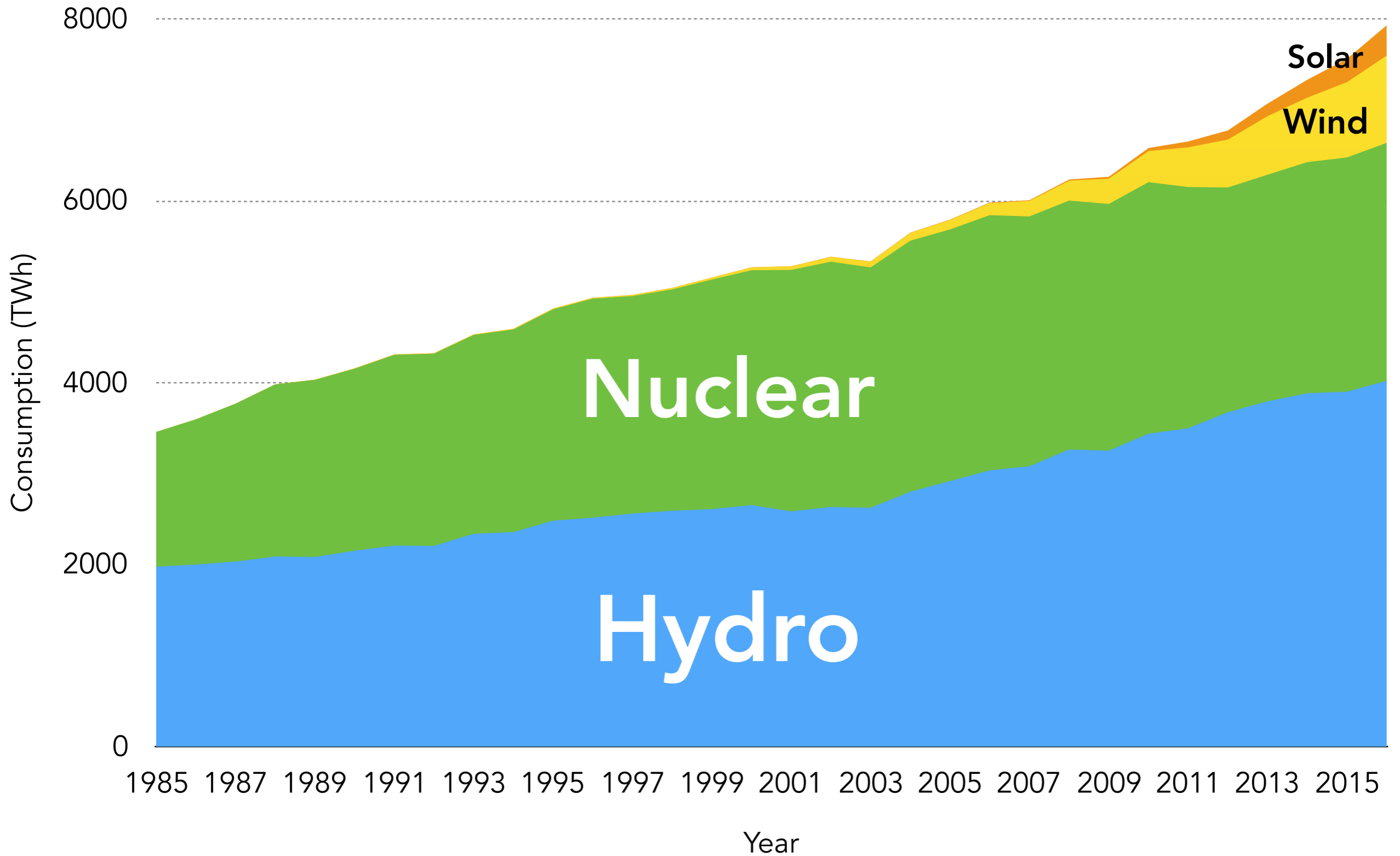




Clean Energy *Emergency*

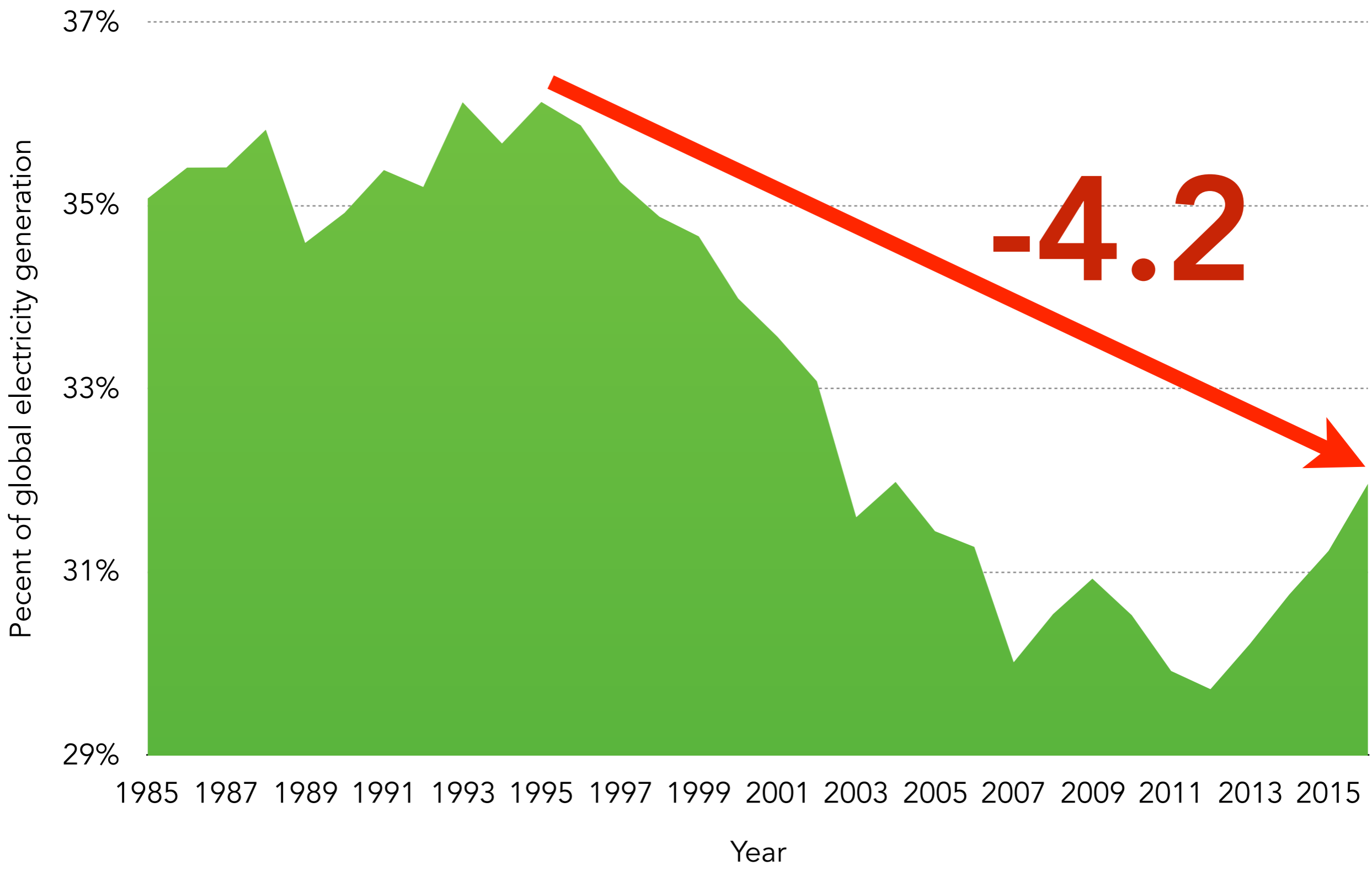
Updated September 21, 2017

Low-carbon power has grown in absolute terms...



Source: BP Statistical Review of World Energy, 2017

Declining power from clean energy



Source: BP Statistical Review of World Energy, 2017

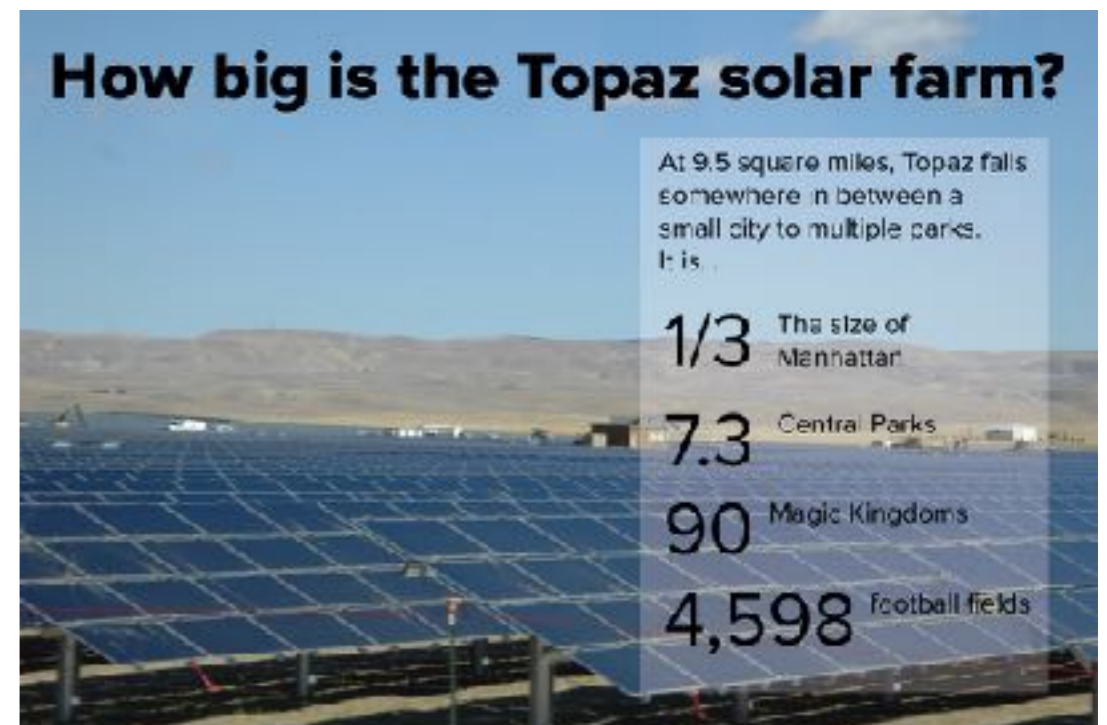
4.2 percentage points of global electricity

