Current and Projected U.S. New and Renewable Energy Utilization

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EGNRET-50

Honolulu, Hawaii

March 20-22, 2018

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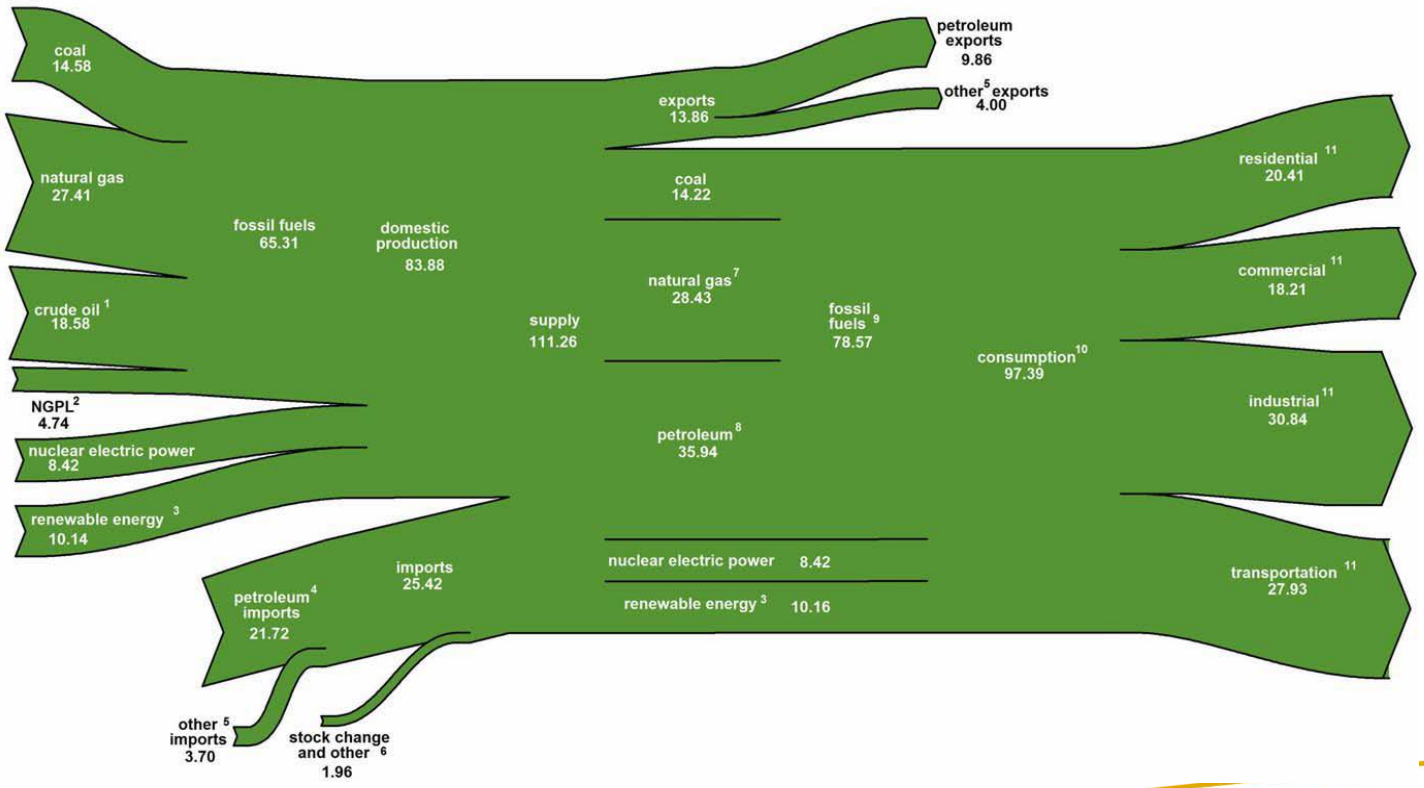
U.S. Energy Flow in 2016(Quadrillion Btu)

Source: https://www.eia.gov/totalenergy/data/annual/#summary



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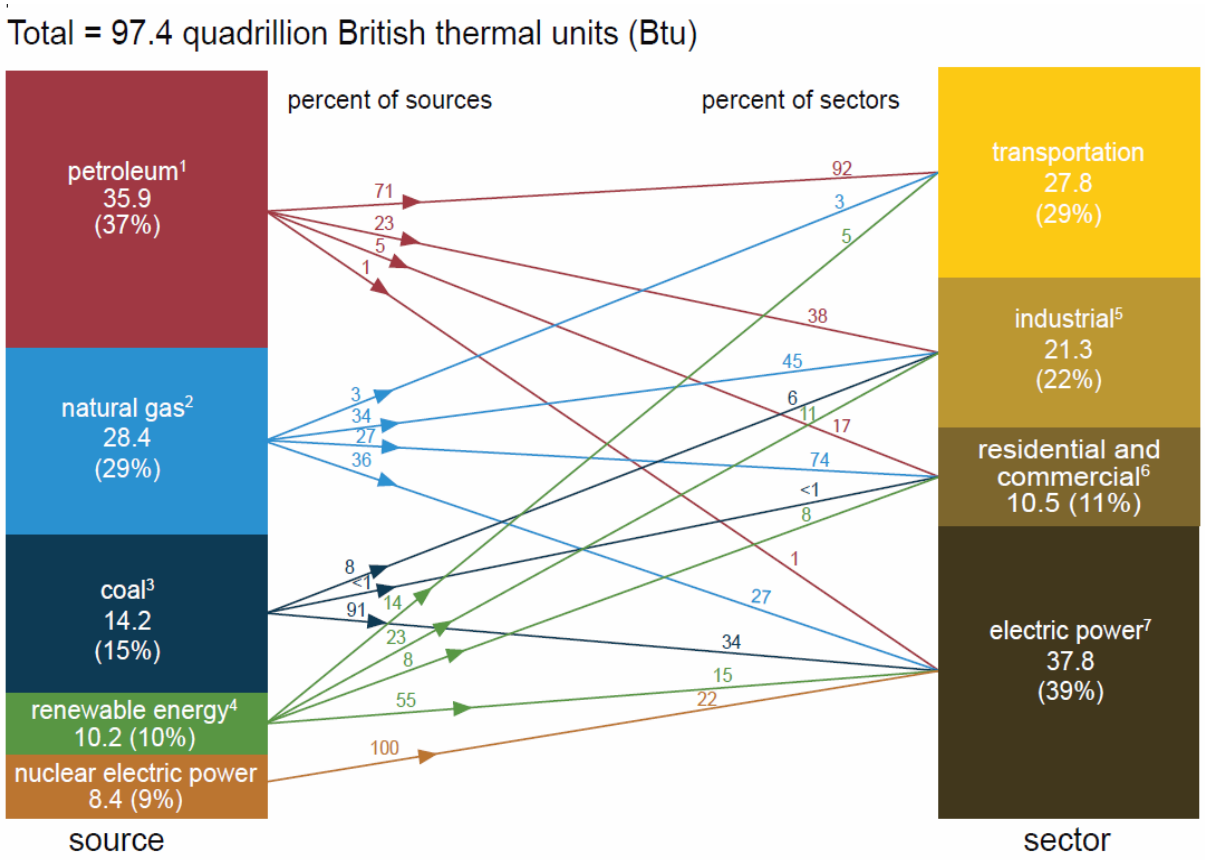
U.S. primary energy consumption by source and sector, 2018

