

A light blue world map is centered in the background of the slide. The map shows the outlines of continents in a slightly darker shade of blue. The text is overlaid on the map.

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The Role of Renewables and Distributed Generation

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KEY FINDINGS

- **The overall U.S. energy consumption** decreased to 97.7 quadrillion British thermal units (Btu) in 2015—**a 0.6% decline** from 2014. Compared to 2014, energy consumption remained at similar levels in 2015 for renewables (+0.1%) and nuclear (+0.0%), while consumption from natural gas (+3.0%) and petroleum (+1.4%) increased. Consumption from coal continued to decline, dropping by 13.5%.
- **U.S. electric power sector energy consumption** decreased to 38.1 quadrillion Btu in 2015, a **1.3% decline** from 2014.¹
- **In 2015, U.S. renewable electricity² grew to 16.7% of total installed capacity and 13.8% of total electricity generation.** Installed renewable electricity capacity exceeded 194 gigawatts (GW) in 2015, generating 567 terawatt-hours (TWh).
- **The combined share of wind and solar as a percentage of total renewable generation continues to grow in the United States. U.S. hydropower produced more than 44% of total renewable electricity generation, wind produced 34%, biomass produced 11%, solar (photovoltaic [PV] and concentrating solar power [CSP])³ produced 8%, and geothermal produced 3%.**
- **In 2015, renewable electricity accounted for 64% of U.S. electricity capacity additions, compared to 52% in 2014. Approximately 15 GW of coal-fired generation retired in 2015, the highest in a single year to date.**⁴

1 Source: U.S. Energy Information Administration (EIA); full references are provided beginning on page 123.

2 Renewable electricity includes solar, wind, geothermal, hydropower, and biopower unless indicated otherwise.

3 Reported solar data combine PV and CSP unless indicated otherwise.

4 Source: Based on EIA reporting of electric power plant retirements since 1950.

KEY FINDINGS (CONTINUED)

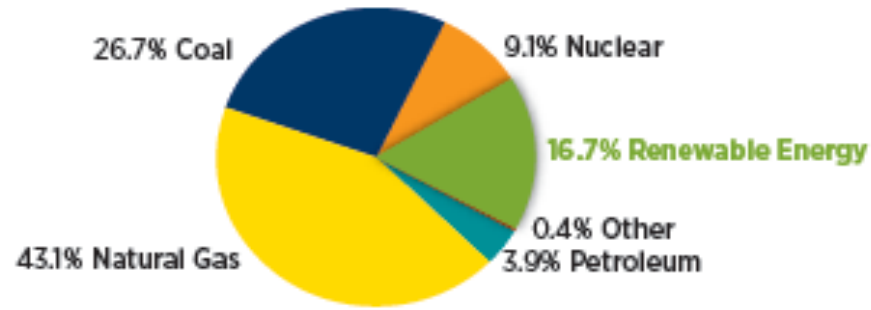
- In 2015, wind electricity **installed capacity increased by more than 12% (8.1 GW), accounting for more than 56% of U.S. renewable electricity capacity installed in 2015.** U.S. wind generation increased by 5.1% compared to 2014.
- U.S. solar electricity **installed capacity increased by 36% (5.6 GWac), accounting for nearly 40% of newly installed U.S. renewable electricity capacity in 2015.¹ Solar generation also increased by 36% (11.7 TWh).**
- U.S. electricity capacities of biomass, geothermal, and hydropower remained relatively stable from 2000 to 2015.
- Installed *global* renewable electricity capacity continued to increase, and it represented 29.5% of total electricity capacity worldwide in 2015.²
- **Worldwide, solar PV continued to be one of the fastest-growing renewable electricity technologies**—in 2015, global capacity increased by 28%, the same rate as in 2014.
- **Globally, new investments in clean energy in 2015 grew by more than 4% from 2014 to \$329 billion.**

¹ Capacity data are reported in watts of alternating current (AC) unless indicated otherwise; Includes grid-connected residential, non-residential, and utility market segments.

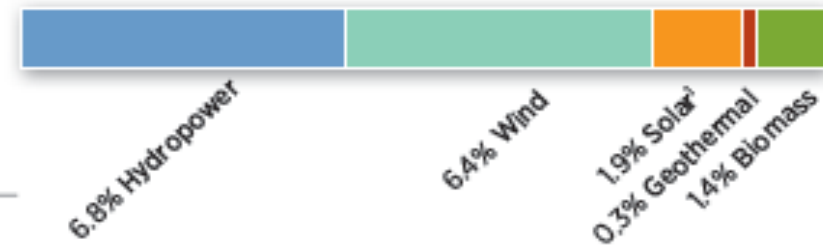
² Source: EIA

U.S. ELECTRICITY NAMEPLATE CAPACITY AND GENERATION (2015)