=

55 nuclear plants the size of
Diablo Canyon

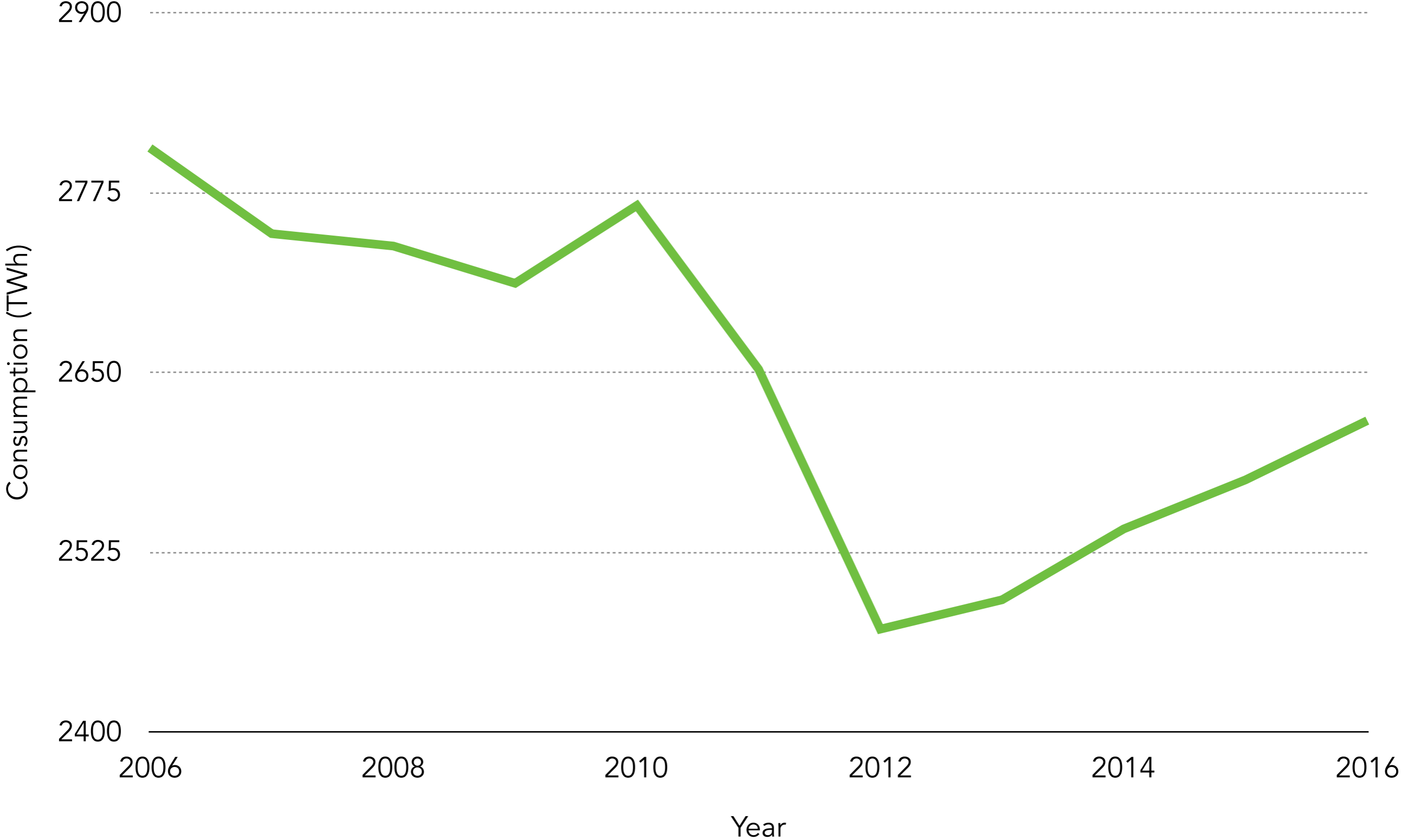
or

823 of one of largest solar
farms (Topaz, in California)



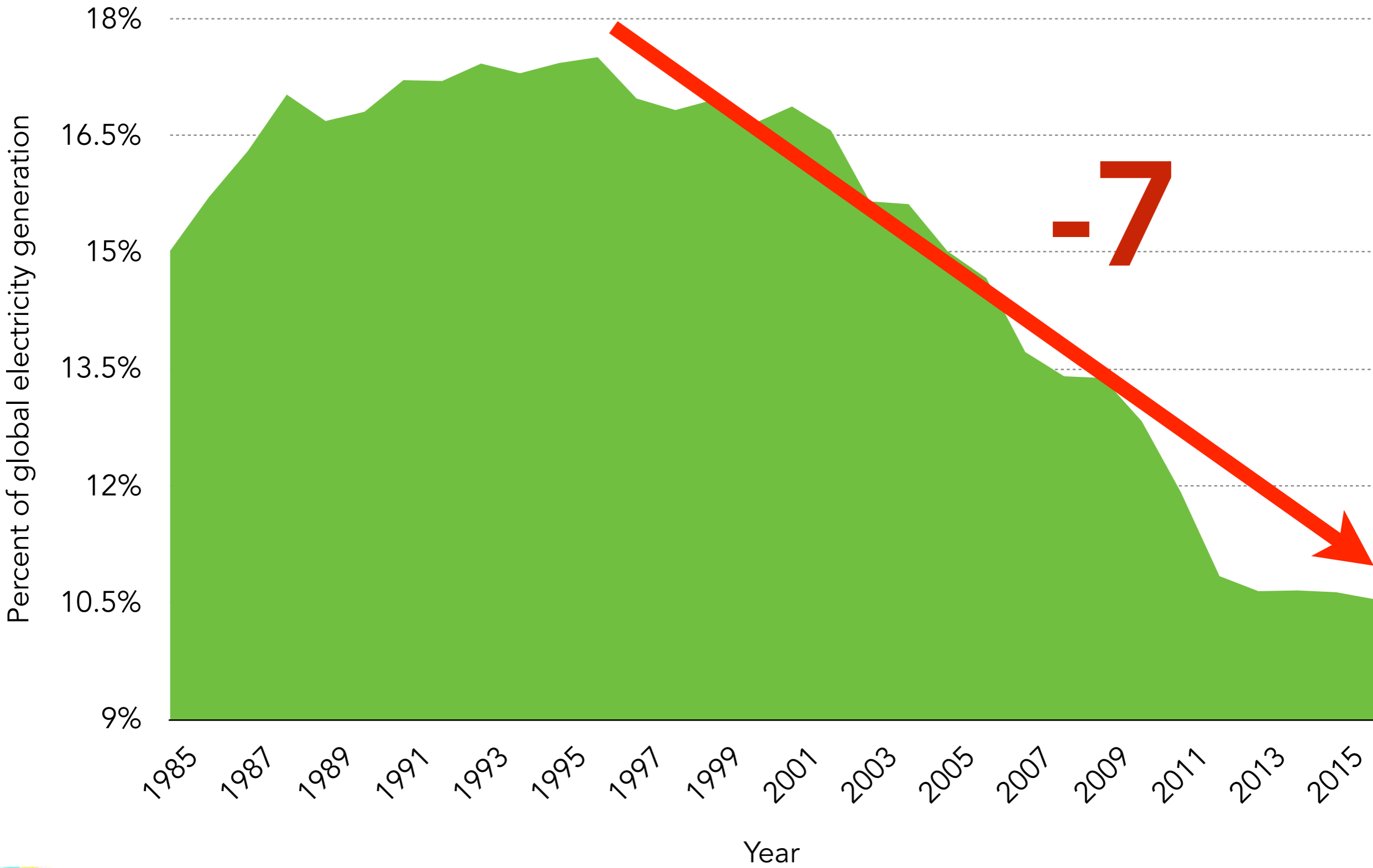
Source: BP Statistical Review of World Energy, 2017; U.S. Energy Information Administration. Calculations based on 2016 generation.

Nuclear has decreased in absolute terms since 2006.