Source: https://www.eia.gov/totalenergy/data/monthly/



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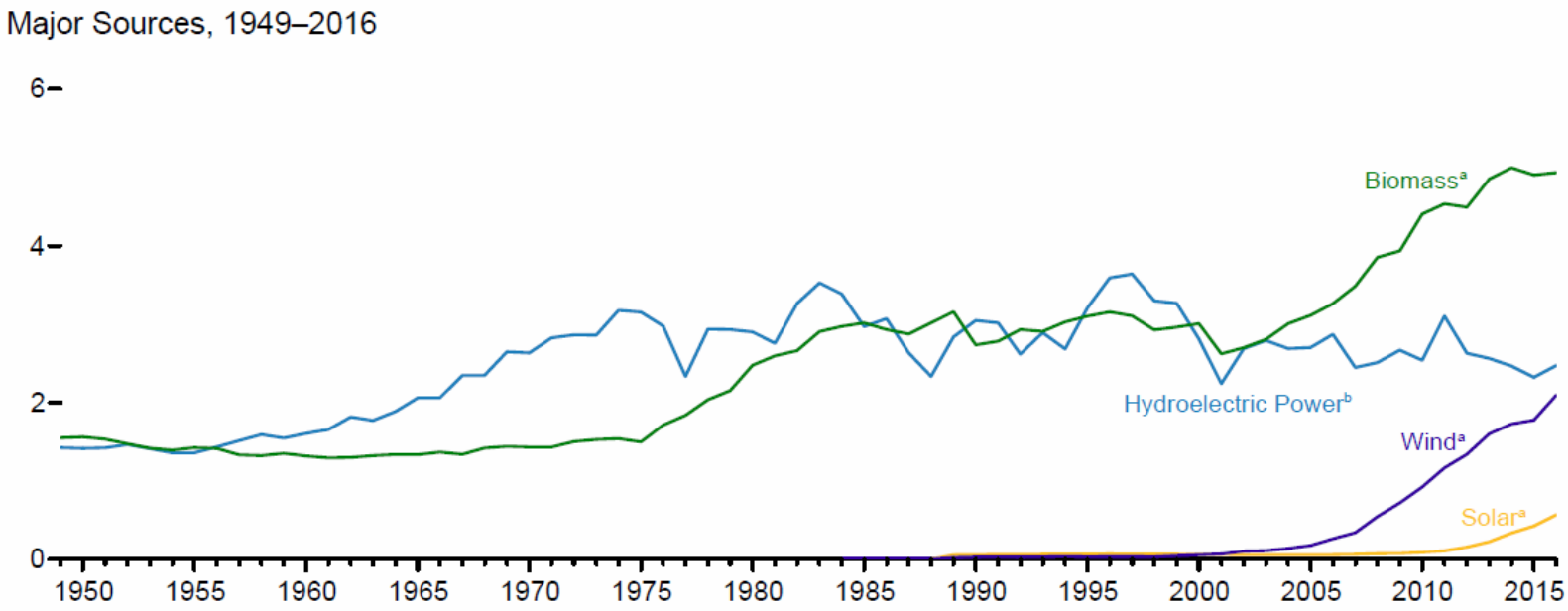
US DOE Energy Information Administration provides monthly energy consumption

- Monthly Energy Review (MER) - the latest energy statistics all in one place
- February 2018 Monthly Energy Review
  Release Date: February 26, 2018
  Next Update: March 27, 2018
- https://www.eia.gov/totalenergy/data/monthly/#renewable

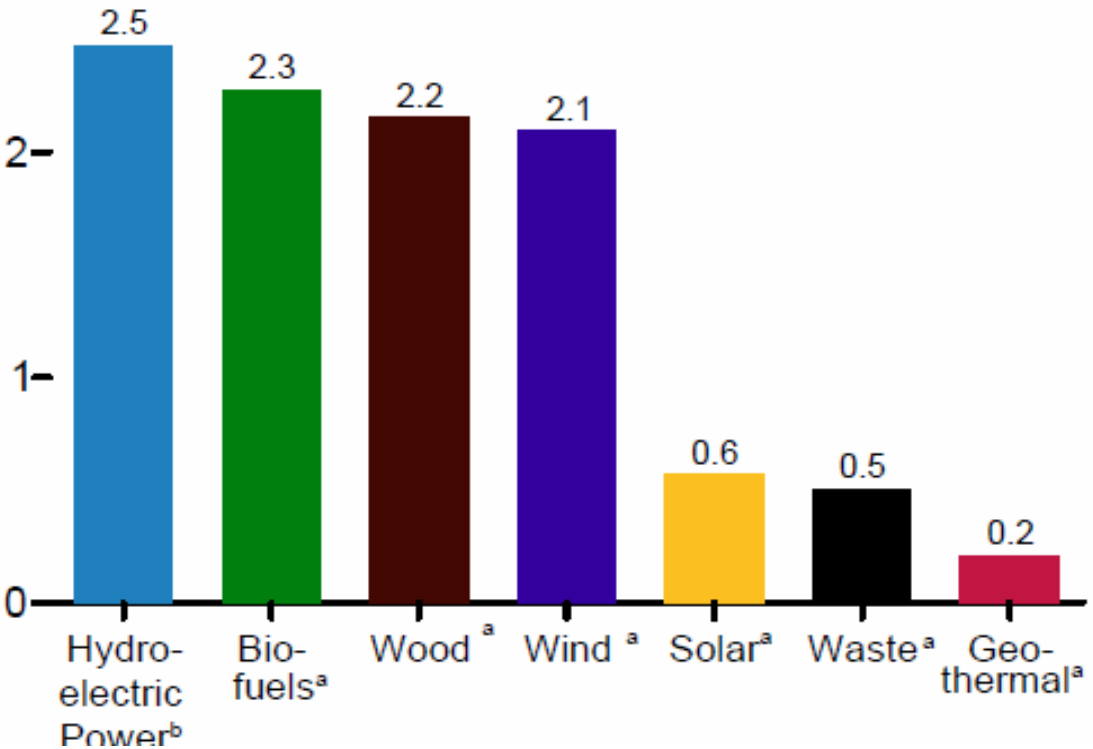
Renewable Energy Consumption by Source, 1949-2016 (Quadrillion Btu)

Source: U.S. Energy Information/Monthly Energy Review February 2018



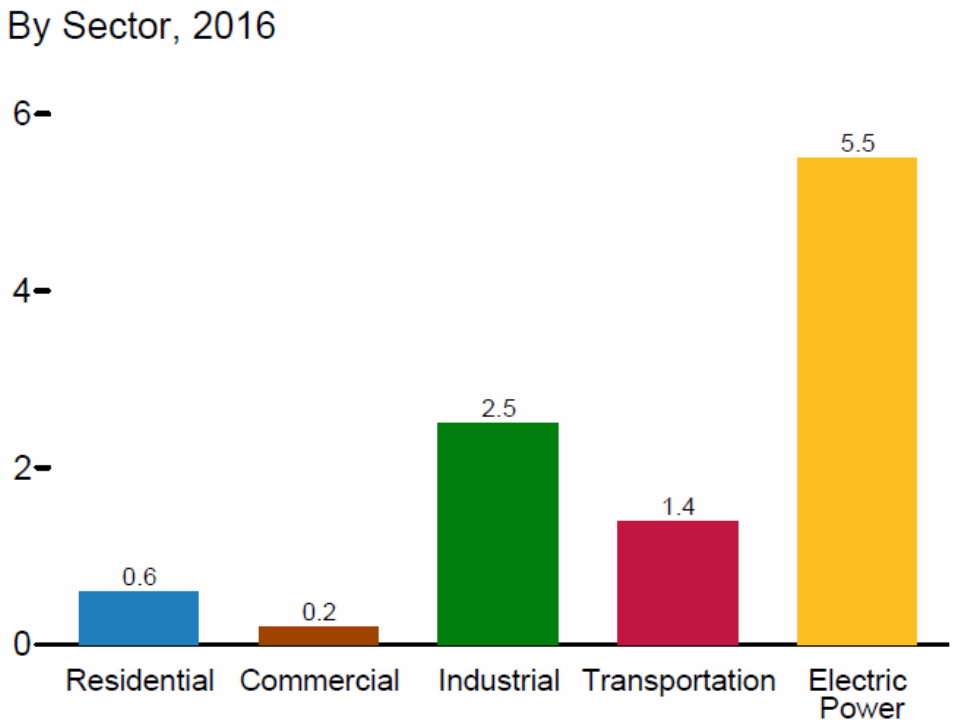
Renewable Energy by Source, 2016 (Quadrillion Btu)

