FIRST SOLAR

INVESTOR OVERVIEW

February 21, 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; future financial results, operating results, revenues, gross margin, operating expenses, products, projected costs (including estimated future module collection and recycling costs), warranties, solar module technology and cost reduction roadmaps, restructuring, product reliability, investments in unconsolidated affiliates, and capital expenditures; 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 conversion efficiency of our solar modules; interest rate fluctuations and both our and our customers' ability to secure financing; 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.

2019 © Copyright First Solar, Inc.

INVESTMENT THESIS

Solar Market

- Global Solar Demand Continues to Be Strong
- 2019 Expected Demand of ~100 to 120 GWs*
- Cost of Solar Competitive with Traditional Generation Sources In Many Markets (With No Fuel Price Risk)

First Solar Advantage

- Differentiated Thin Film Technology
  - — Combines Low Cost and High Efficiency
- Proven Track Record with >20 GWs of Modules Sold Globally
- Industry Leading Balance Sheet
  - — Allows for Investment in Disruptive Technology Roadmap





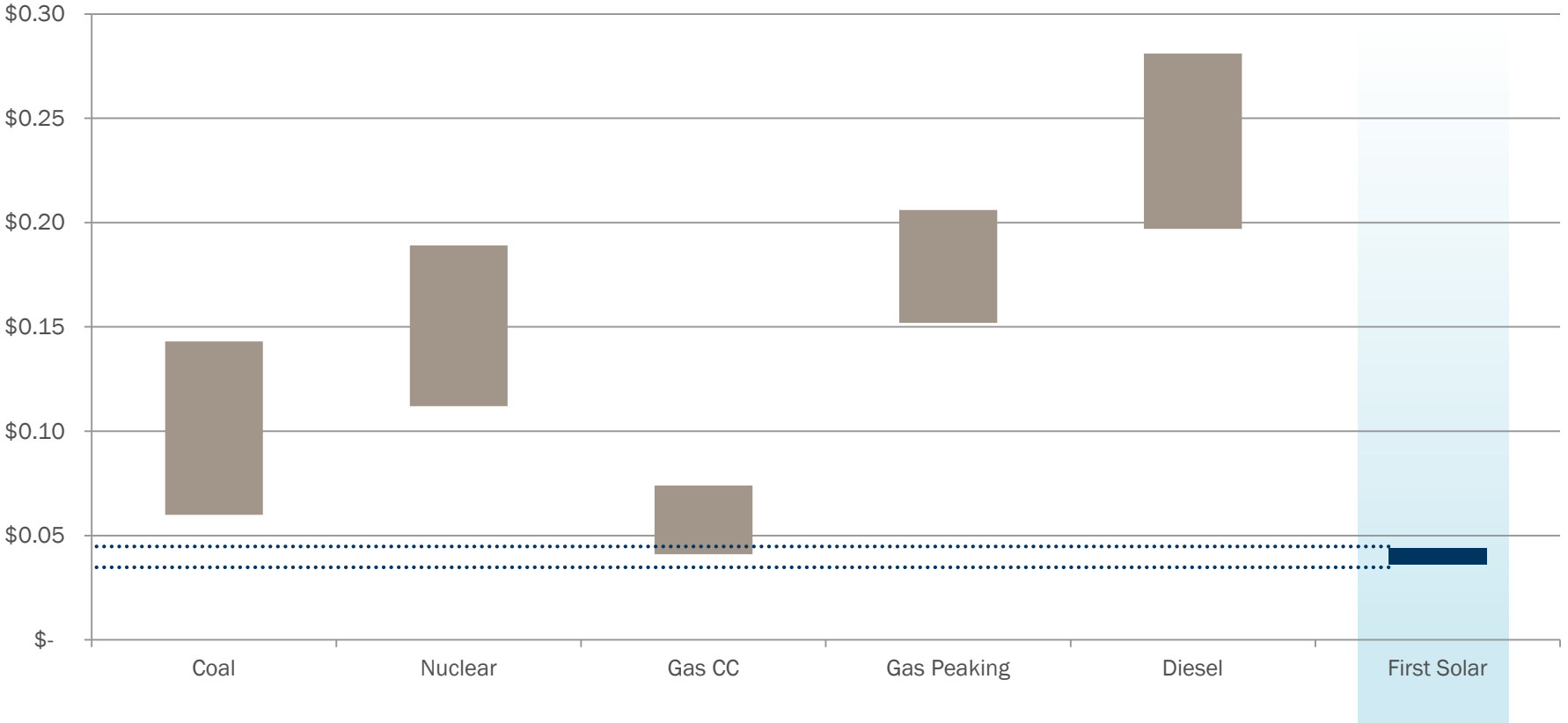


* Estimates from IHS PV Installations Tracker Q4 2018 & GTM PV Pulse Nov 2018

2019 © Copyright First Solar, Inc.