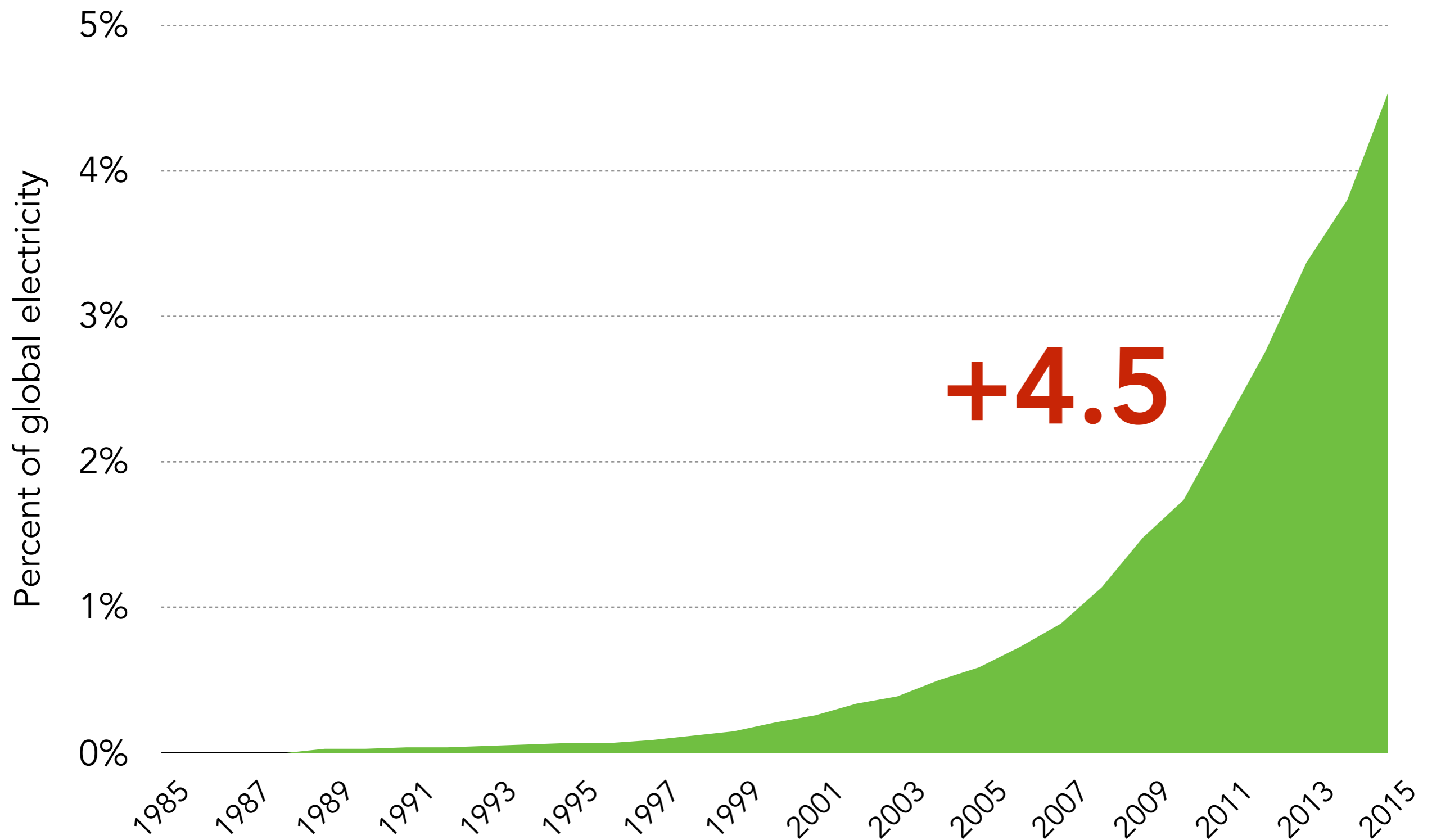
Source: BP Statistical Review of World Energy, 2017

Declining power from nuclear energy...



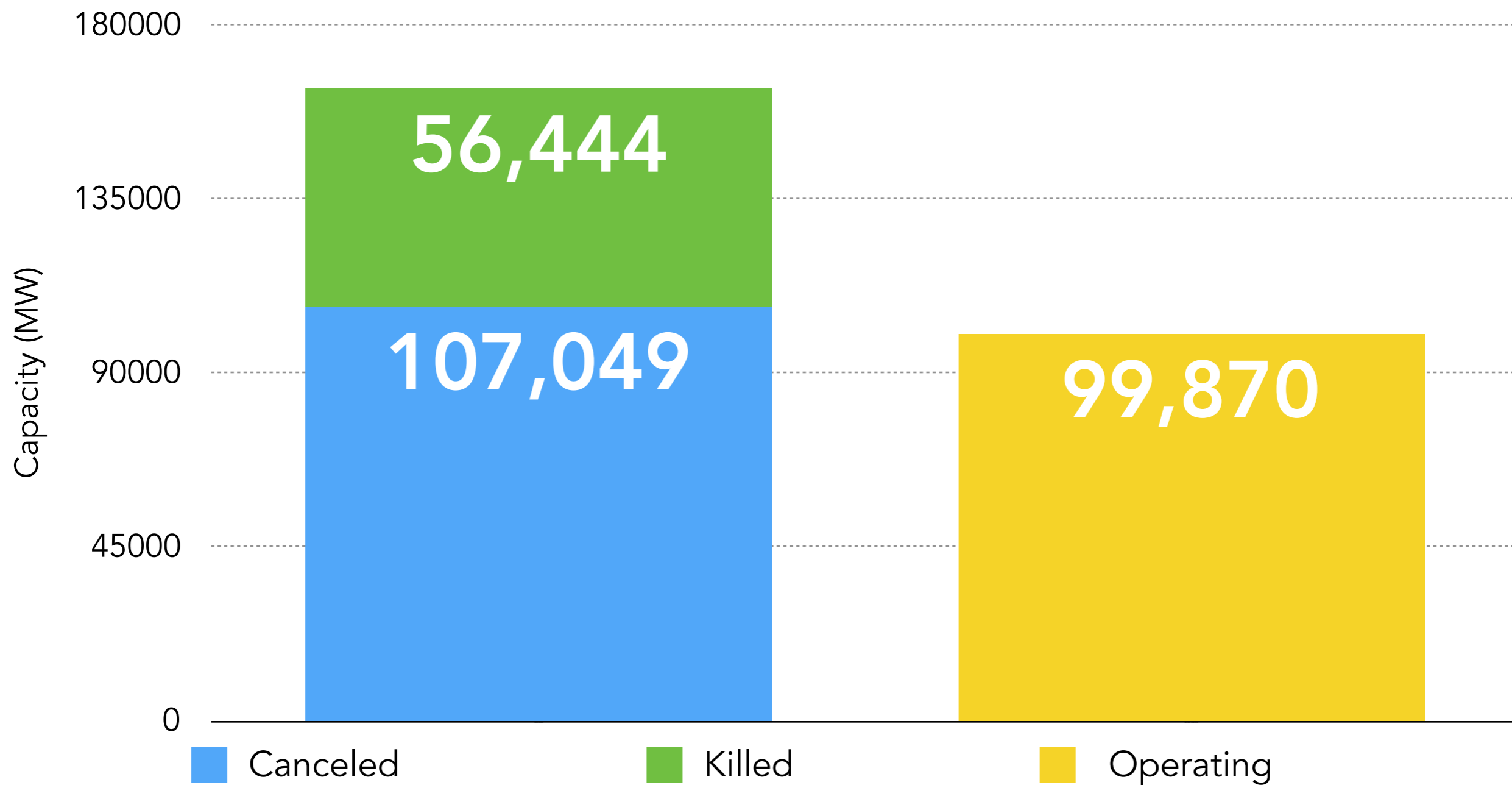
Source: BP Statistical Review of World Energy, 2017

...was not made up by solar & wind.



Nuclear is at risk.

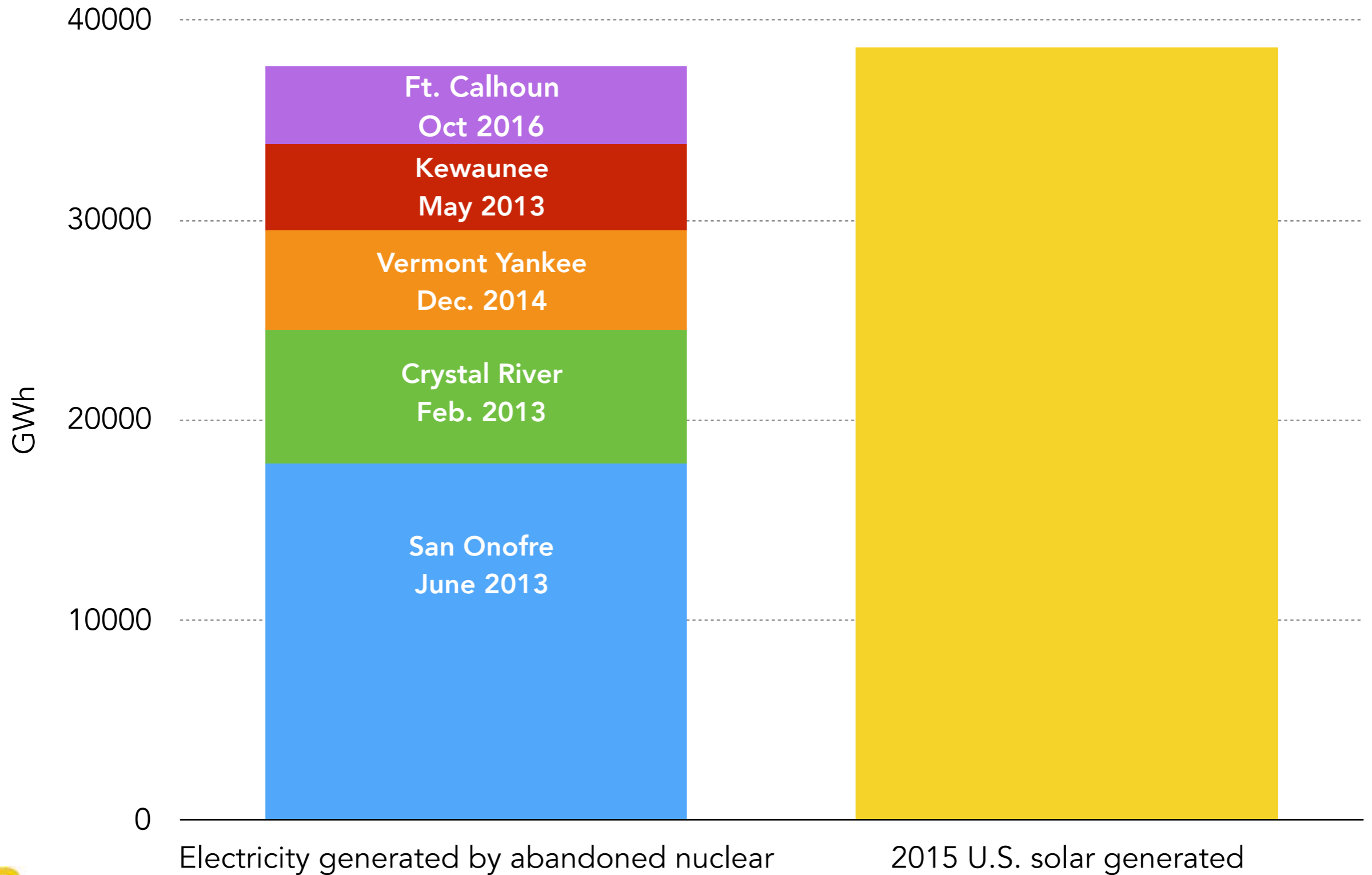
Over 150% more nuclear capacity cancelled or killed than ultimately built in U.S.