Source: U.S. Energy Information/Monthly Energy Review February 2018



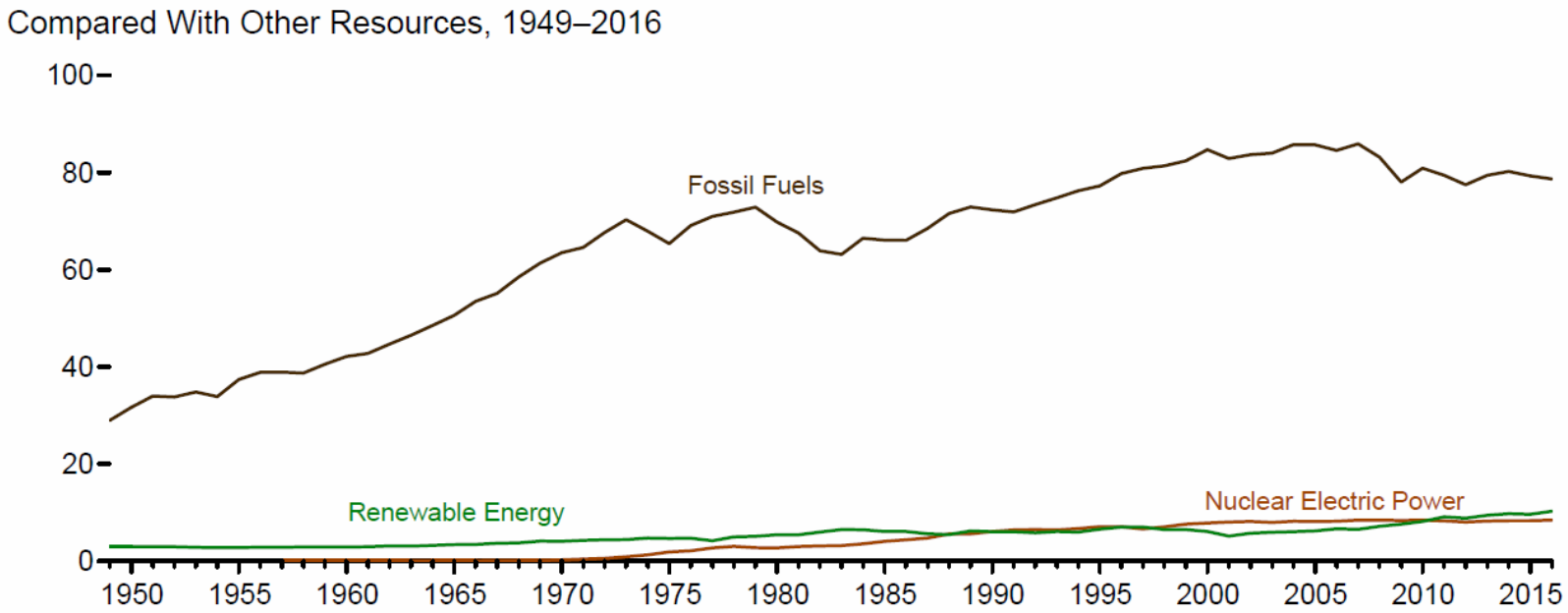
Renewable Energy by Sector, 2016 (Quadrillion Btu)

Source: U.S. Energy Information/Monthly Energy Review February 2018



Renewable Energy compared with other resources (Quadrillion Btu)

Source: U.S. Energy Information/Monthly Energy Review February 2018



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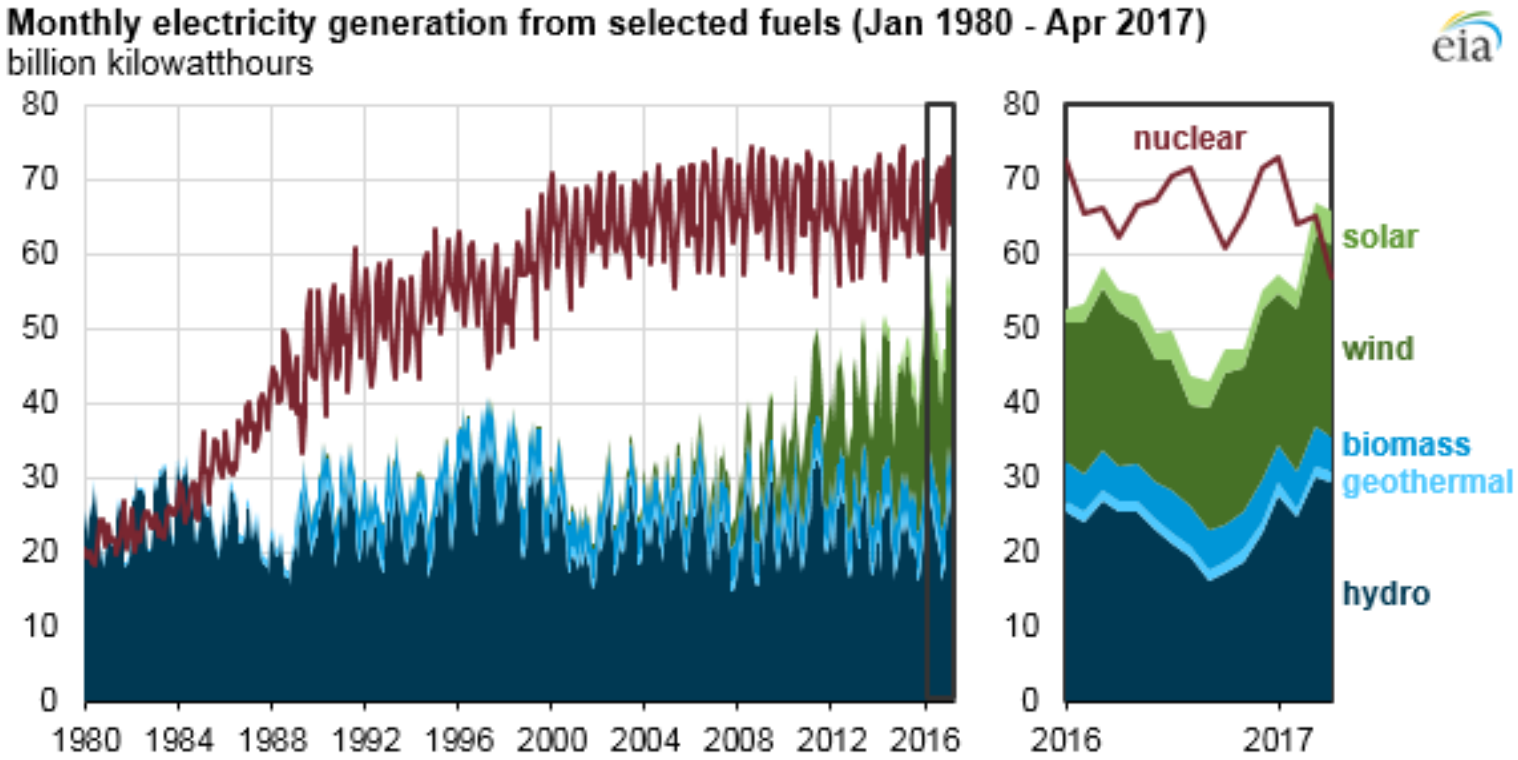
Monthly renewable electricity generation surpasses nuclear for the first time since 1984

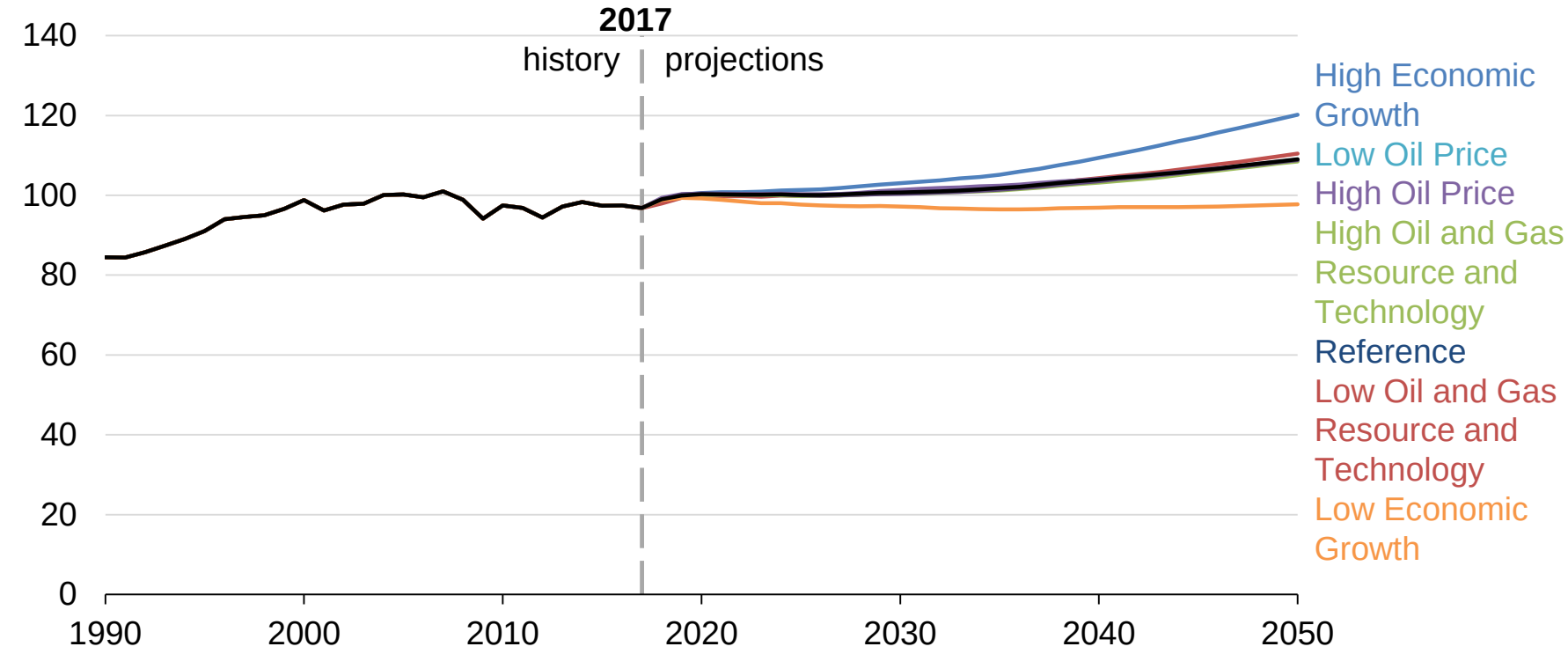


Source: U.S. Energy Information Administration, *Monthly Energy Review* and *Electric Power Monthly*

