESPONSE**



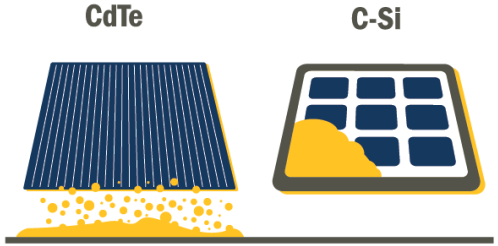
UP TO 4%
MORE THAN C-Si
IN HUMID CONDITIONS

TRUE-TRACKING **ADVANCE**



1%
MORE THAN C-Si
ON TRACKERS

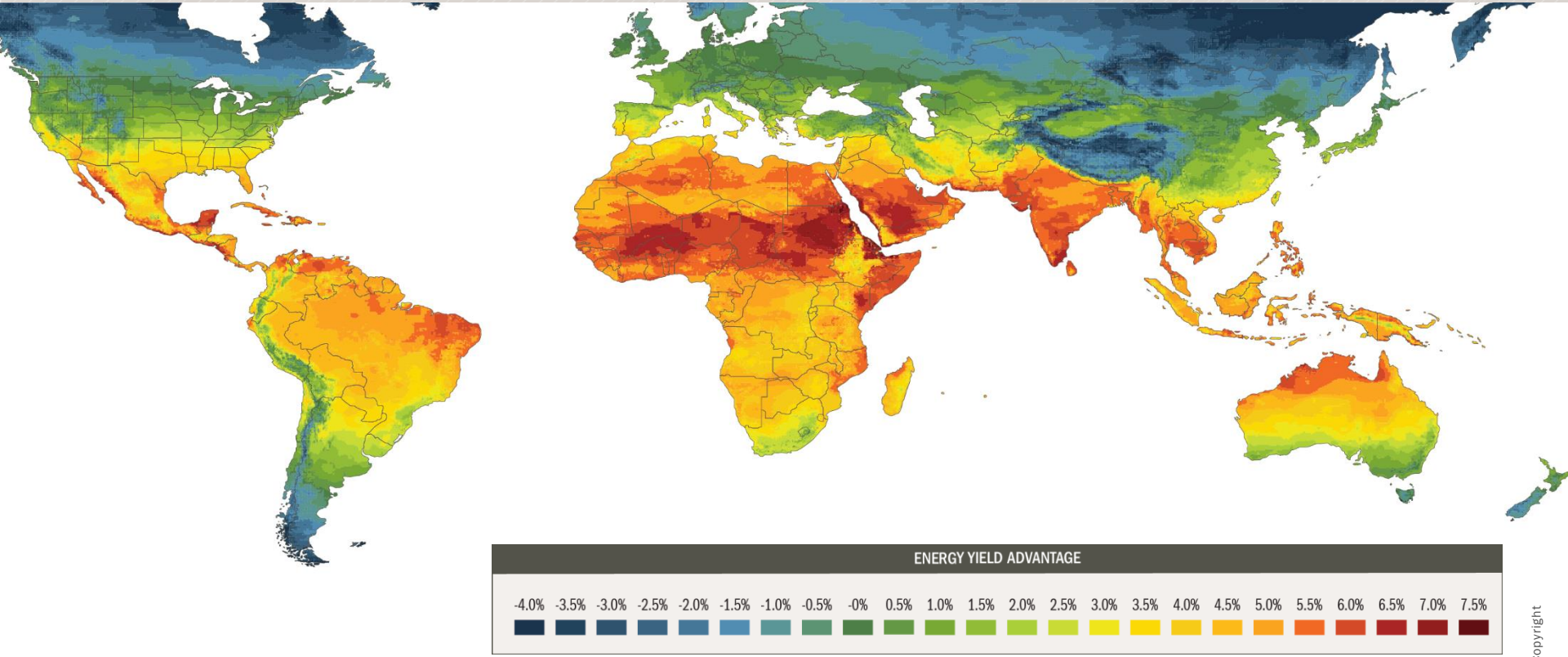
REDUCED SOILING & BETTER SNOW-SHEDDING



BETTER
PERFORMANCE
THAN C-Si

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ENERGY YIELD ADVANTAGE VS. C-SI



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PROVIDING THE LEADING ECO-EFFICIENT PV TECHNOLOGY



proven energy advantage



economically competitive with fossil fuel



lowest environmental impacts

- Validated by 3rd party research and global peer reviews
- Higher energy yields at a competitive cost
- Fastest energy payback time < 1 year
- Carbon footprint of First Solar PV modules is up to six times lower than conventional crystalline silicon modules
- Series 6 modules use up to 400 times less water per kWh than conventional energy and up to 24 times less water than other PV technologies
- Industry leading PV recycling program

Creating MORE VALUE with LESS ENVIRONMENTAL IMPACT.