*"Cancelled" are plants terminated in planning stage. "Killed" are plants where construction was underway.

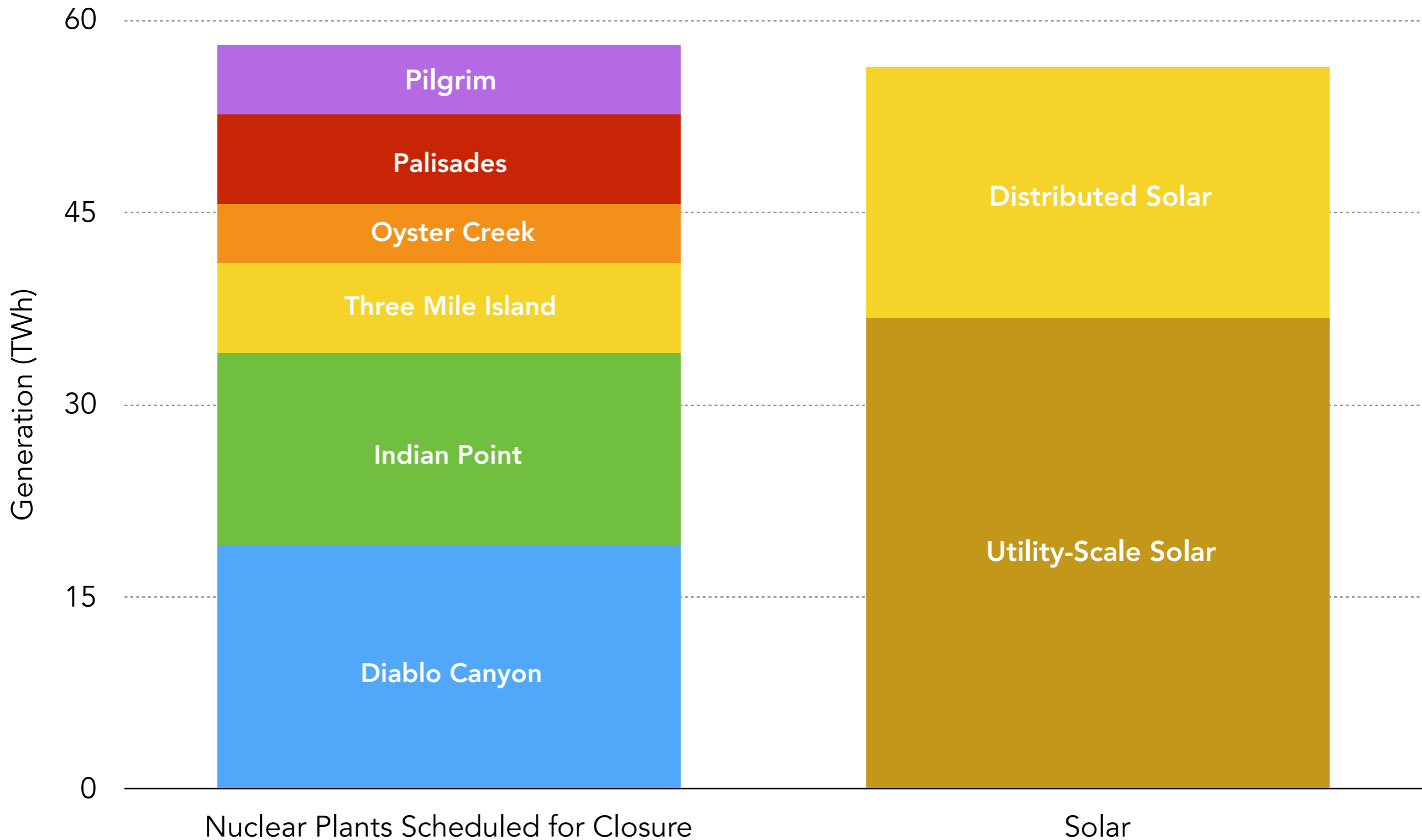
Sources: EP, History of Nuclear, 2017; Energy Progress Tracker, 2017

Five abandoned nuclear plants generated almost the exact same amount of electricity as all US solar.