Energy consumption is bounded by the High and Low Economic Growth cases—

Total energy consumption

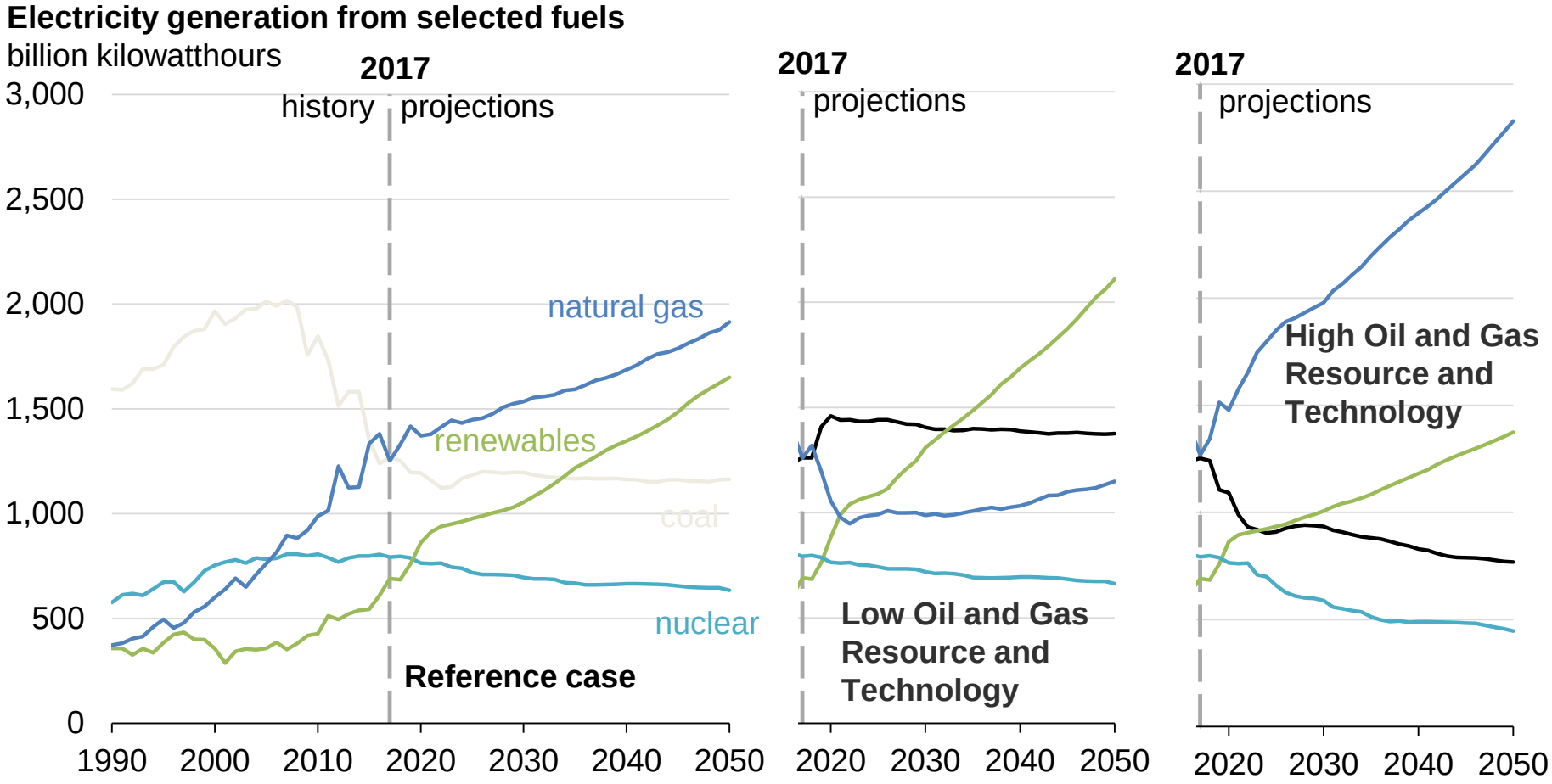
quadrillion British thermal units



Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

The projected mix of electricity generation technologies varies widely across cases—

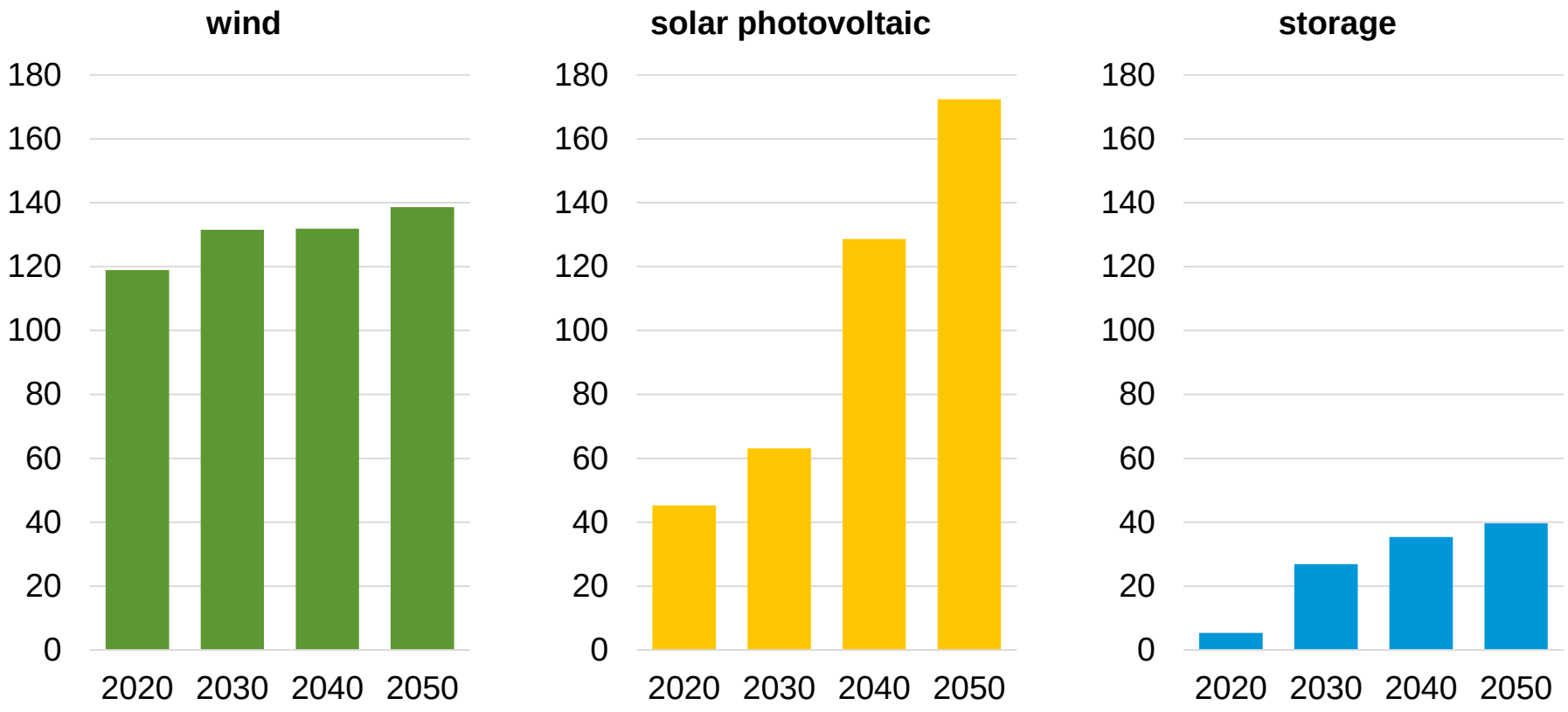
Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/



Increasing wind and solar capacity additions in the Reference case—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