Source: Seitz et al., Eco-Efficiency Analysis of Photovoltaic Modules, Bavarian State Ministry of Environment and Health, 2013; M. de Wild-Scholten, Energy Payback Time and Carbon Footprint of Commercial Photovoltaic Systems, Solar Energy Materials & Solar Cells 119, 296-305, 2013; Fthenakis and Kim. Life cycle uses of water in U.S. electricity generation. Renewable and Sustainable Energy Reviews vol. 14, pp. 2039–2048, 2010.

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STRATEGY & PRODUCT ROADMAP

CORPORATE STRATEGY

MODULES

- **Series 4**: Winding down manufacturing and fully transitioning to Series 6
- **Series 6**: 6.7 GW announced capacity for 2021, across U.S., Malaysia and Vietnam factories
- **Technology:** World class R&D driving long term competitive roadmap

SYSTEMS

- **EPC:** Announced exit of U.S. business and transition to a third-part execution model, aligning with First Solar's international strategy
- **Operations and Maintenance:** 10 GW under management across the U.S., Japan, and Australia

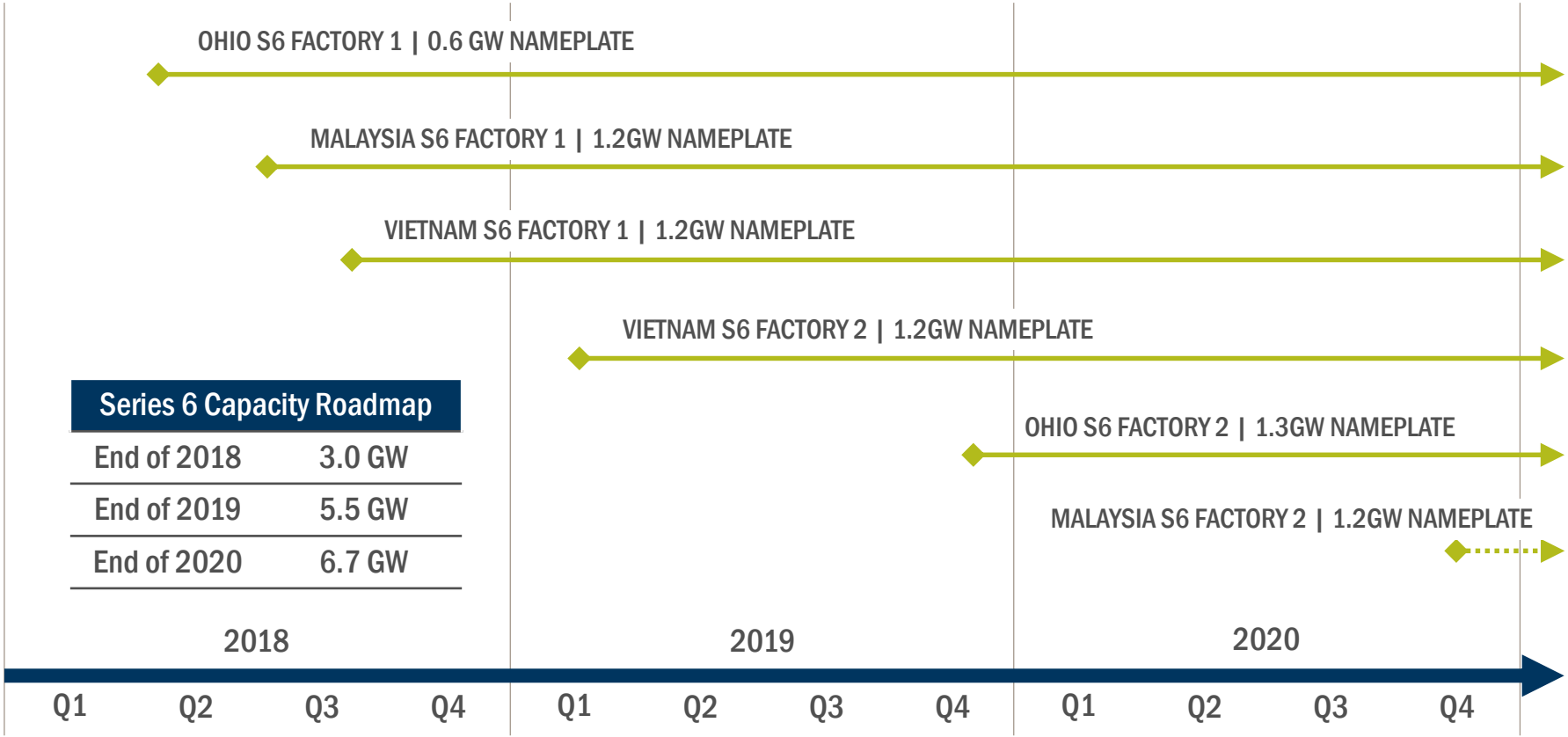


SALES & DEVELOPMENT