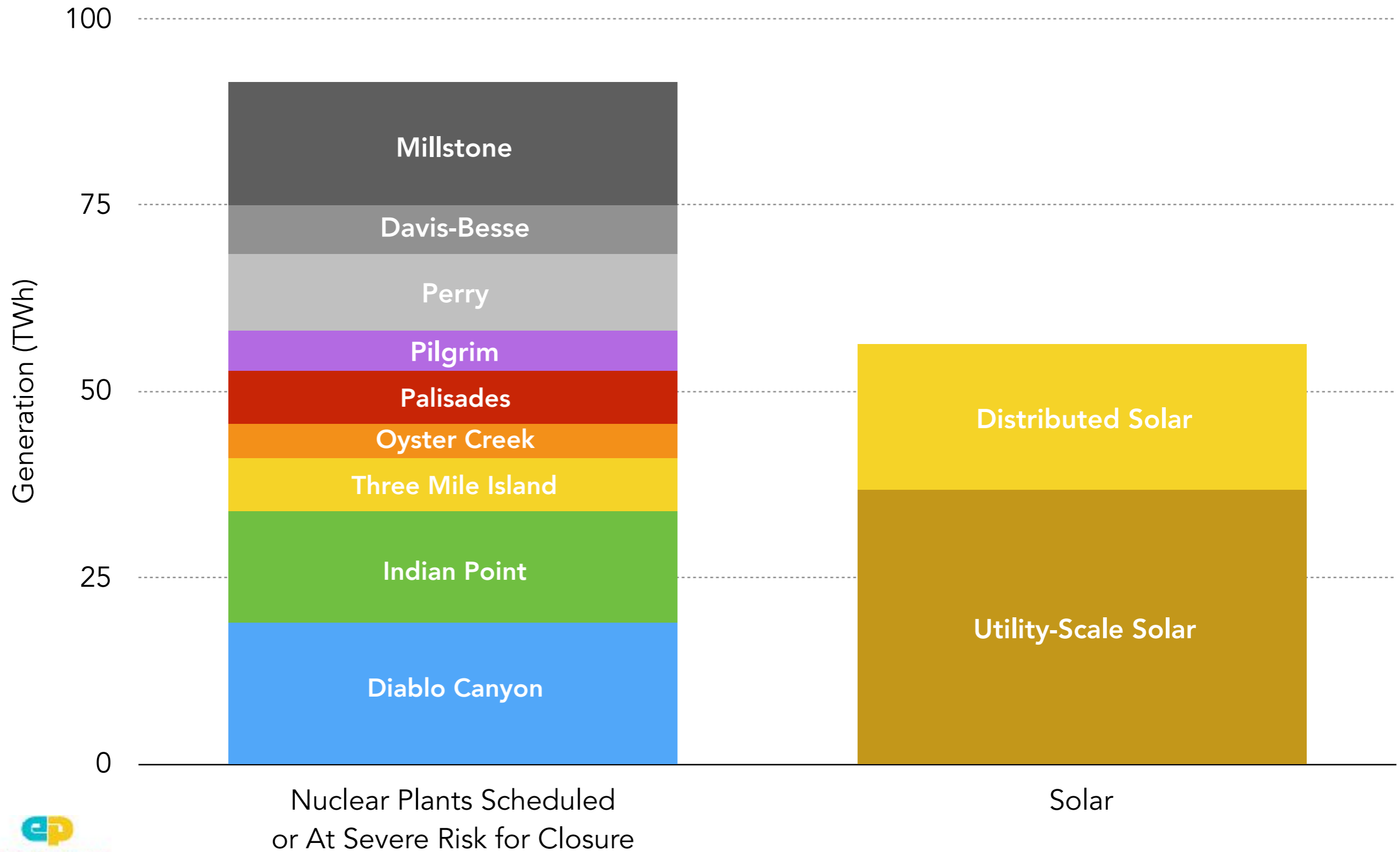


Source: EIA. Assumes 90% capacity factor

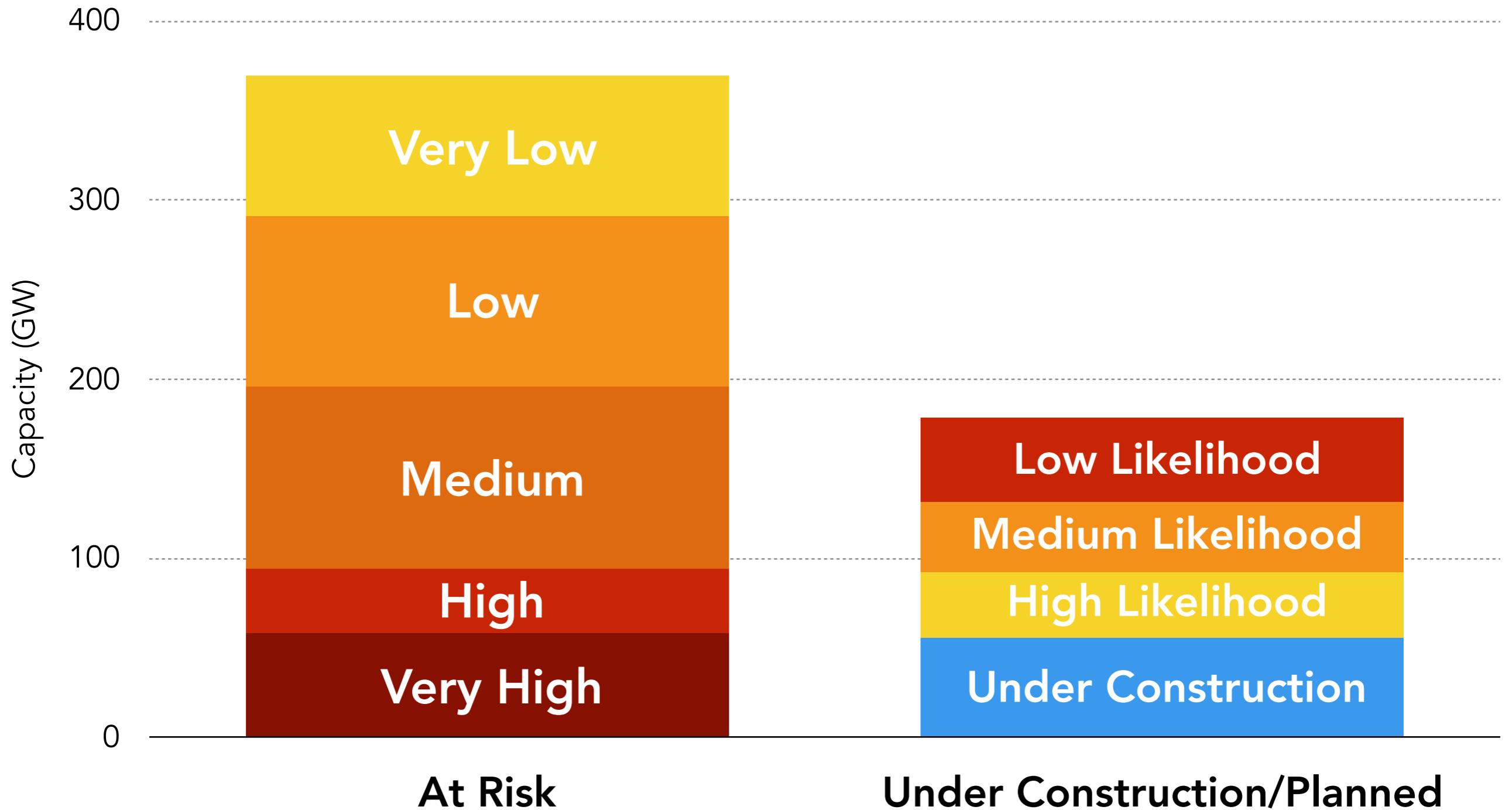
Six nuclear plants scheduled for early closure generated 3 percent more electricity than all US solar in 2016.



Nine nuclear plants scheduled or at severe risk for early closure generated 63 percent more electricity than all US solar in 2016.

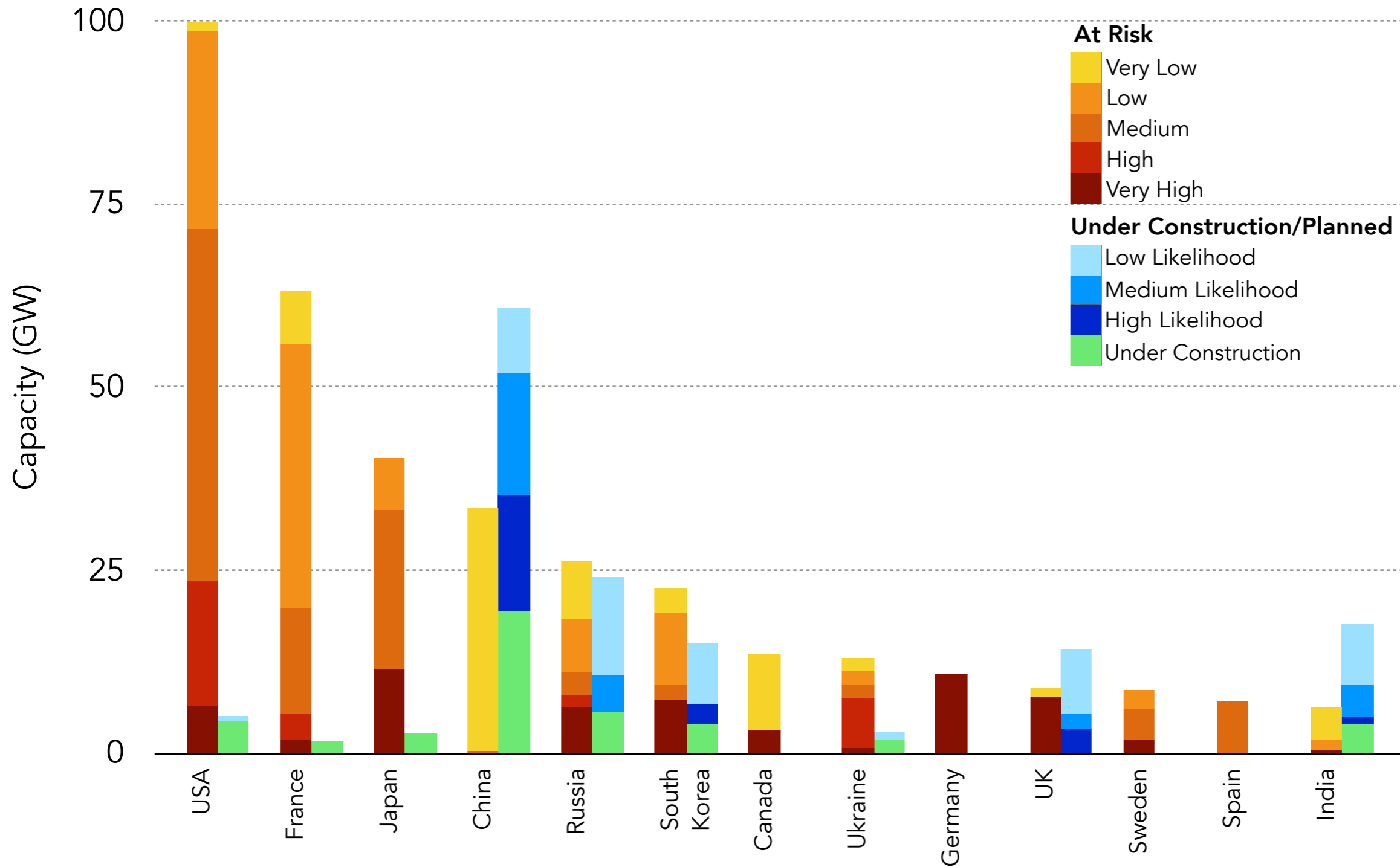


The world could lose up to 2x more nuclear than it gains by 2030.

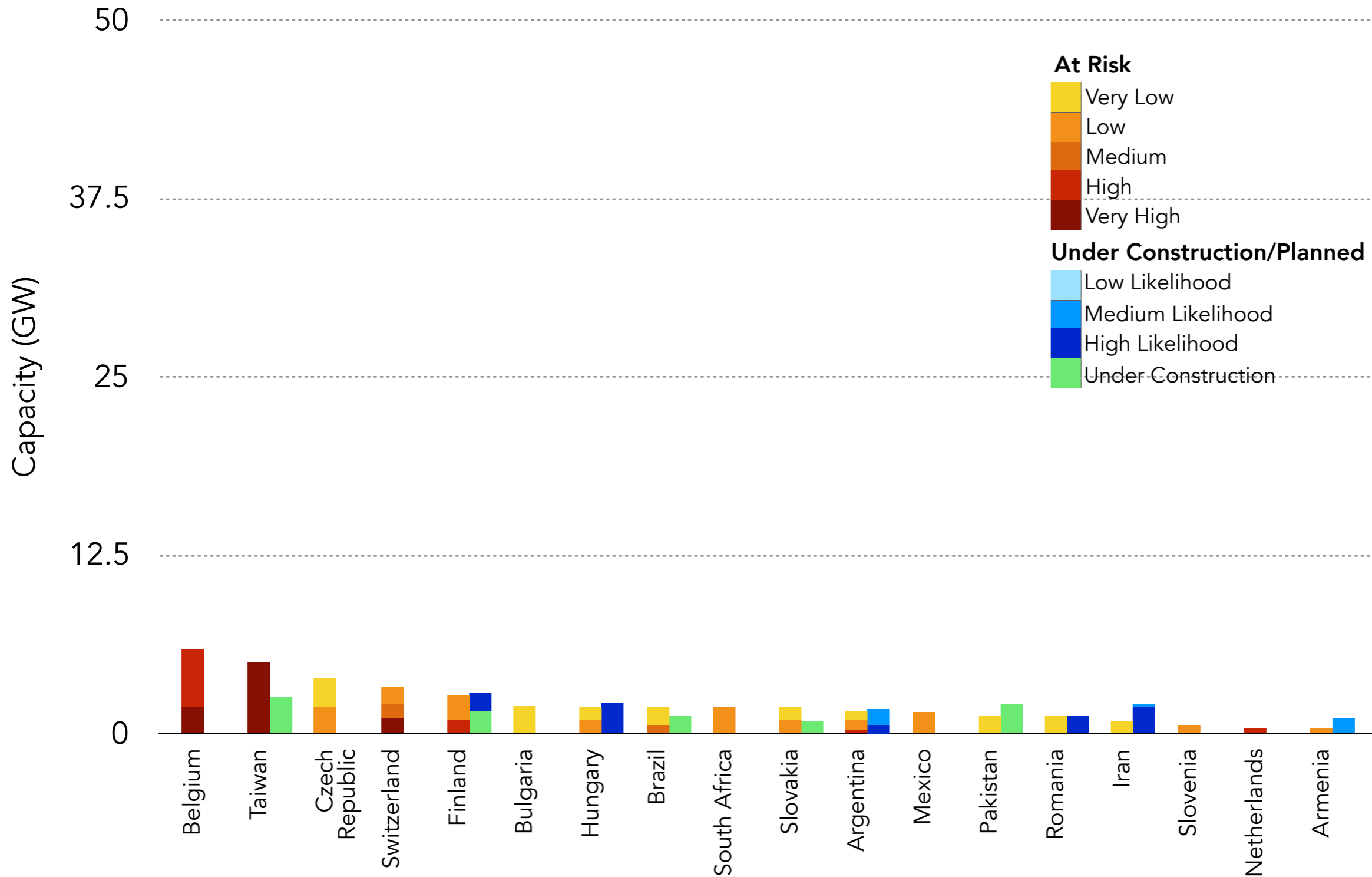


Source & Methods: EP Energy Progress Tracker, 2017. Reactor-specific ratings based on economic and energy trend analysis, political and societal assessment, and expert elicitations. Last updated September 20, 2017. Email info@environmentalprogress.org for more information.