CORPORATE OVERVIEW

SOLAR ENERGY IS COMPETITIVE TODAY ON AN UNSUBSIDIZED BASIS



Source: Lazard Levelized Cost of Energy Analysis – Version 12. First Solar LCOE excludes ITC benefit and assumes a 50MW system in a high insolation region, such as the Southwest U.S.

2019 © Copyright First Solar, Inc.

FIRST SOLAR AT A GLANCE

Over 20GW sold worldwide and over $17B 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



2019 © Copyright First Solar, Inc.

TRUSTED PARTNER

UTILITY-SCALE



CORPORATE RENEWABLES



COMMUNITY SOLAR



DEVELOPERS & EPC



O&M



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

— Mark Widmar
First Solar CEO

2019 © Copyright First Solar, Inc.

First Solar®

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

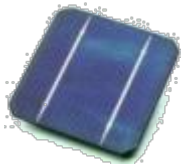
- Large glass substrate vs. individual Si wafers
- Fully integrated, continuous process
- 98% less semiconductor material vs Si
- Quality controlled under one roof

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



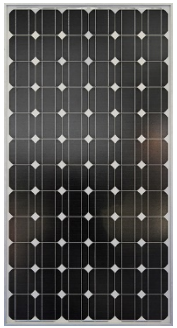






<3 DAYS

4+ Factories

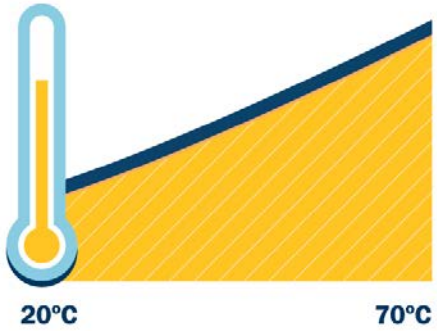


Crystalline Silicon Wafer Based Batch Technology

2019 © Copyright First Solar, Inc.

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

SUPERIOR TEMPERATURE **COEFFICIENT**



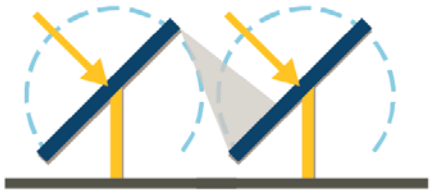
UP TO 3%
MORE THAN C-Si
IN HOT CLIMATES

BETTER SPECTRAL **RESPONSE**



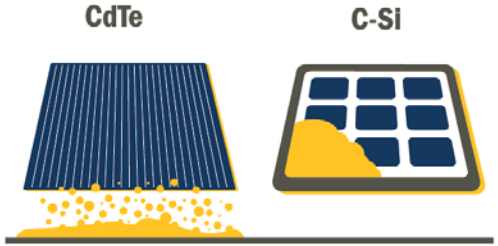
UP TO 4%
MORE THAN C-Si
IN HUMID CONDITIONS

