

Does Local Energy Production Strengthen Local Economies?

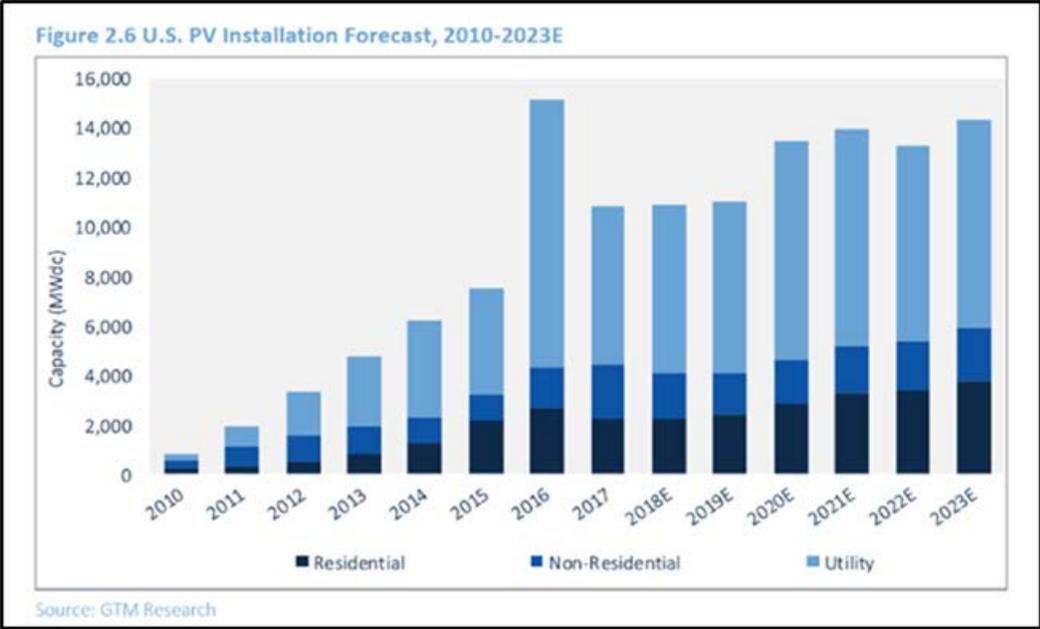
Review of Yolo County, California Statistics

G. Braun

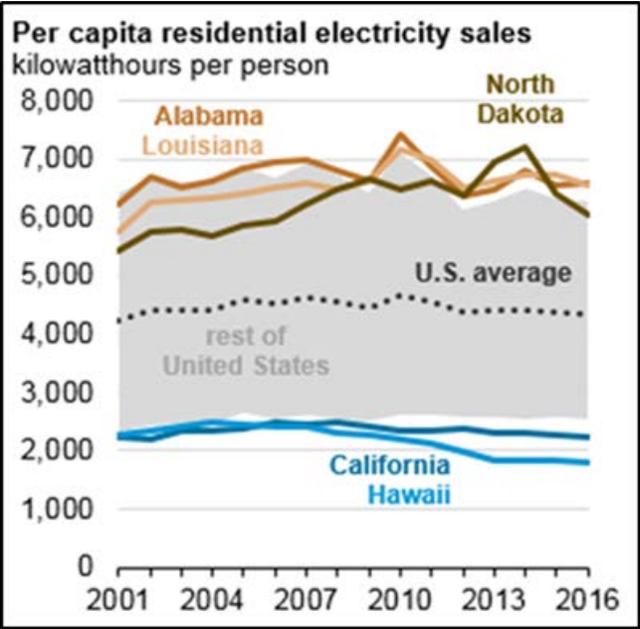
June 25, 2019

NEM Solar US Overview

NEM Solar continues to claim a significant share of the US PV Market



NEM Solar deployment in high electricity cost states materially has reduced demand for carbon based electricity.