Utility-scale wind, solar, and storage operating capacity
gigawatts

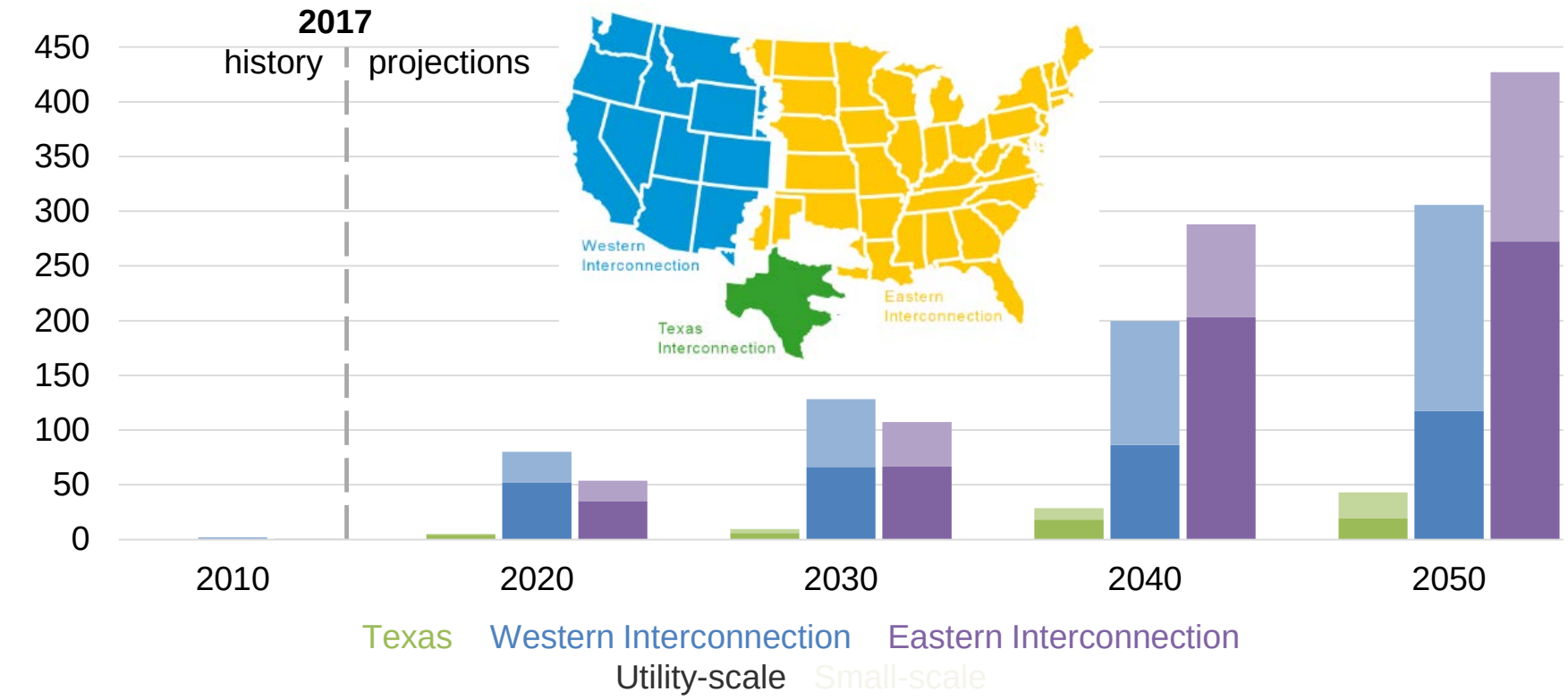


Projected solar PV cost competitiveness results in growth of solar generation in the Reference case in all interconnection regions—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

Solar photovoltaic electricity generation by region (Reference case)

billion kilowatthours

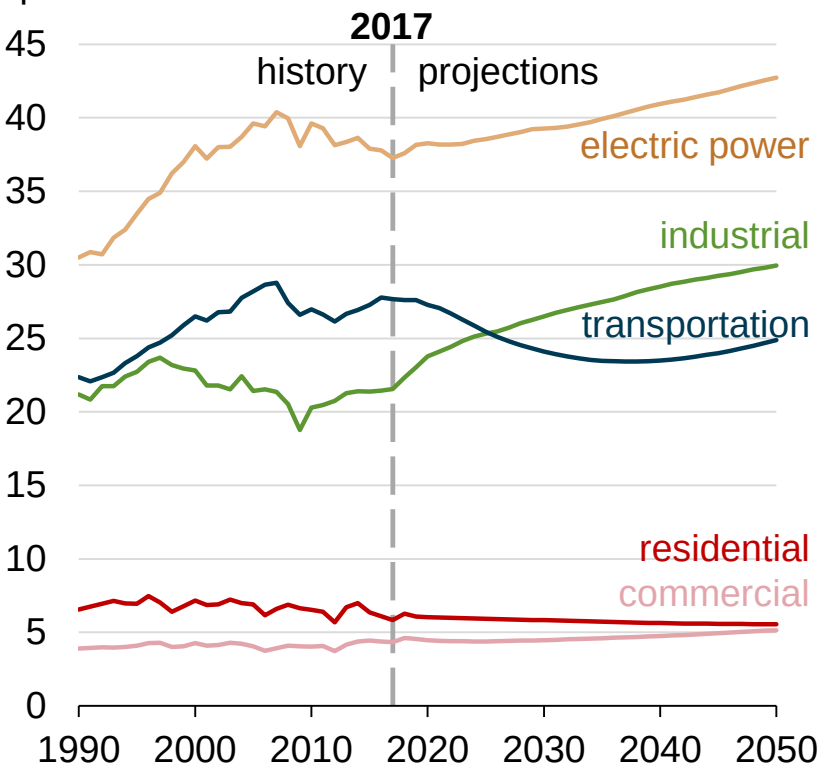


The fuel mix of U.S. consumption changes over the projection period in the Reference case—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

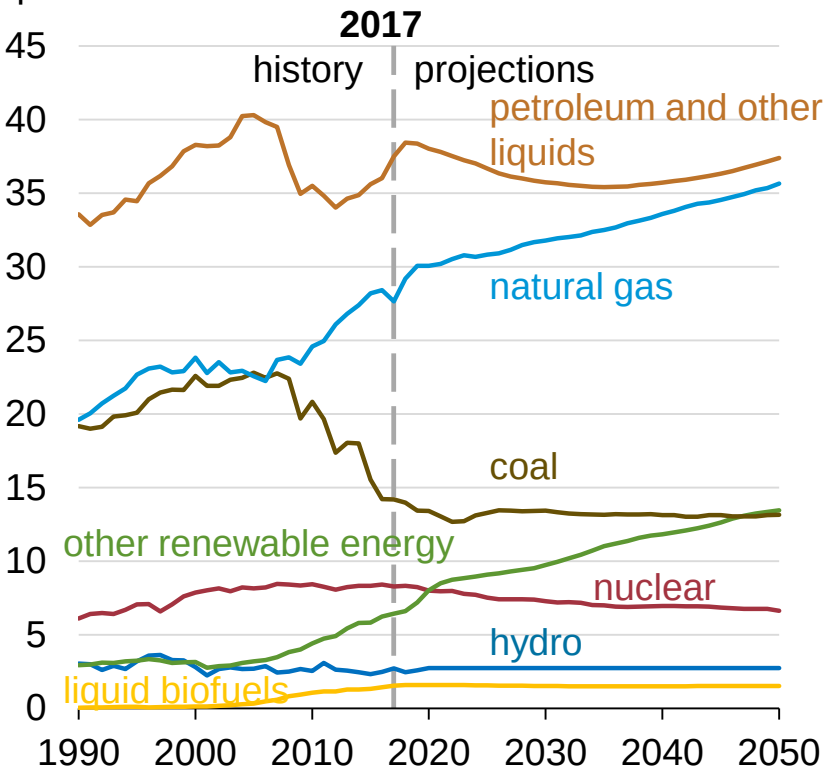
Energy consumption by sector (Reference case)