TRUE-TRACKING **ADVANTAGE**



1%
MORE THAN C-Si
ON TRACKERS

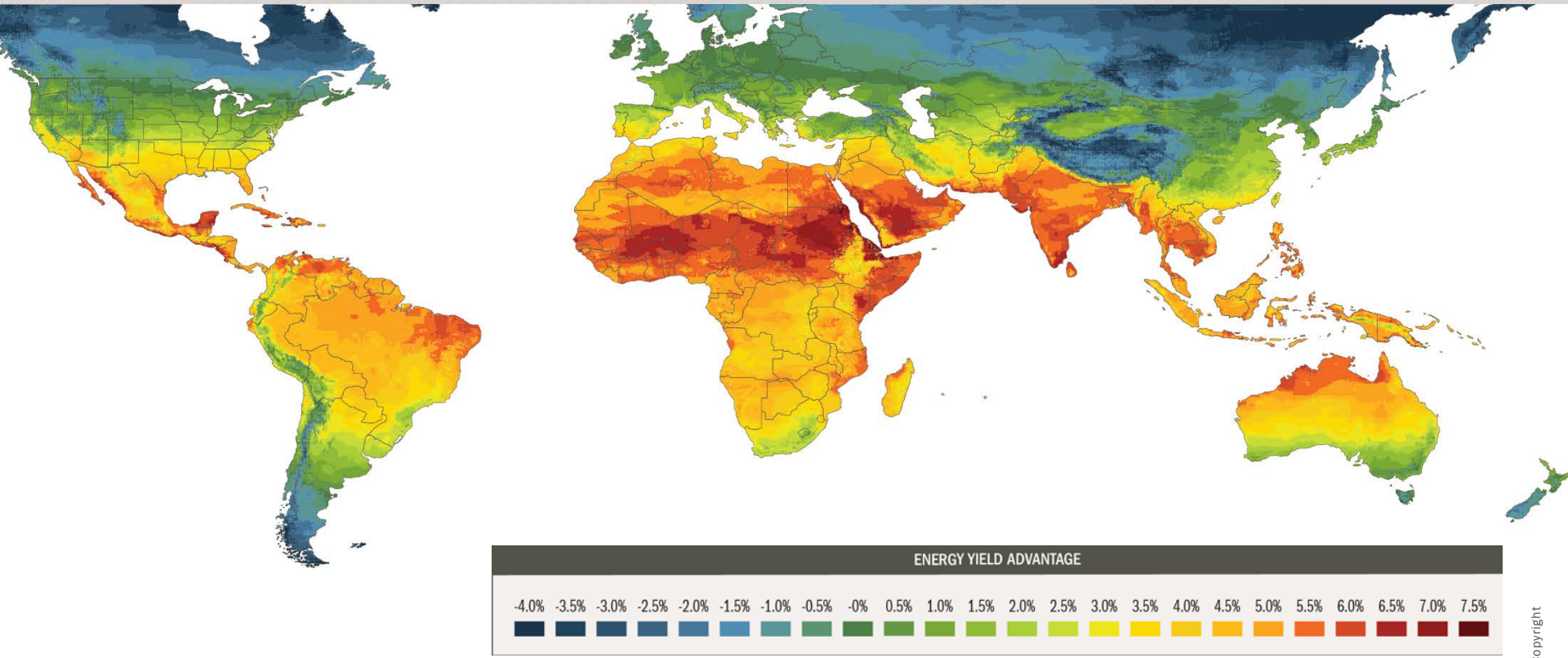
REDUCED SOILING & BETTER SNOW-SHEDDING



BETTER
PERFORMANCE
THAN C-Si

2019 © Copyright First Solar, Inc.

ENERGY YIELD ADVANTAGE VS. C-SI



Powered by:

PLANTPREDICT

2019 © Copyright

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
- Smallest carbon footprint and air pollutants
- Lowest life cycle water use
- Industry leading PV recycling program

Creating MORE VALUE with LESS ENVIRONMENTAL IMPACT.

Seitz et al., Eco-Efficiency Analysis of Photovoltaic Modules, Bavarian State Ministry of Environment and Health, 2013.

2019 © Copyright First Solar, Inc.