- **3rd Party Modules:** Direct sales presence in the U.S., Western Europe, India, Latin America, Brazil, Middle East, Japan, and Australia
- **Project Development:** Multi-GW project pipeline across the U.S., Japan, Australia, and India

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SERIES 6 CAPACITY ROADMAP



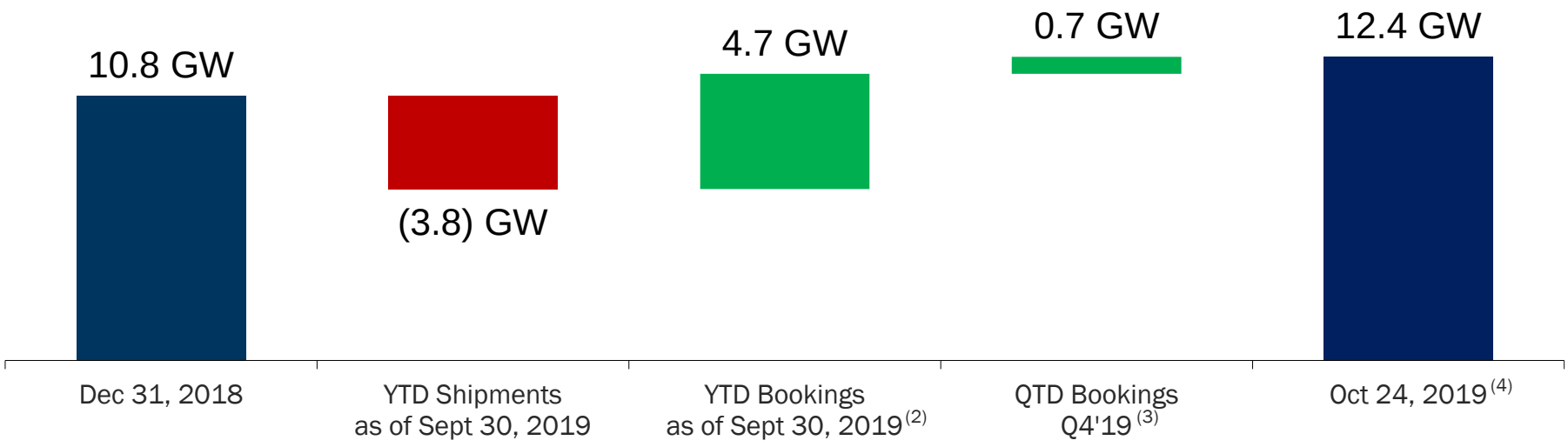
Series 6 Capacity Roadmap	
End of 2018	3.0 GW
End of 2019	5.5 GW
End of 2020	6.7 GW

Note: Diamonds indicate actual or expected start of production

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BOOKINGS, FINANCIALS & GUIDANCE

EXPECTED MODULE SHIPMENTS[(1)] (GW_{DC}): SYSTEMS + THIRD-PARTY MODULE



The above table presents the actual module shipments for 2019 through Sept 30, 2019, new module volume bookings through Oct 24, 2019, and the expected module shipments beyond Oct 1, 2019. A module is considered to be shipped when it leaves one of our manufacturing plants. Expected module shipments do not have a direct correlation to expected revenues as expected module shipments do not represent total systems revenues and do not consider the timing of when all revenue recognition criteria are met, including timing of module installation.