quadrillion British thermal units



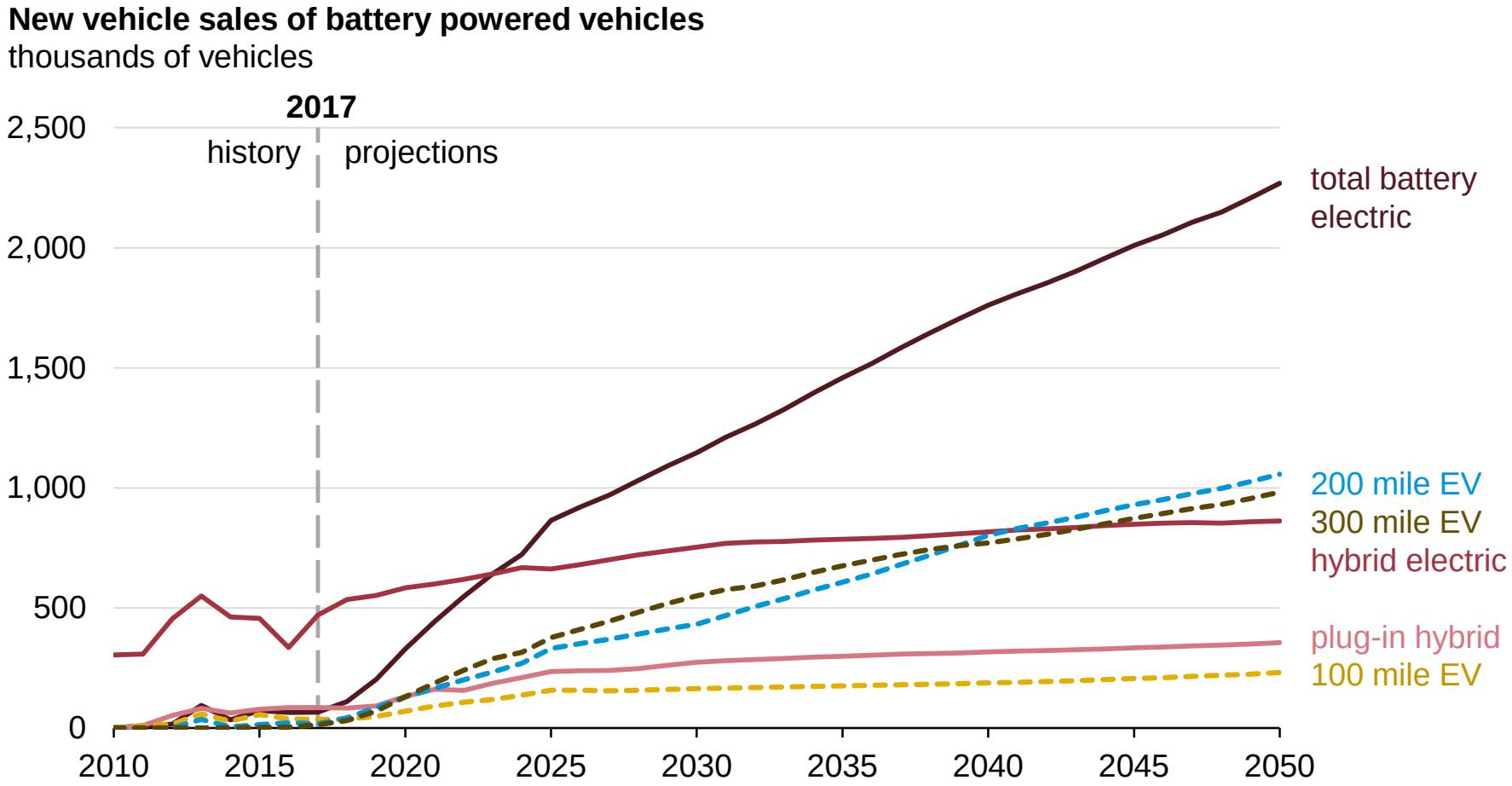
Energy consumption by fuel (Reference case)

quadrillion British thermal units



Sales of electric and plug-in hybrid electric light-duty vehicles increase in the Reference case—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

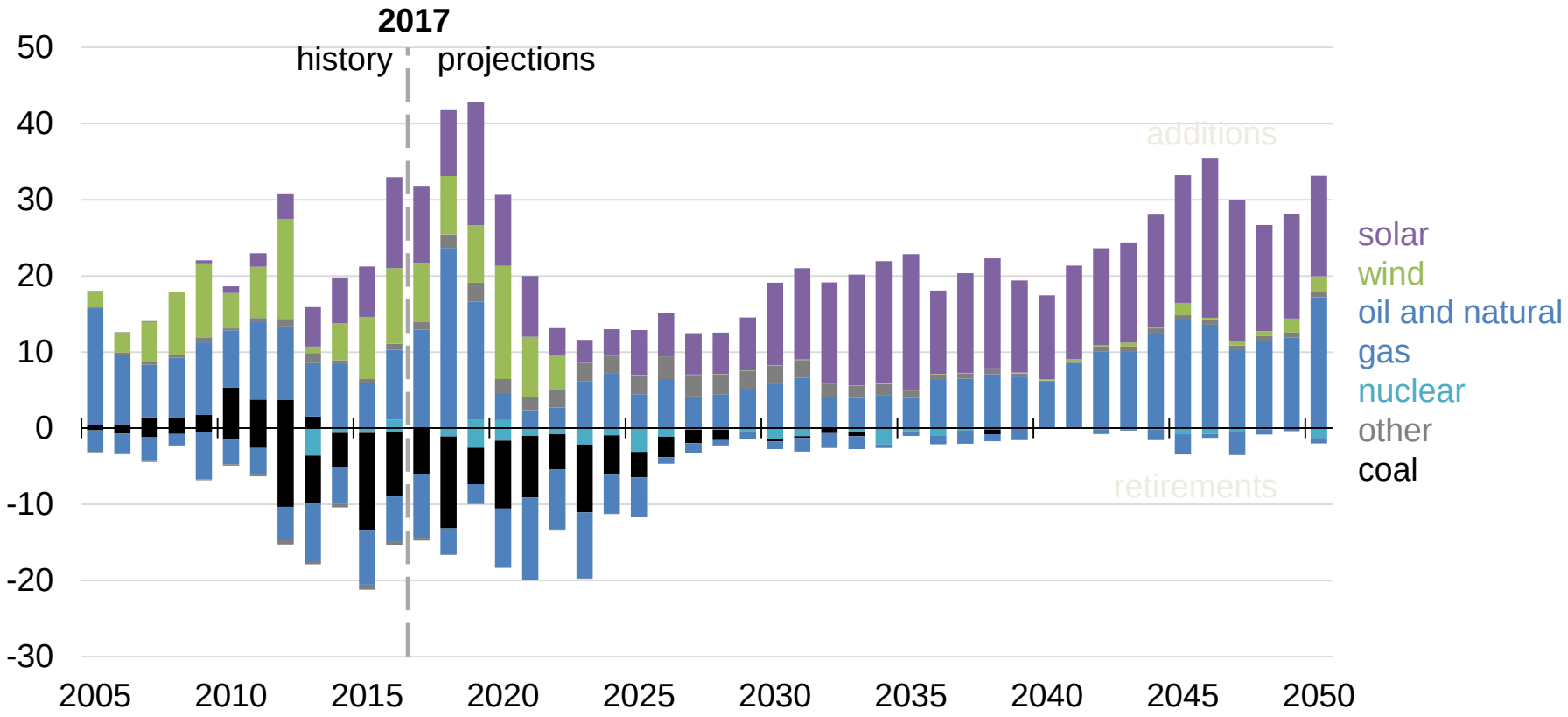


Renewables and natural gas comprise most of the capacity additions through the projection period in the Reference case—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/

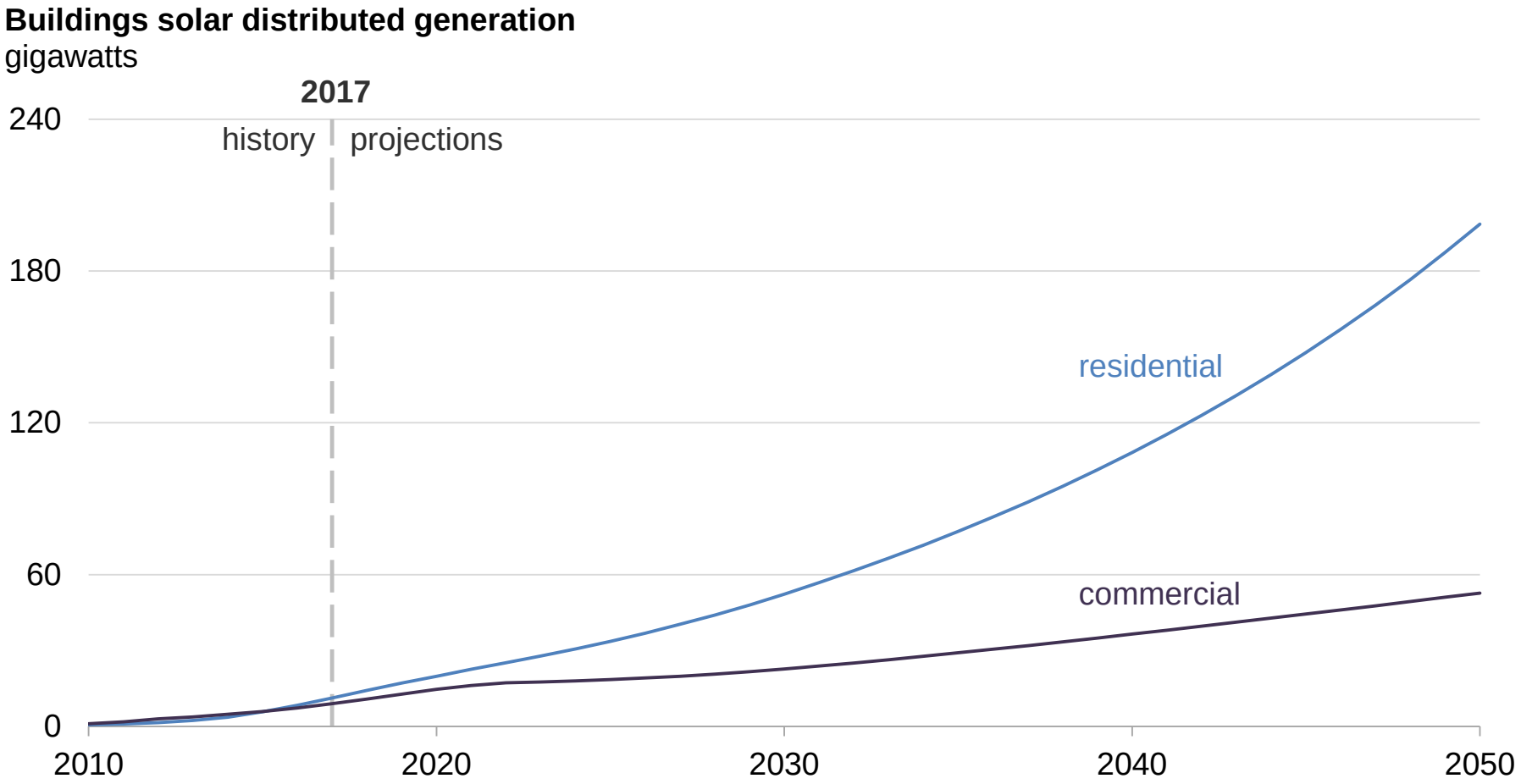
Annual electricity generating capacity additions and retirements (Reference case)