First Solar®

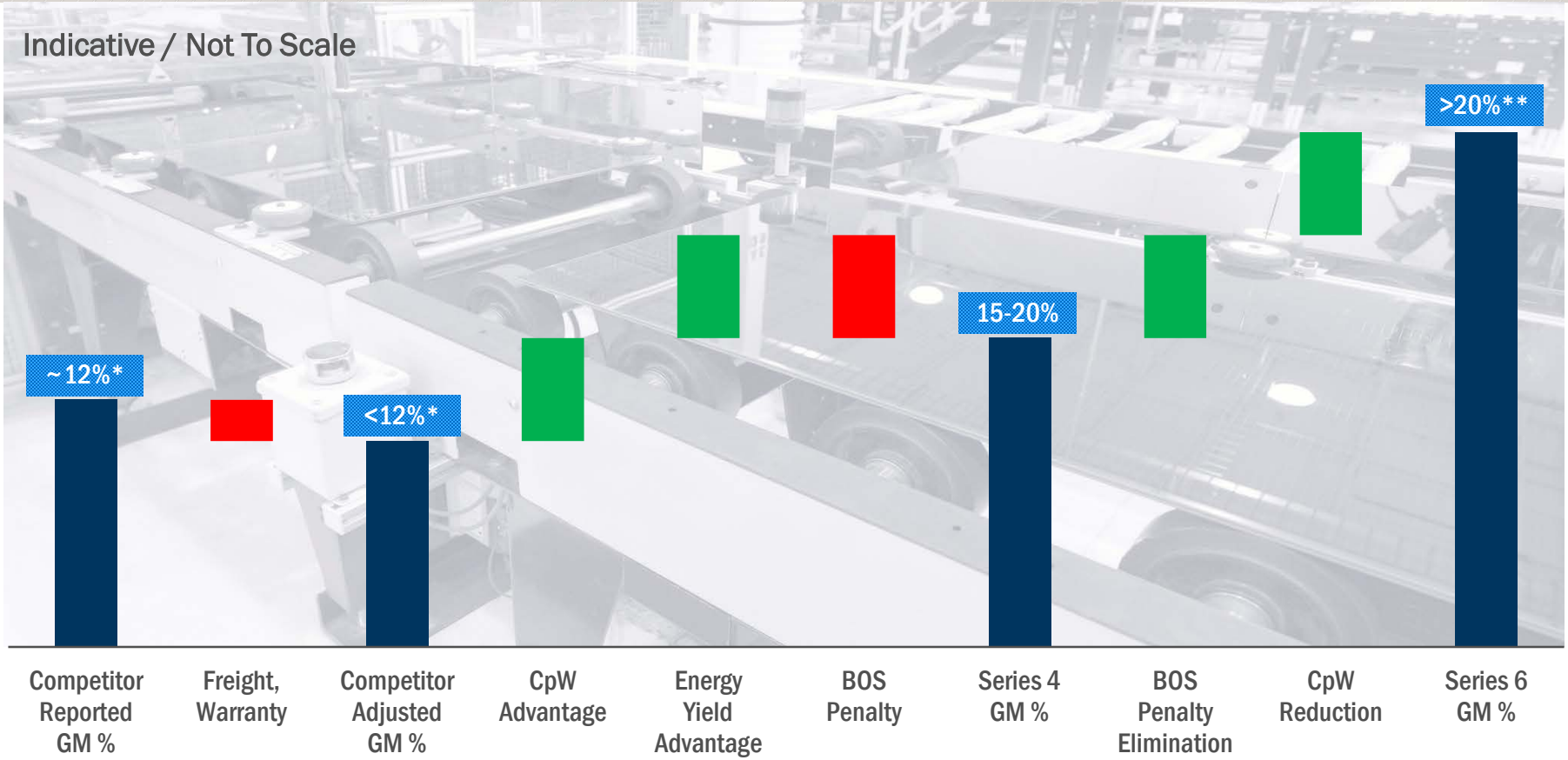
PRODUCT ROADMAP & SERIES 6 ADVANTAGE

CORPORATE STRATEGY

	MODULES	SYSTEMS	SALES & DEVELOPMENT
2016 and 2017 Repositioning	• Series 4: Ramping down • Series 5: Discontinued • TetraSun: Discontinued • Module Plus: Discontinued	• Structures: Internal Tracker and Fixed Tilt discontinued • EPC: Capabilities right-sized to development portfolio • OM: Exited Skytron (Europe)	• Module Sales: Reduced direct sales presence in markets serviced via partnerships • Development: Refocus on core and scalable markets
2018 and beyond Focus	• Series 4: Through 2019, then transitioning to Series 6 • Series 6: 6.6 GW by year-end 2020, across US, Malaysia and Vietnam	• Structures: 3rd party suppliers • EPC: US only • OM: US, Japan, Australia	• Module sales: Direct presence in US, Western Europe, India Middle East, Japan, Australia • Development: Multi-gigawatt pipeline across US, Japan, Australia, India

2019 © Copyright First Solar, Inc.