(1) Expected Module Shipments includes systems projects and contracted 3rd party module-only sales. Systems projects include (a) under sales agreement, (b) executed PPA not under sales agreement and (c) no PPA and not under sales agreement, but electricity to be sold on an open contract basis.

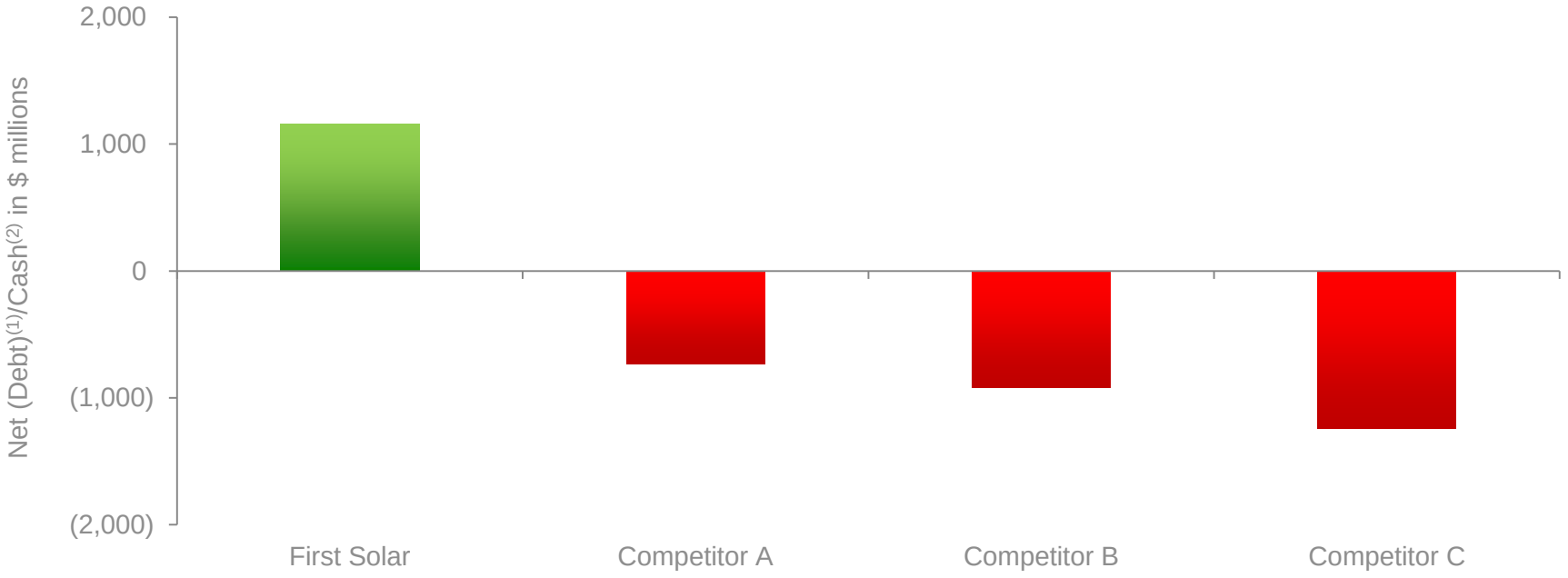
(2) Reflects bookings from Jan 1, 2019 to Sept 30, 2019, reduced by 0.4 GW of debookings.

(3) Reflects bookings from Oct 1, 2019 to Oct 24, 2019, reduced by 0.1 GW of debookings.

(4) Balance includes remaining shipment volumes as of Sept 30, 2019 and bookings through Oct 24, 2019. Shipments from Oct 1 to Oct 24, 2019 not deducted.