gigawatts

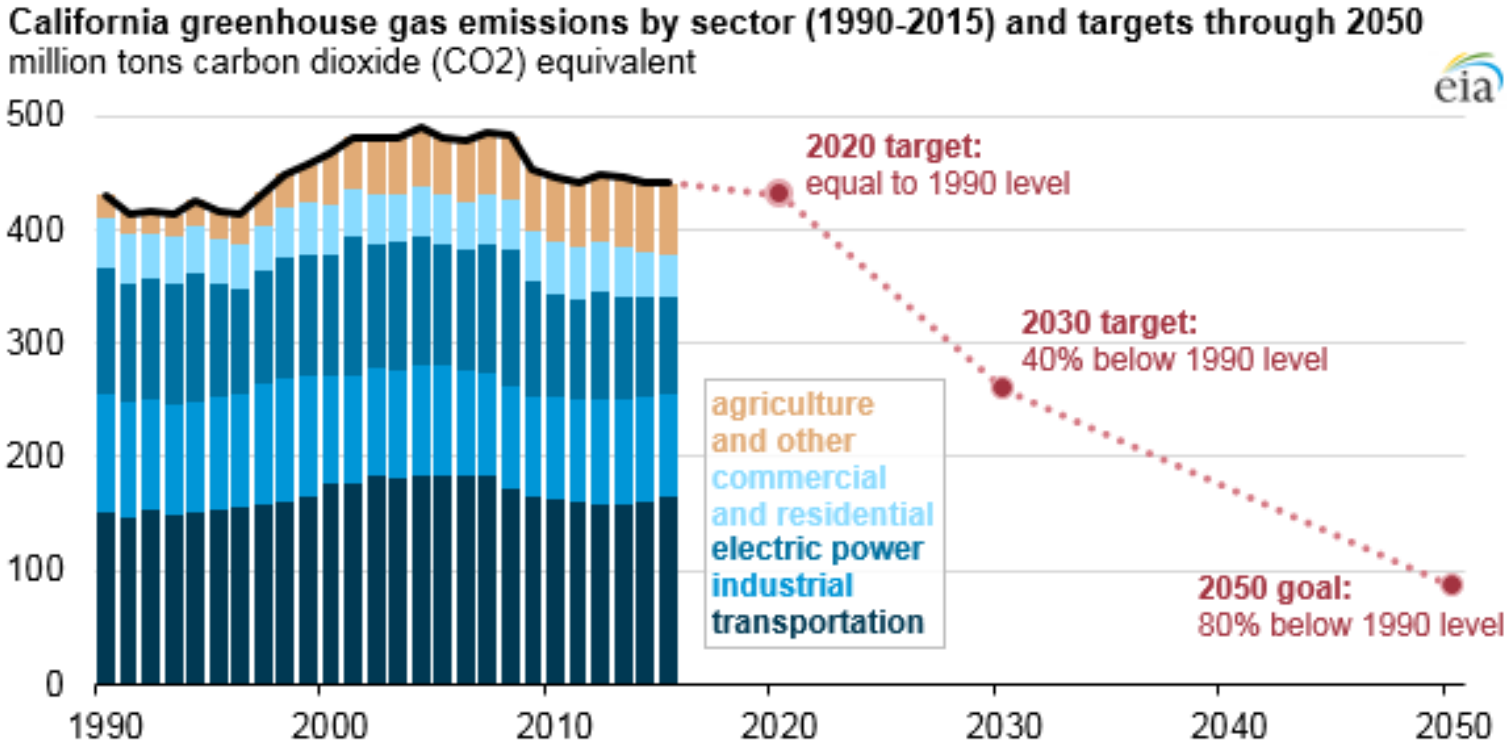


Solar photovoltaic adoption grows between 2017 and 2050—

Source: EIA Annual Energy Outlook 2018: https://www.eia.gov/outlooks/aeo/



California plans to reduce greenhouse gas emissions 40% by 2030



Source: https://www.eia.gov/todayinenergy/detail.php?id=34792#

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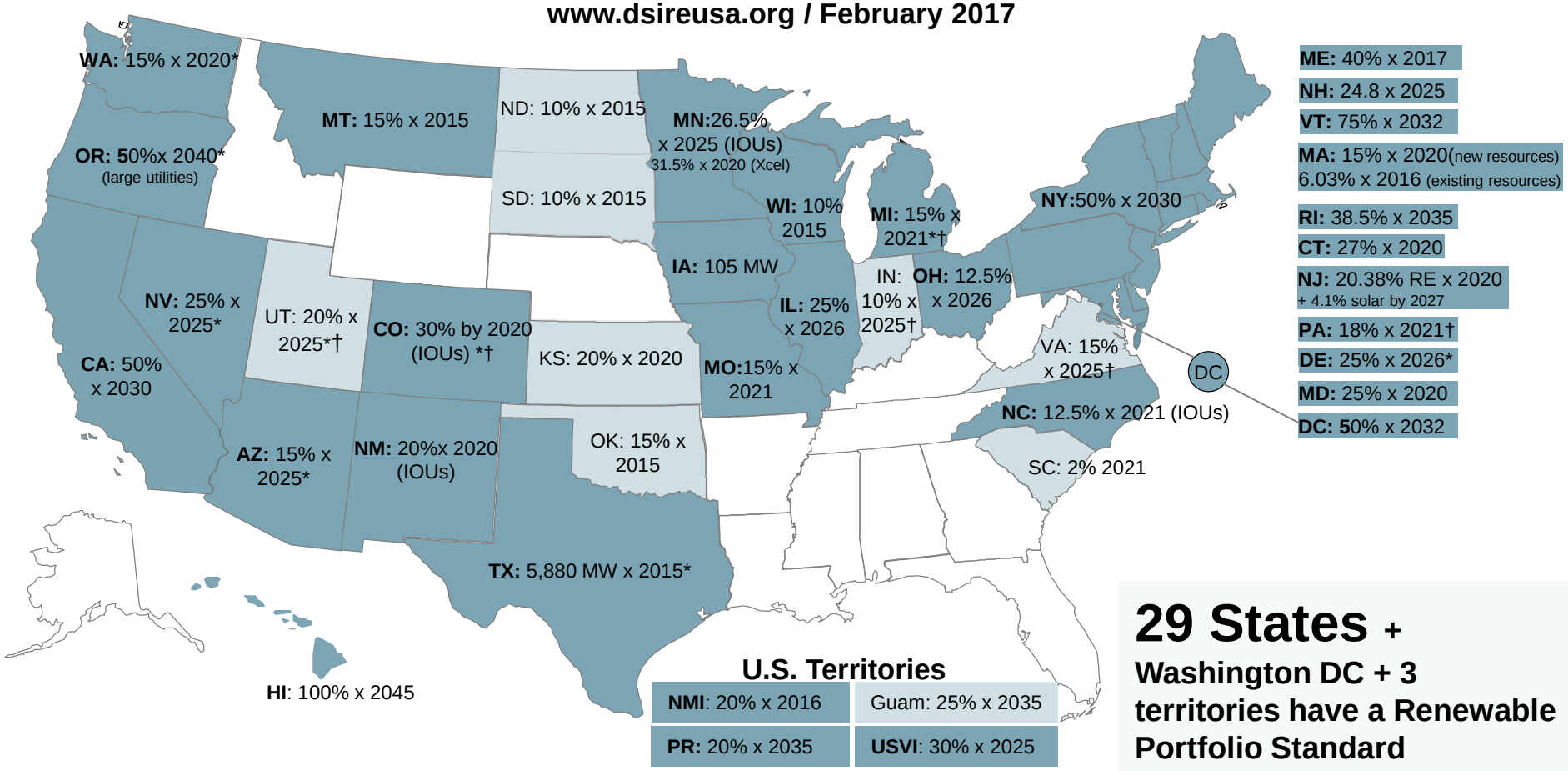
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Renewable Portfolio Standard Policies

www.dsireusa.org / February 2017



ME: 40% x 2017
NH: 24.8 x 2025
VT: 75% x 2032
MA: 15% x 2020(new resources) 6.03% x 2016 (existing resources)
RI: 38.5% x 2035
CT: 27% x 2020
NJ: 20.38% RE x 2020 + 4.1% solar by 2027
PA: 18% x 2021†
DE: 25% x 2026*
MD: 25% x 2020
DC: 50% x 2032