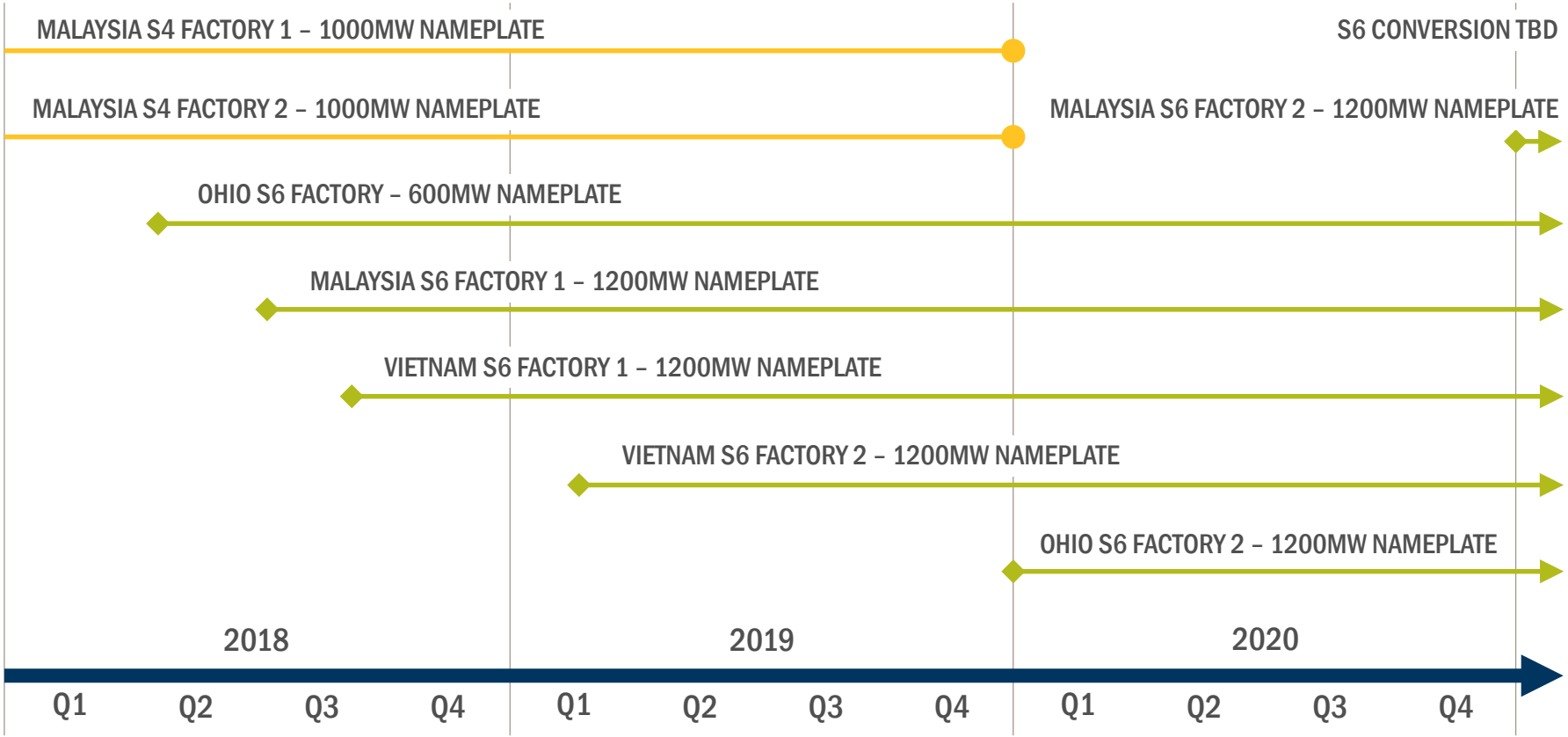
SERIES 6 MODULE GROSS MARGIN



*Based on 2017 competitors gross margins (includes CSIQ, HQCL, JASO, JKS, YGE) from public filings. | ** FS gross margin excludes ramp penalty

2019 © Copyright First Solar, Inc.