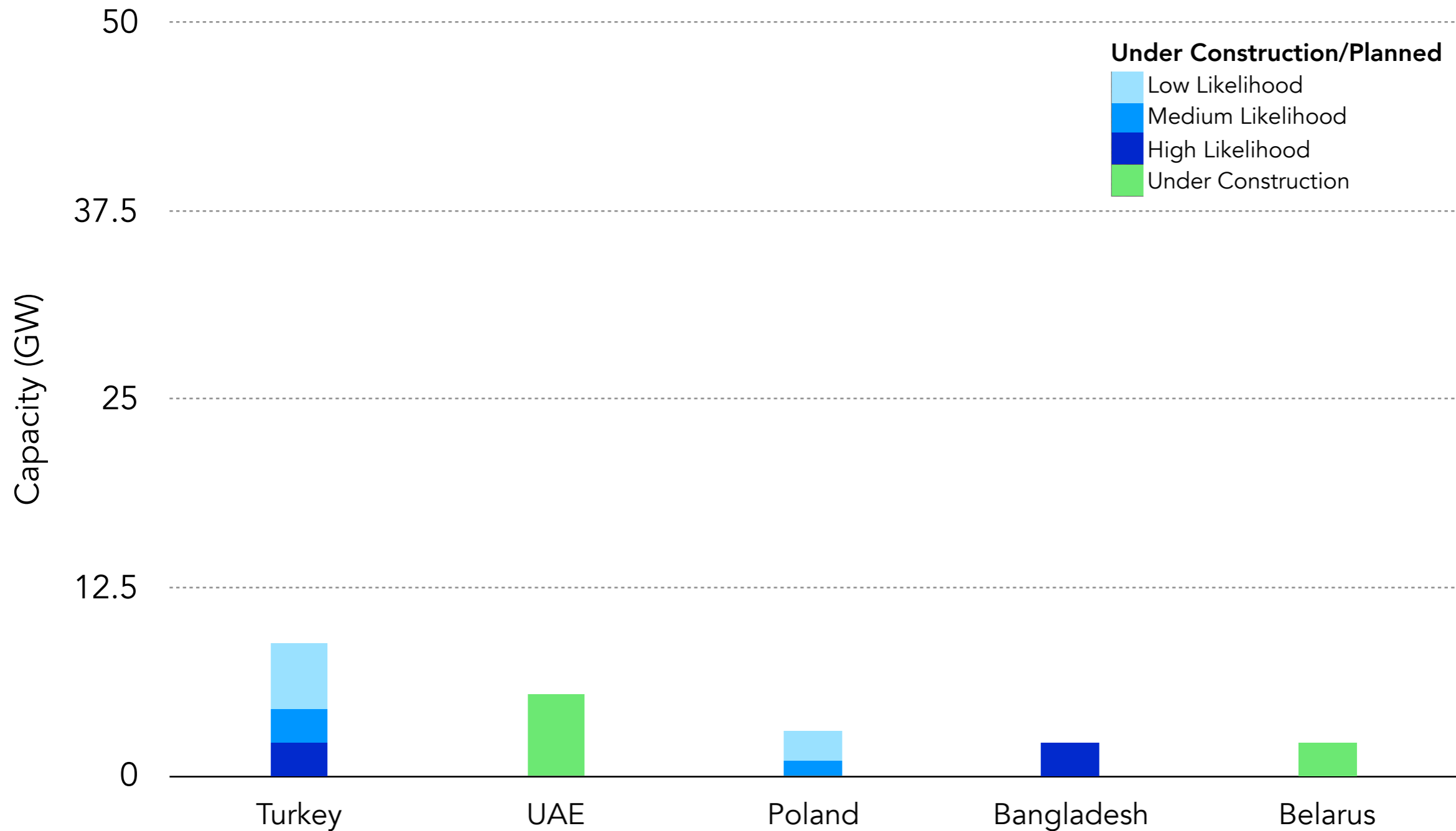
Nuclear At Risk by 2030, Under Construction and Planned