U.S. Territories

NMI: 20% x 2016	Guam: 25% x 2035
PR: 20% x 2035	**USVI**: 30% x 2025

29 States + Washington DC + 3 territories have a Renewable Portfolio Standard

(8 states and 1 territories have renewable portfolio goals)

Renewable portfolio standard

Renewable portfolio goal

* Extra credit for solar or customer-sited renewables

† Includes non-renewable alternative resources

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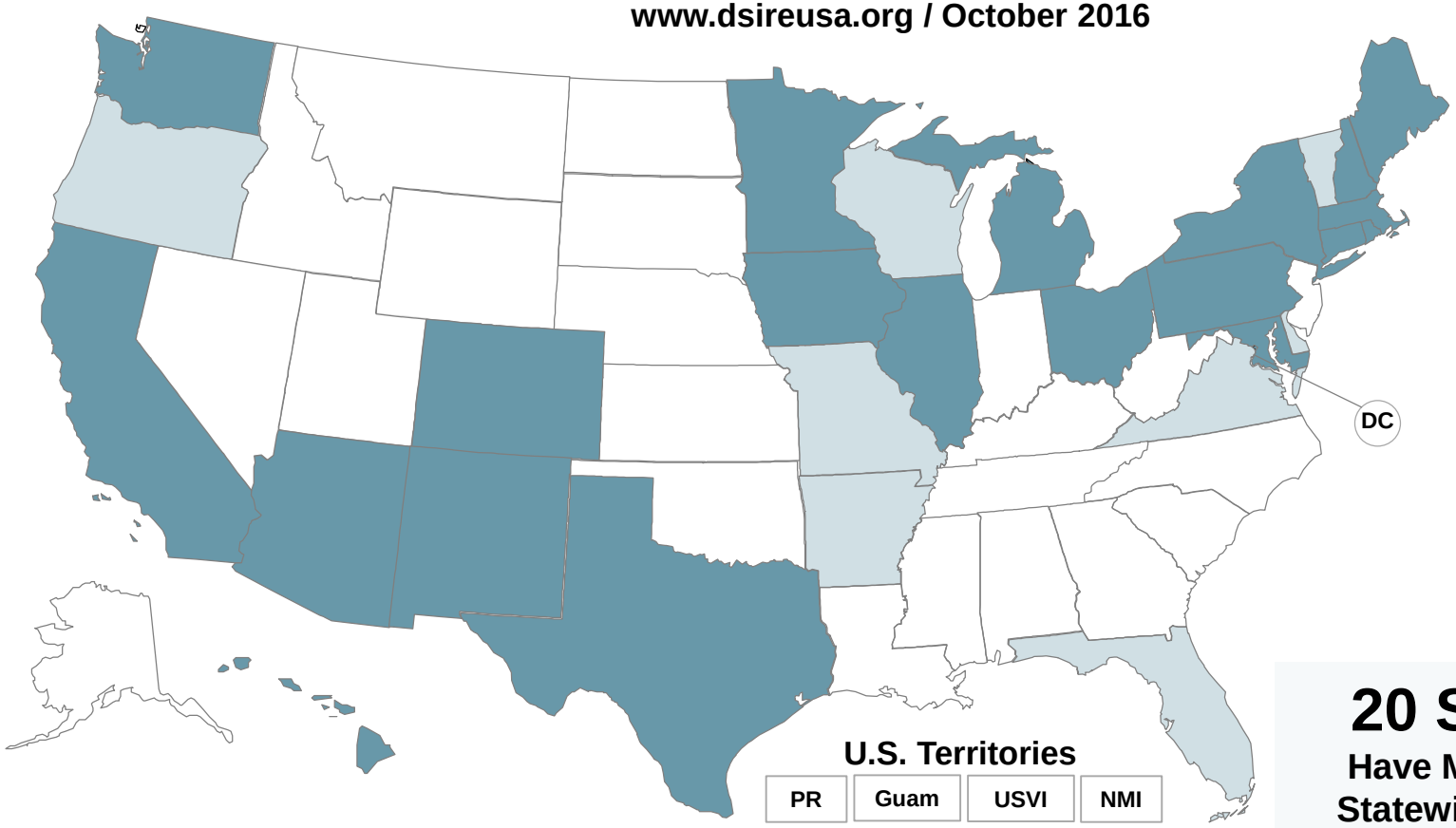
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Energy Efficiency Resource Standards (and Goals)

www.dsireusa.org / October 2016



States with an Energy Efficiency Resource Standard

States with an Energy Efficiency Resource Goal

No State Standard or Goal

20 States

Have Mandatory Statewide Energy Efficiency Resource Standards (8 States Have Goals)

Authorities/References

- **Arizona:** AAC R14-2-2401, et seq., AAC R14-2-2501, et seq.,
- **Arkansas:** AR PSC Orders in Dockets No. 08-144-U, 08-137-U, 08-127-U and 06-004-R, as well as A.C.A. § 23-3-405
- **California:** CA Public Utilities Code § 9615, CA Public Resources Code § 25310, CA Public Utilities Code Section § 739.10, several CPUC Decisions
- **Colorado:** CRS 40-3.2-101, et seq., COPUC Decisions
- **Connecticut**: Conn. Gen. Stat. § 16-245a et seq., S.B.1243 (Public Act 11-80), S.B. 1138, Public Act No. 13-298
- **Delaware:** 26 Del. C. § 1500 et seq., 29 Del. C. § 8059 (SB 150 (2013))
- **Florida:** Fla. Stat. § 366.82, Order No. PSC-09-0855-FOF-EG
- **Hawaii**: HRS § 269-96 et seq., HI PUC Order, Docket 2010-0037
- **Illinois**: § 220 ILCS 5/8-103, § 20 ILCS 3855/1-56, § 220 ILCS 5/8-104, § 30 ILCS 105/6z-96
- ***Indiana:*** *IURC Cause No. 42693 (**later eliminated by SB 340 (2014))*
- **Iowa:** Iowa Code § 476.6.16, IAC 199-35, IAC 199-36, Iowa Utilities Board orders
- **Maine:** 35-A MRSA § 10104 et seq., MPUC Order in Docket No. 2013-00168
- **Massachusetts**: M.G.L. ch. 25, § 21, DPU orders
- **Maryland**: Md. Public Utility Companies Code § 7-211
- **Michigan**: MCL § 460.1071 et seq, several PSC orders
- **Minnesota:** Minn. Stat. § 216B.241
- **Missouri:** R.S. Mo. § 393.1075, 4 CSR 240-20.094, several PSC orders
- **New Hampshire:** NH PUC Order, Docket 15-137
- **New Mexico**: N.M. Stat. § 62-17-1 et seq., several PRC orders
- **New York**: Several NY PSC orders
- **Ohio**: ORC 4928.66 et seq., S.B. 315 (2012), S.B. 310 (2014), several PUCO orders
- **Pennsylvania**: 66 Pa C.S. § 2806.1, several PUC orders
- **Rhode Island**: R.I. Gen. Laws § 39-1-27.7, R.I. Gen. Laws § 39-2-1.2, several RIPUC orders
- **Texas**: Texas Utilities Code § 39.905, TX PUC Substantive Rule § 25.181
- **Vermont**: 30 V.S.A. § 209
- **Virginia**: Va. Code Ann. § 56-585.1, Virginia Acts of Assembly, Chapter 933, VAC Chapter 304, two VSCC orders
- **Washington:** RCW 19.285, WAC 480-109, WAC 194-37
- **Wisconsin:** Wis. Stat. § 196.374, several PSC orders