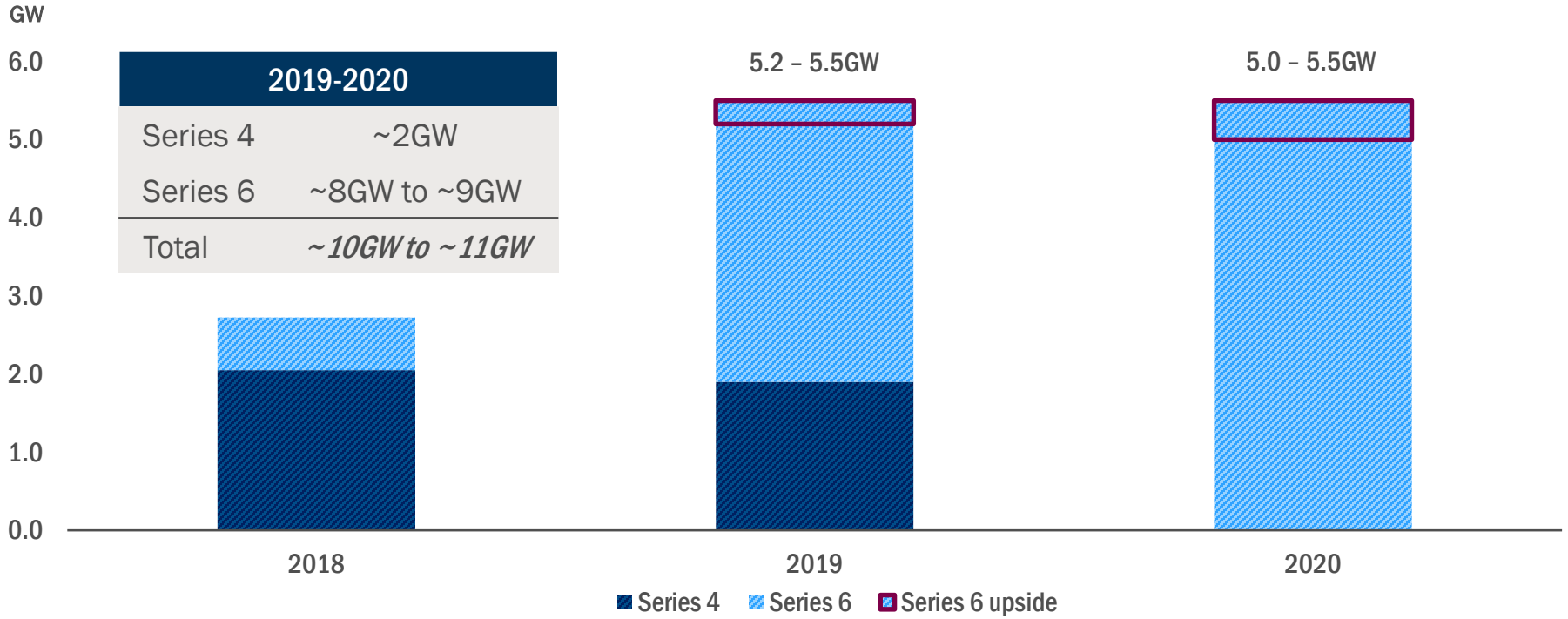
UPDATED CAPACITY ROADMAP AS OF DEC 11, 2018



*Diamonds indicate actual or expected start of production

2019 © Copyright First Solar, Inc.

MODULE PRODUCTION VOLUME AS OF DEC 11, 2018

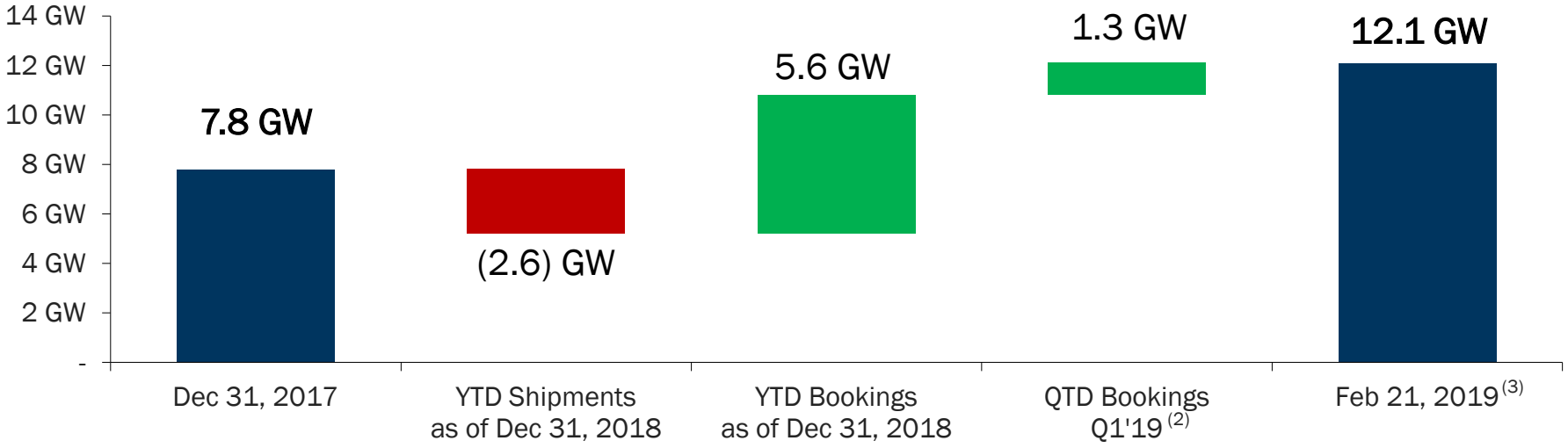


Series 6 Production Growing to >5GW by 2020

2019 © Copyright First Solar, Inc.

