

Systems Business

During 2019, EDP Renewables, ConnectGen, and Innergex Renewable Energy each accounted for more than 10% of our systems business net sales, and the majority of our systems business net sales were in the United States and Australia. Substantially all of our systems business net sales during 2019 were denominated in U.S. dollars and Australian dollars. We typically recognize revenue for sales of solar power systems using cost based input methods, which result in revenue being recognized as work is performed based on the relationship between actual costs incurred compared to the total estimated costs for a given contract. We may also recognize revenue for the sale of a development project, which excludes EPC services, or for the sale of a completed system when we enter into the associated sales contract with the customer. The revenue recognition policies for our systems business are further described in Note 2. “Summary of Significant Accounting Policies” to our consolidated financial statements.

The following table shows net sales by reportable segment for the years ended December 31, 2019, 2018, and 2017:

(Dollars in thousands)	Years Ended			Change			
	2019	2018	2017	2019 over 2018		2018 over 2017	
Modules	\$ 1,460,116	\$ 502,001	\$ 806,398	\$ 958,115	191 %	\$ (304,397)	(38)%
Systems	1,603,001	1,742,043	2,134,926	(139,042)	(8)%	(392,883)	(18)%
Net sales	<u>\$ 3,063,117</u>	<u>\$ 2,244,044</u>	<u>\$ 2,941,324</u>	<u>\$ 819,073</u>	36 %	<u>\$ (697,280)</u>	(24)%

Net sales from our modules segment increased by \$958.1 million in 2019 primarily due to a 180% increase in the volume of watts sold and a 4% increase in the average selling price per watt. Net sales from our systems segment decreased by \$139.0 million in 2019 primarily as a result of the sale of the Mashiko and certain India projects in 2018 and the completion of substantially all construction activities at the California Flats, Willow Springs, and various other projects in Florida in late 2018 and early 2019, partially offset by the sale of the Sun Streams, Sunshine Valley, and Beryl projects and ongoing construction activities at the Phoebe and GA Solar 4 projects in 2019.

Cost of sales

Modules Business

Our modules business cost of sales includes the cost of raw materials and components for manufacturing solar modules, such as glass, transparent conductive coatings, CdTe and other thin film semiconductors, laminate materials, connector assemblies, edge seal materials, and frames. In addition, our cost of sales includes direct labor for the manufacturing of solar modules and manufacturing overhead, such as engineering, equipment maintenance, quality and production control, and information technology. Our cost of sales also includes depreciation of manufacturing plant and equipment, facility-related expenses, environmental health and safety costs, and costs associated with shipping, warranties, and solar module collection and recycling (excluding accretion).

Systems Business

For our systems business, project-related costs include development costs (legal, consulting, transmission upgrade, interconnection, permitting, and other similar costs), EPC costs (consisting primarily of solar modules, inverters, electrical and mounting hardware, project management and engineering, and construction labor), and site specific costs.

The following table shows cost of sales by reportable segment for the years ended December 31, 2019, 2018, and 2017:

(Dollars in thousands)	Years Ended			Change			
	2019	2018	2017	2019 over 2018		2018 over 2017	
Modules	\$ 1,170,037	\$ 552,468	\$ 694,060	\$ 617,569	112%	\$ (141,592)	(20)%
Systems	1,343,868	1,299,399	1,698,317	44,469	3%	(398,918)	(23)%
Cost of sales	<u>\$ 2,513,905</u>	<u>\$ 1,851,867</u>	<u>\$ 2,392,377</u>	<u>\$ 662,038</u>	36%	<u>\$ (540,510)</u>	(23)%
% of net sales	82.1%	82.5%	81.3%				