Nuclear At Risk by 2030, Under Construction and Planned

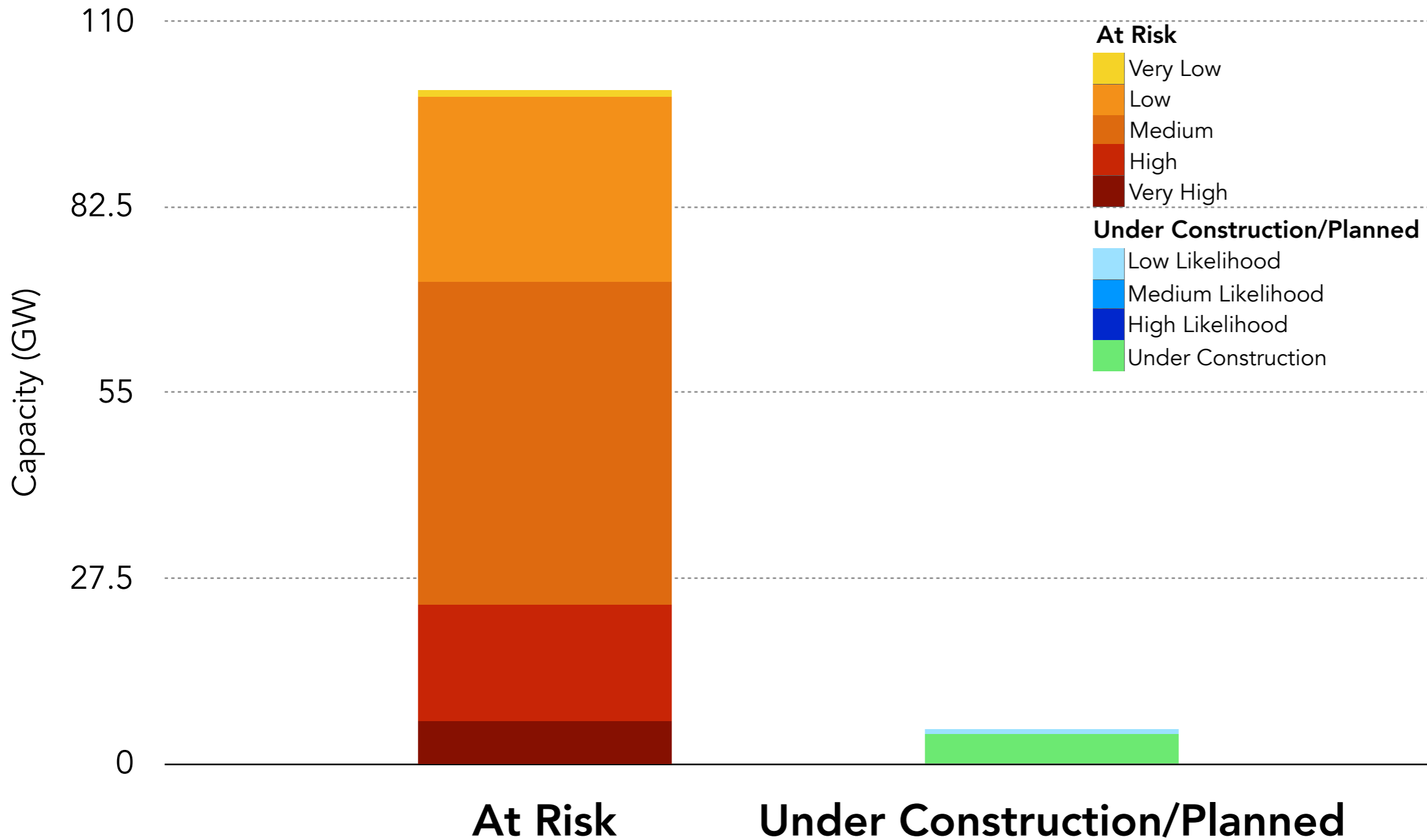


Nuclear Under Construction and Planned



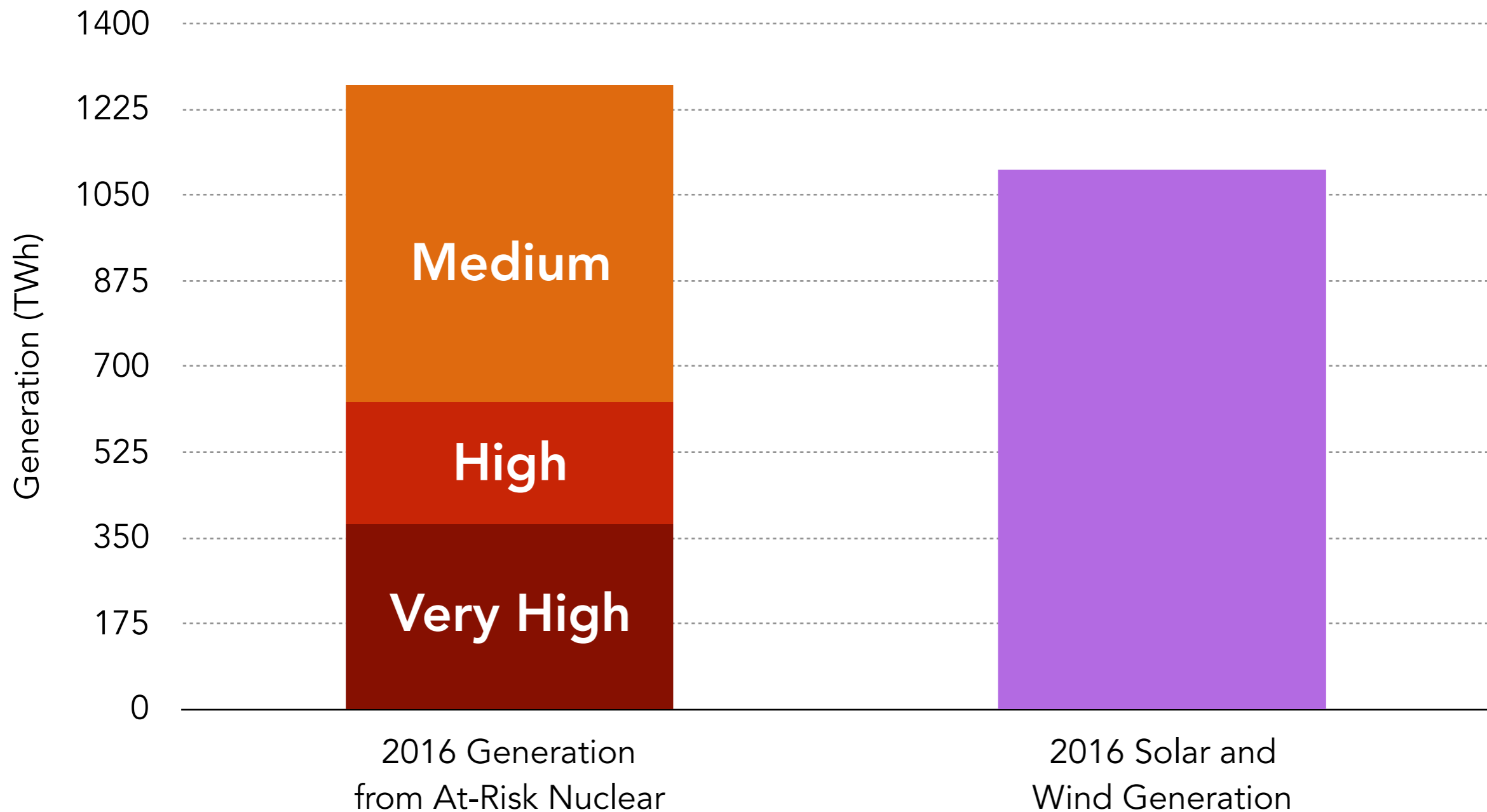
Source & Methods: EP Energy Progress Tracker, 2017. Reactor-specific ratings based on economic and energy trend analysis, political and societal assessment, and expert elicitations. Last updated September 20, 2017. Email info@environmentalprogress.org for more information.

U.S. Nuclear At Risk by 2030, Under Construction and Planned



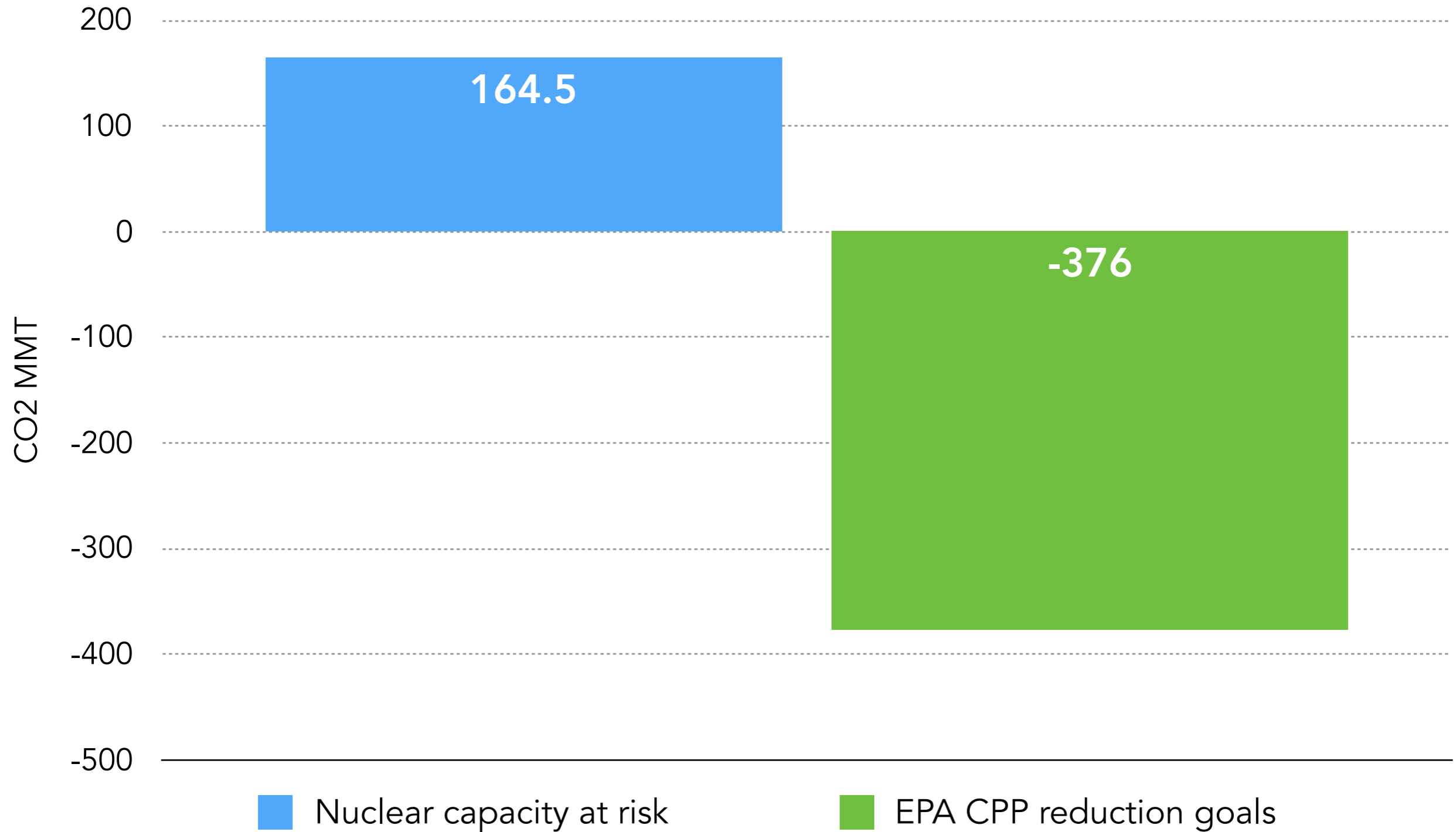
Source & Methods: EP Energy Progress Tracker, 2017. Reactor-specific ratings based on economic and energy trend analysis, political and societal assessment, and expert elicitations. Last updated September 20, 2017. Email info@environmentalprogress.org for more information.

Nuclear facing risk of closure by 2030 produced 16% more energy in 2016 than solar and wind combined.



Source & Methods: EP Energy Progress Tracker, 2017. Reactor-specific ratings based on economic and energy trend analysis, political and societal assessment, and expert elicitations. Nuclear generation values retrieved from the International Atomic Energy Agency. Solar and wind generation values retrieved from the U.S. EIA's International Energy Outlook 2017. Last updated September 20, 2017. Email info@environmentalprogress.org for more information.

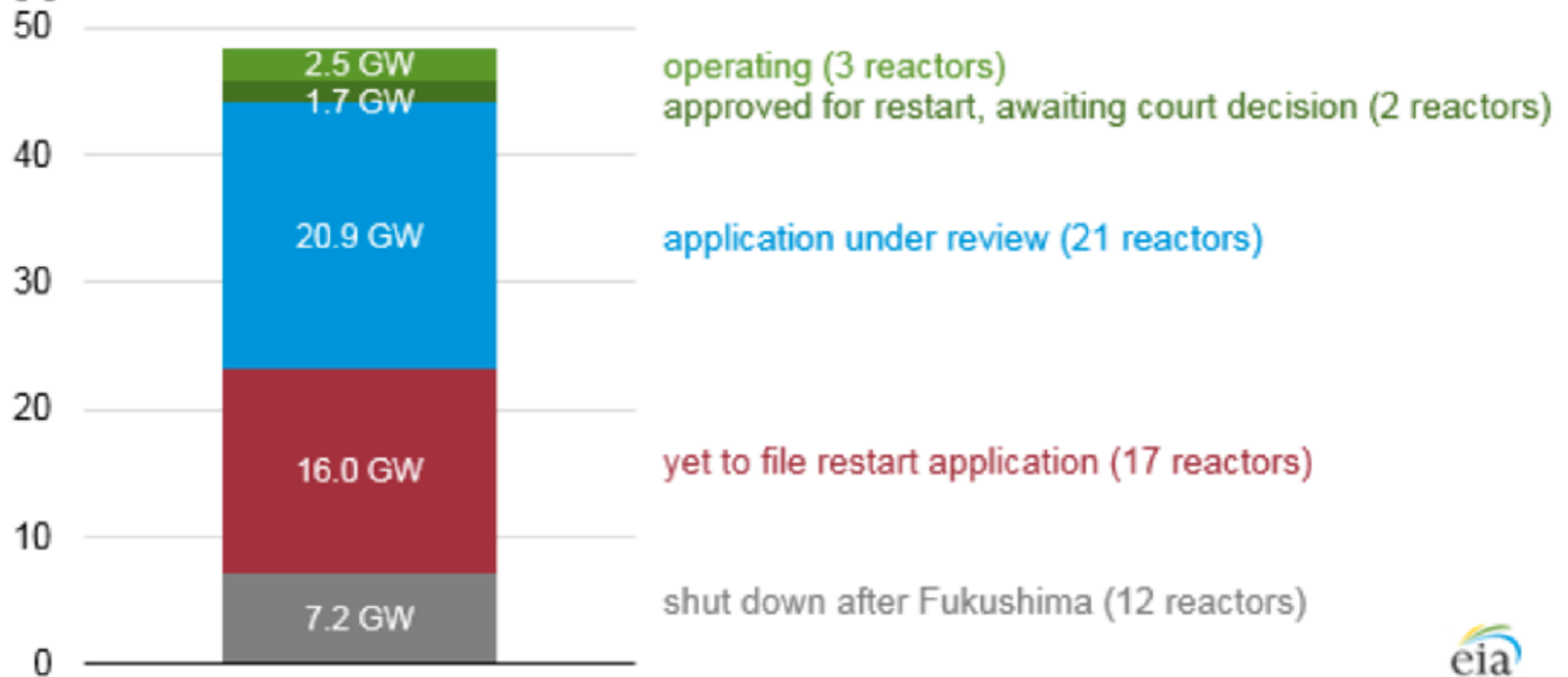
Premature closures would set back the EPA clean power plan goals by 44%.