BOOKINGS, FINANCIALS & GUIDANCE

EXPECTED MODULE SHIPMENTS[1]: SYSTEMS + THIRD-PARTY MODULE



The above table presents the actual module shipments for 2018 through Dec 31, 2018, new module volume bookings through Feb 21, 2019, and the expected module shipments beyond Feb 21, 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.

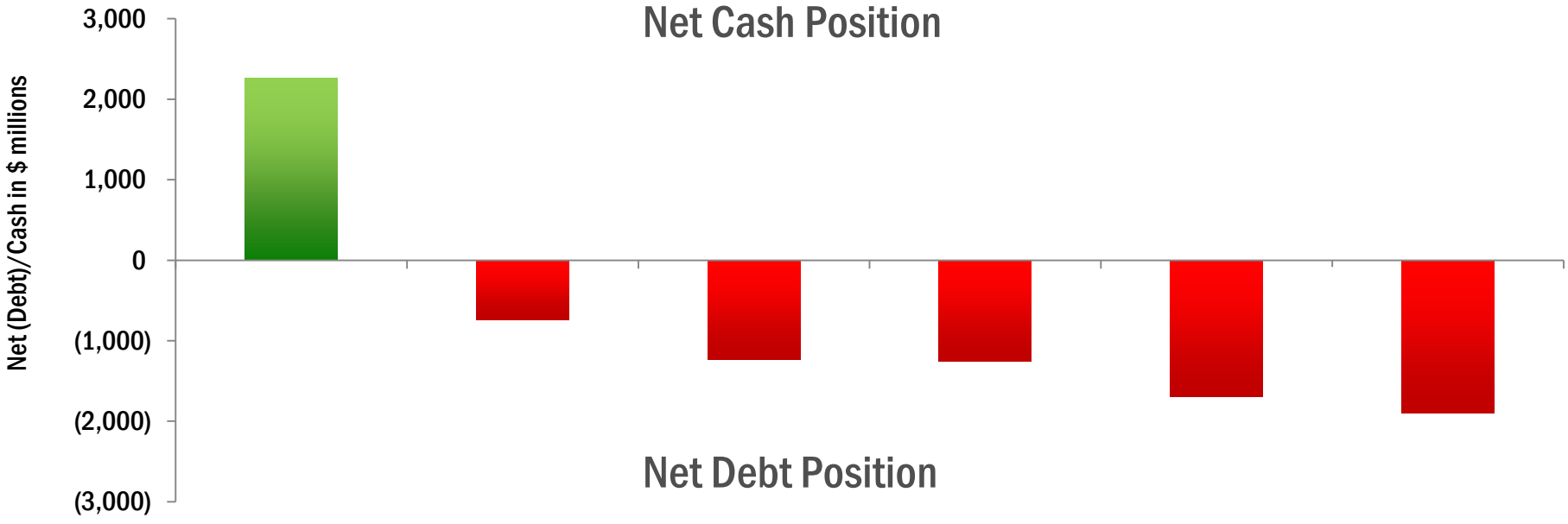
(1) Expected Module Shipments includes systems projects and contracted 3rd party module-only sales. Systems projects include (a) under sales agreement, (b) executed PPA not under sales agreement and (c) no PPA and not under sales agreement, but electricity to be sold on an open contract basis.

(2) Reflects new bookings from Jan 1, 2019 to Feb 21, 2019.

(3) Balance includes remaining shipment volumes as of Dec 31, 2018 and bookings through Feb 21, 2019. Shipments from Jan 1 to Feb 21, 2019 not deducted.

2019 © Copyright First Solar, Inc.