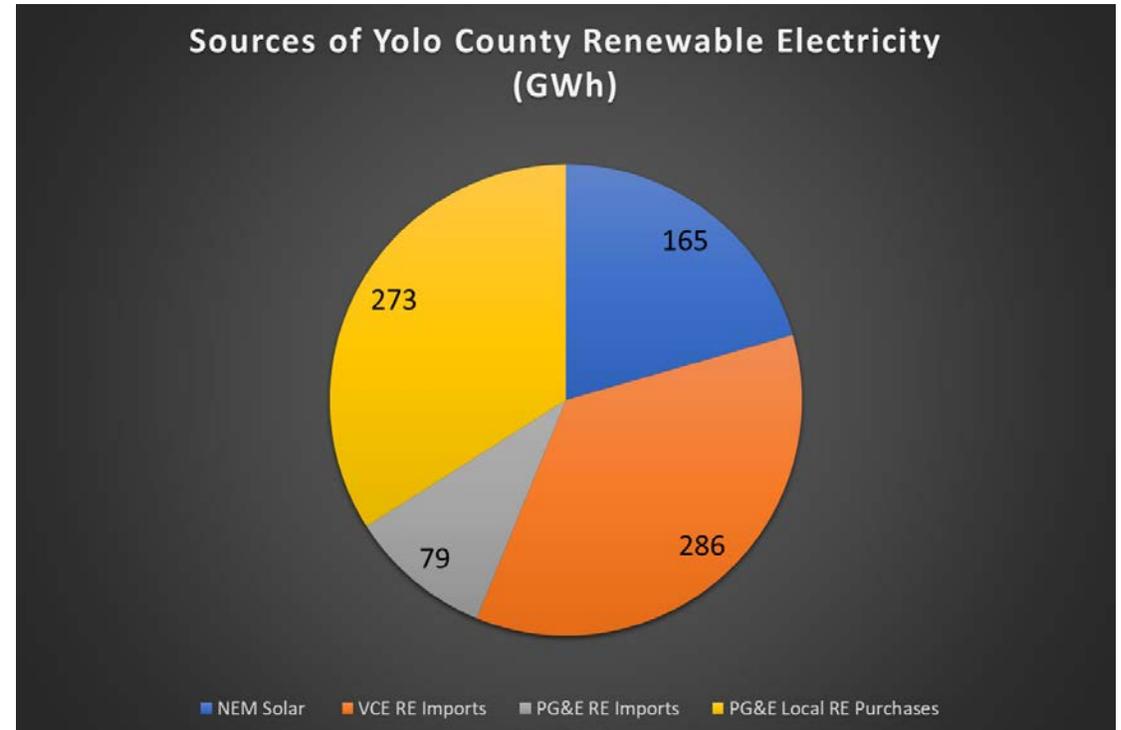


County-Wide Energy Usage and GHG Emissions

- Usage:
 - Electricity - 1,750 GWH/year
 - Natural Gas – 59 Million Therms/year
- Amounts of Locally Produced and Imported Renewable Electricity (percent of total electricity usage):
 - On-site Solar - 9%
 - Local Renewable Projects – 16%
 - Imports by PG&E and VCE – 21%
- GHG Emissions Attributable to Electric and Gas Utility Service: 693,200 MTCO₂/year
 - Electricity: 53%
 - Natural Gas: 47%

County-wide Renewable Electricity Supply

Renewable Electricity Supply (GWh)				
Local		Imports (1)		Total
NEM Solar	PG&E Purchases from Utility-scale Projects (est.)	VCE (42%)	PG&E (33%)	Total
165	273	286	79	804
21%	34%	36%	10%	100%



Energy and Non-energy Benefits

Energy

- Avoided annual electricity import costs:
 - Current Annual NEM Solar: \$23 million
- Net metered solar costs are approximately 50% lower than the current \$.23/kWh average grid electricity costs.
 - On-site solar electricity costs are expected to decrease, while grid electricity costs are projected to increase at a rate of 5% per year.
 - The current economic benefit is in the range of \$20 million per year minus one-time costs of increasing the capacity and modernizing local electricity distribution network.

Non-energy

- Direct, indirect and induced job creation:
 - NEM Solar: 282 (est.)
 - Utility Scale Renewables: Comparable to NEM Solar
 - Estimated combined annual benefit to County economy: >\$60 million
- Avoided imbedded carbon costs:
 - @ \$20 per metric ton: \$2 million
 - @ \$200 per metric ton: \$20 million
 - @ \$400 per metric ton: \$100 million

Does Local Energy Production Strengthen Local Economies?

- It does now in California. It also results cleaner and more resilient local energy infrastructure and service.
- A significant portion of the potential has been tapped so far in Yolo County. In the case of on-site solar, this result has been accomplished relatively quickly, relying on citizen and business decisions and investments.
- Close collaboration will be required between local governments in Yolo County, and local energy service providers, e.g. VCE and PG&E, to accelerate/maximize the benefits, while addressing siting, safety and consumer protection issues.
- A first step will be a long term Integrated Local Resource Plan addressing both electricity and gaseous fuels (esp. renewable natural gas and hydrogen), plus both building and transportation energy uses.