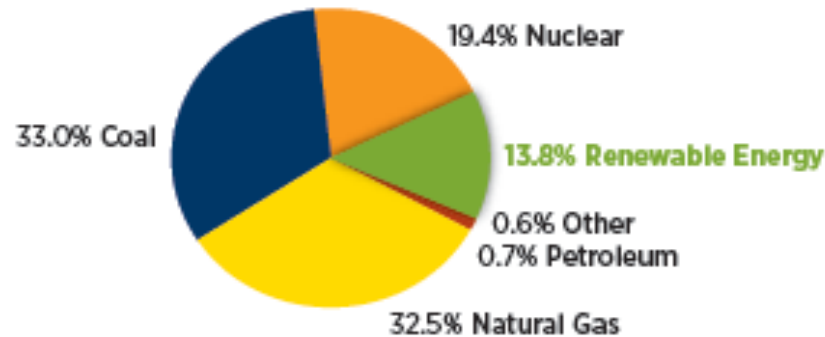
U.S. Electric Nameplate Capacity (2015): 1,160 GW



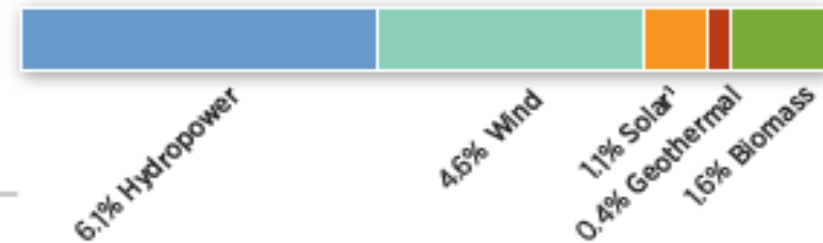
U.S. Renewable Capacity: 194 GW



U.S. Electric Net Generation (2015): 4,110 TWh



U.S. Renewable Generation: 567 TWh



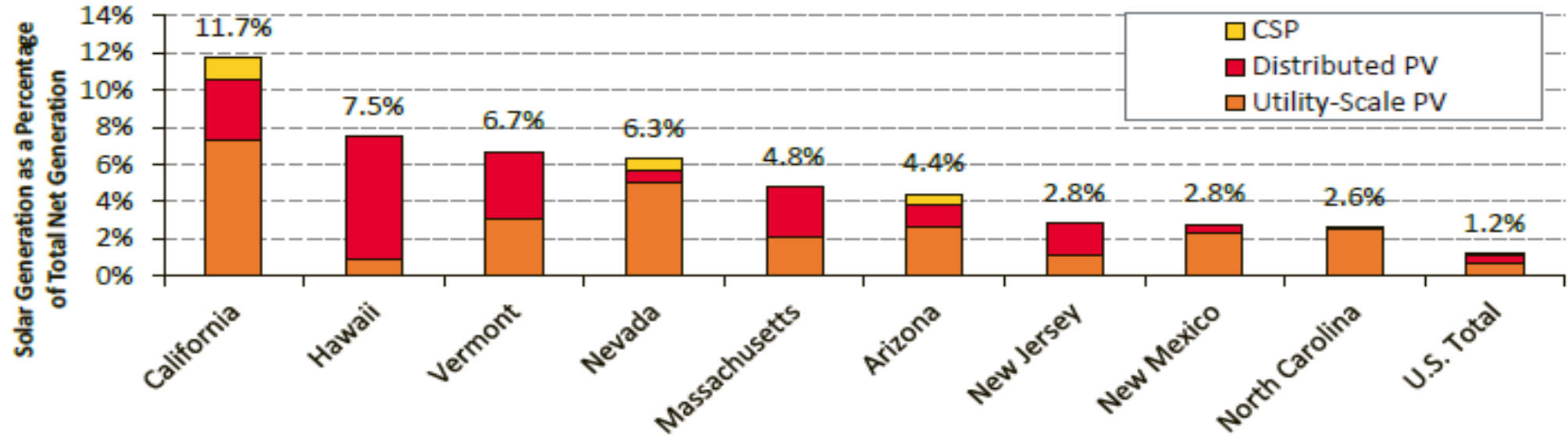
Sources: EIA, Lawrence Berkeley National Laboratory (LBNL), Solar Energy Industries Association (SEIA)/GTM Research (GTM)

Other includes pumped storage, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels, and miscellaneous technologies.

Totals and percentages may not correspond due to rounding.

¹Grid-connected only; solar generation assumes a 25% capacity factor for CSP and an 18% capacity factor for PV. A de-rate factor of 77% has been applied to convert PV installed nameplate capacity from MWdc to MWac.

SOLAR GENERATION AS A PERCENTAGE OF TOTAL GENERATION OCT. 2015-SEPT. 2016



- From October 2015 to September 2016, 4 states produced more than 6% of total net generation from solar and an additional 5 states produced more than 2.5% of total net generation from solar.
- Solar technology contribution varied by state, with Hawaii generating most of its energy from distributed PV, while North Carolina generated the vast majority of its energy from utility-scale PV.
 - During the same time period, CSP generated more than 1% of California's electricity and more than 0.5% in Nevada and Arizona.

Source: EIA, "Electric Power Monthly," forms EIA-023, EIA-826, and EIA-861.

Note: EIA monthly data for 2016 is not final. Additionally, smaller utilities report information to EIA on a yearly basis, and therefore, a certain amount of solar data has not yet been reported.



THANK YOU!

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