INDUSTRY LEADING BALANCE SHEET

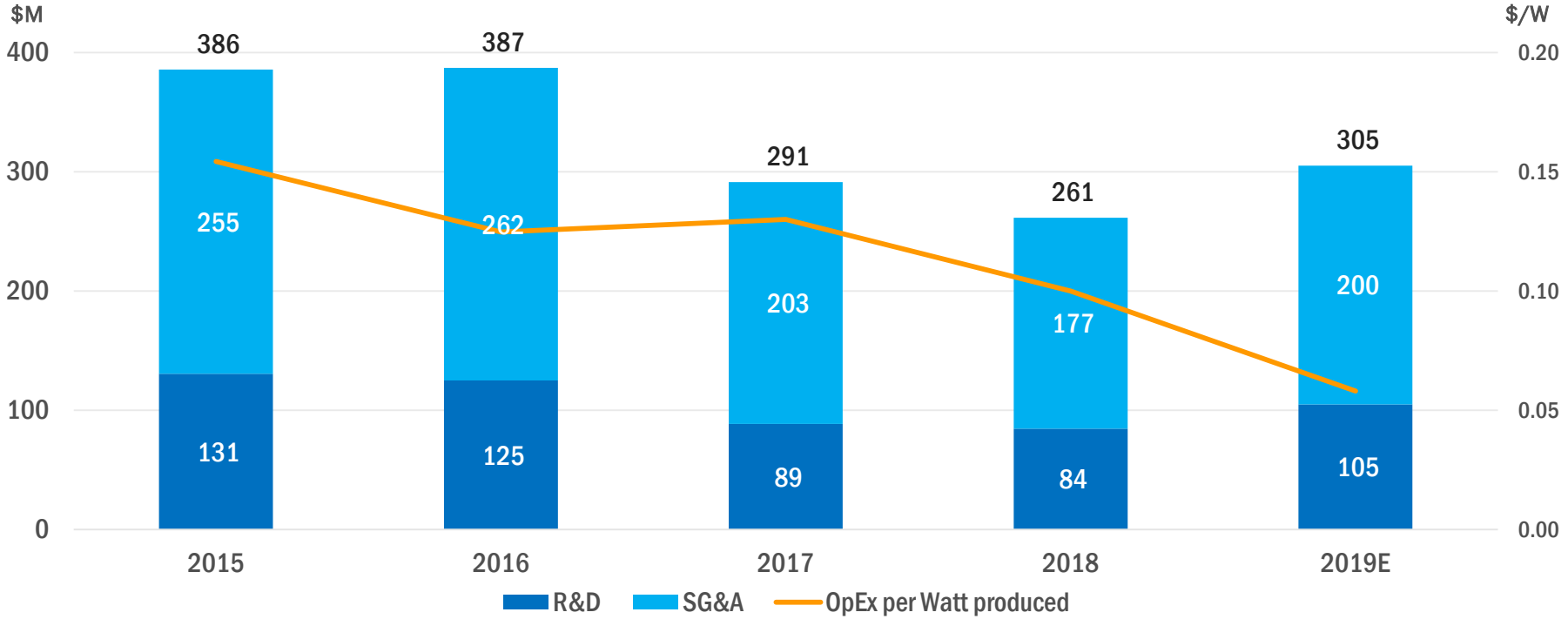


	First Solar	Competitor A	Competitor B	Competitor C	Competitor D	Competitor E
Net Interest Income (Exp)	$36M	($78M)	($29M)	($100M)	($42M)	($104M)

Source: Net cash/debt based on Q2 & Q3 2018 public filings. Net interest expense is last 12 months as reported in company filings.

2019 © Copyright First Solar, Inc.

EFFECTIVE OPEX MANAGEMENT



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

*2018 and 2019 operating expense based on mid-point of guidance range. Excludes restructuring and plant start-up.

2019 © Copyright First Solar, Inc.

2019 GUIDANCE AS OF FEBRUARY 21, 2019

	Prior	Current
Net Sales	$3.25B to $3.45B	Unchanged
Gross Margin (%)[1]	20% to 21%	**19.5% to 20.5%**
Operating Expenses[2]	$390M to $410M	**$375M to $395M**
Operating Income	$260M to $310M	Unchanged
Earnings Per Share	$2.25 to $2.75	Unchanged
Net Cash Balance[3]	$1.6B to $1.8B	Unchanged
Capital Expenditures	$650M to $750M	Unchanged
Shipments	5.4GW to 5.6GW	Unchanged



1. Includes $35 to $45 million of ramp costs ($20 to $30 million previously)
2. Includes $75 to $85 million of production start-up expense ($90 to $100 million previously)
3. Defined as cash and marketable securities less expected debt at the end of 2019

2019 © Copyright First Solar, Inc.



LEADING THE WORLD'S
SUSTAINABLE ENERGY FUTURE