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INDUSTRY LEADING BALANCE SHEET

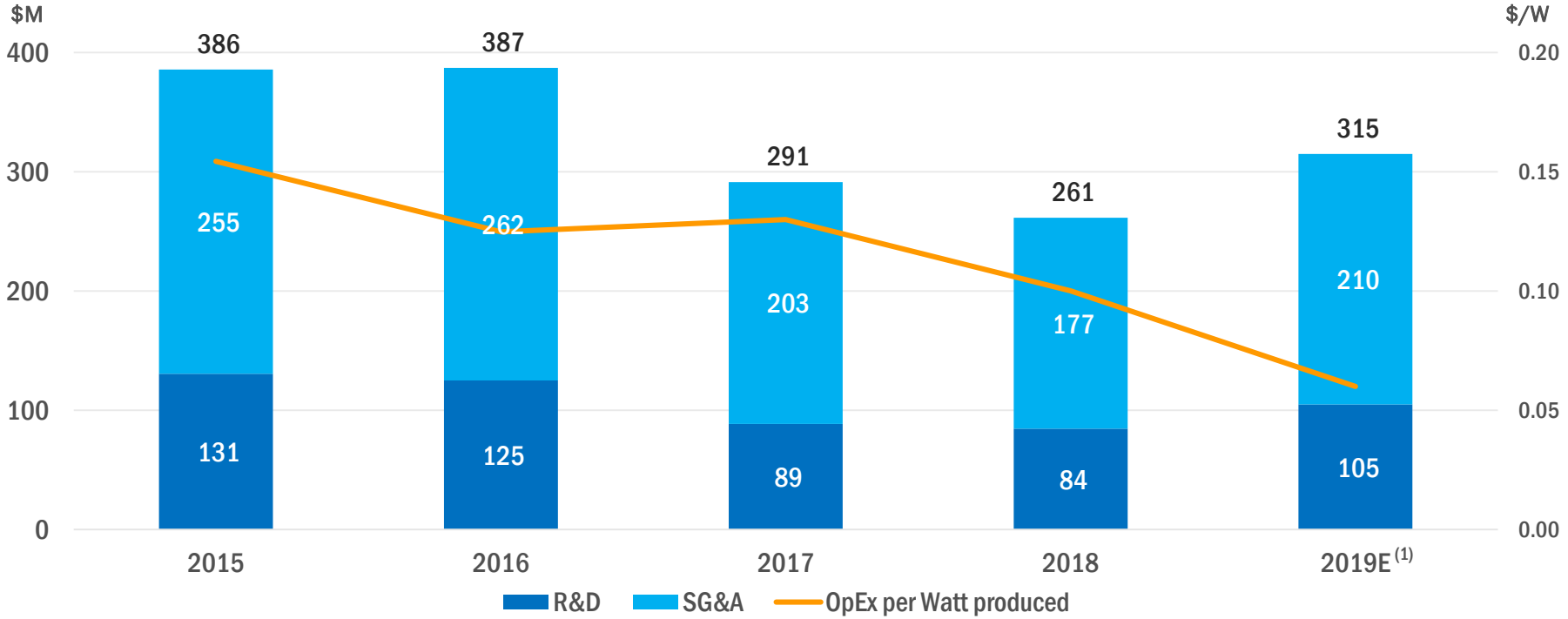


	First Solar	Competitor A	Competitor B	Competitor C
Net Interest Income / (Expense)	$6.5mm	($9.6M)	($16.7M)	($17.0M)

Note: 'Net (Debt) / Cash' and 'Net Interest Income / (Expense)' based on latest available quarterly filings as of 11/13/2019; (1) Debt includes current portion of long-term debt, long-term debt and convertible debt; (2) Cash includes cash, cash equivalents, marketable securities and restricted cash

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EFFECTIVE OPEX MANAGEMENT



Lowering Operating Expense Per Watt and Increasing Investment in R&D

(1) 2019E operating expense based on mid-point of 2019 guidance range provided during the 10/24/2019 earnings call; excludes plant start-up expenses

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2019 GUIDANCE

	As of Oct 24, 2019
Net Sales	$3.5B to $3.7B
Gross Margin (%)[1]	19% to 20%
Operating Expenses[2]	$350M to $370M
Operating Income	$320M to $370M
Earnings Per Share	$2.25 to $2.75
Net Cash Balance[3]	$1.7B to $1.9B
Capital Expenditures	$650M to $750M
Shipments	5.4GW to 5.6GW



(1) Includes $70 to $80 million of ramp costs
(2) Includes $40 to $50 million of production start-up expense
(3) Defined as cash, restricted cash and marketable securities less expected debt at the end of 2019

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