Five and a half years after Fukushima, 3 of Japan's 54 nuclear reactors are operating

Current status of nuclear capacity in Japan (as of August 2016)

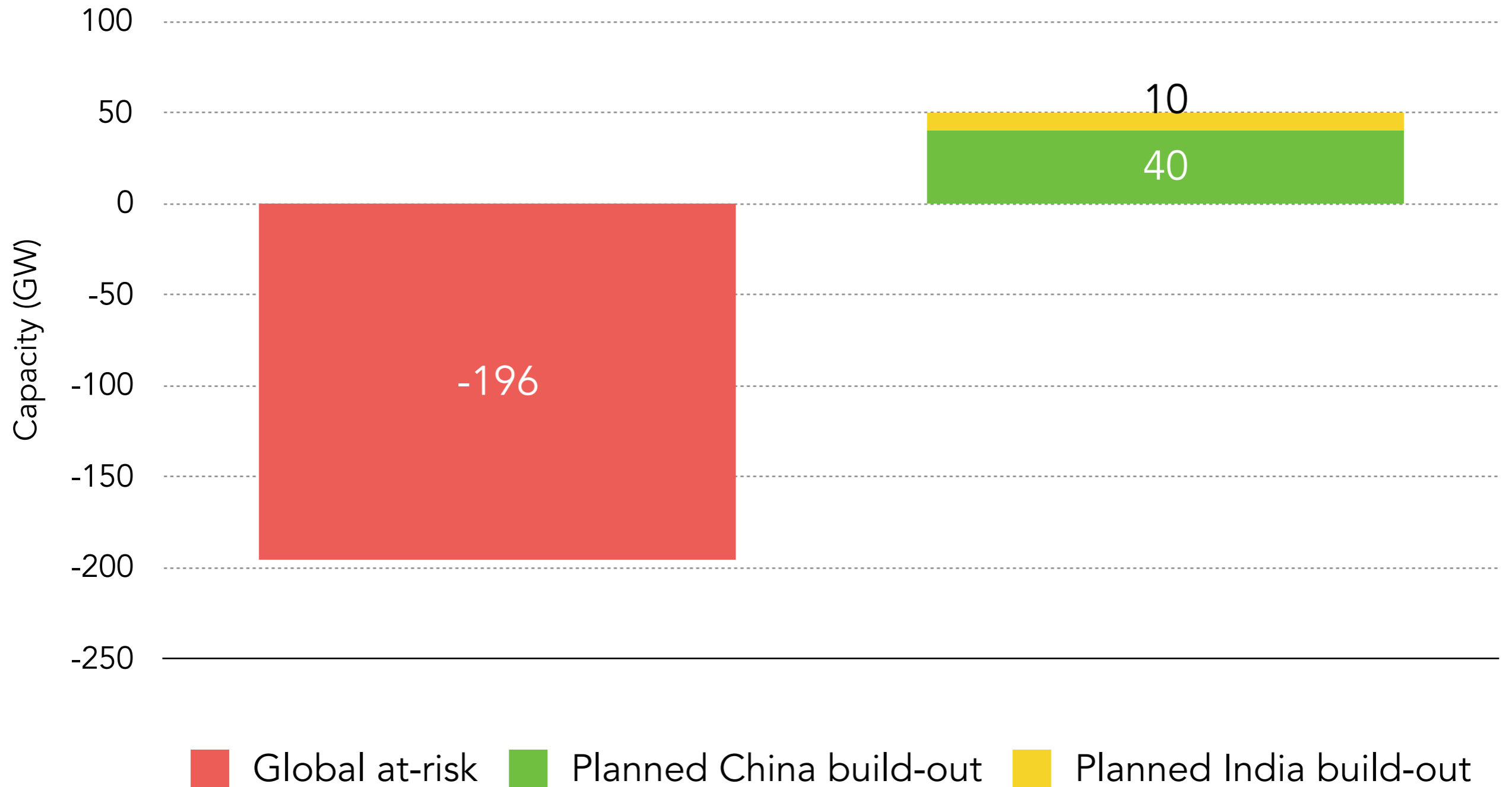
gigawatts



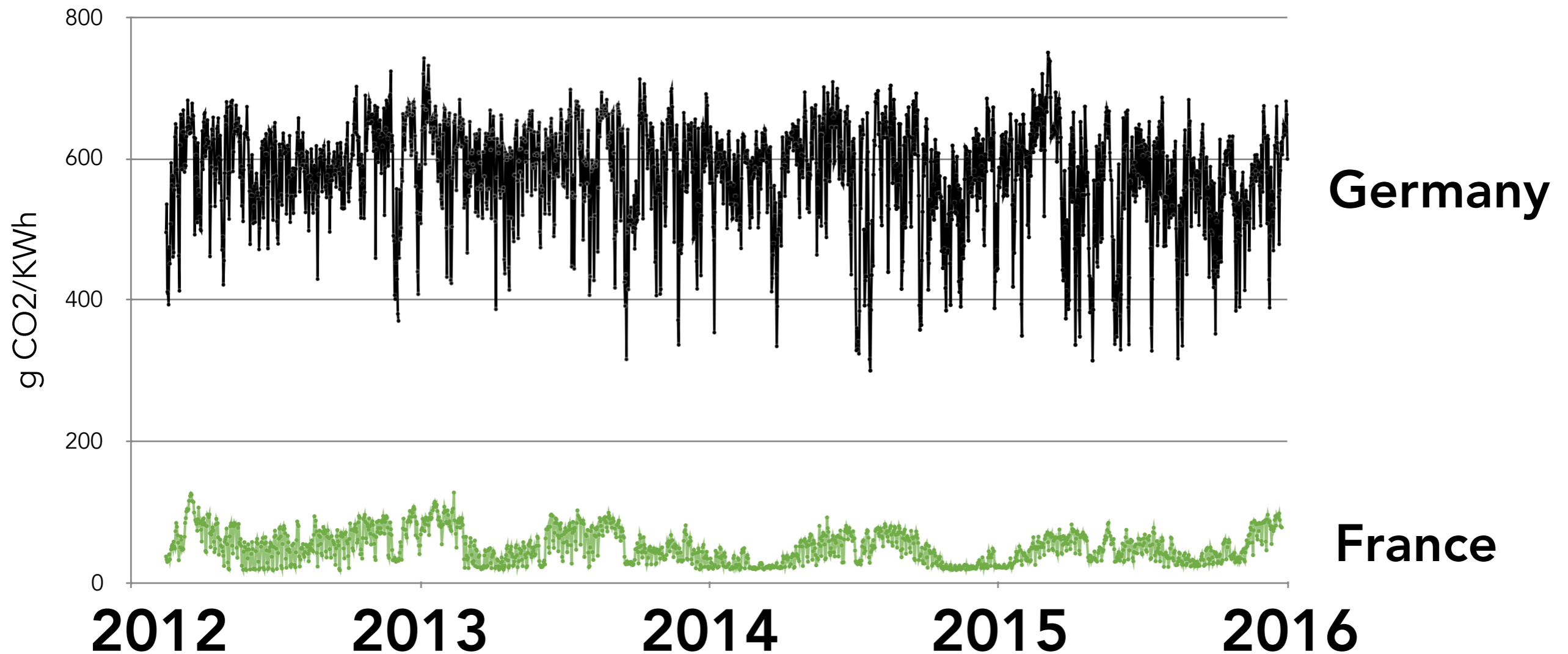
Source: U.S. Energy Information Administration, based on Institute of Energy Economics, Japan, and IAEA Power Reactor Information System



China and India are not building enough nuclear to make up the difference by 2030.



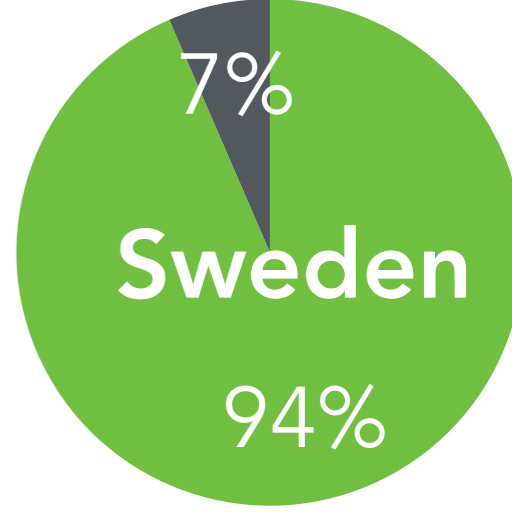
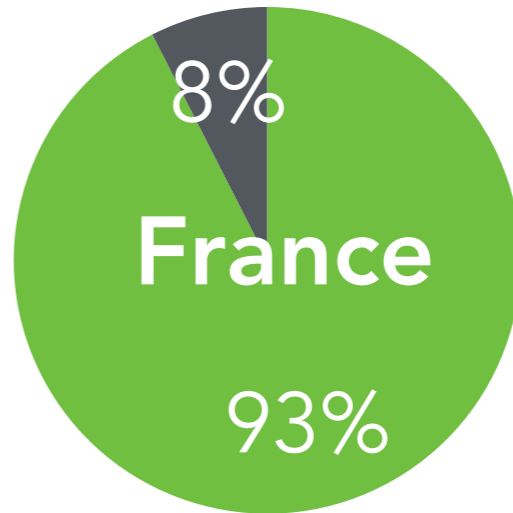
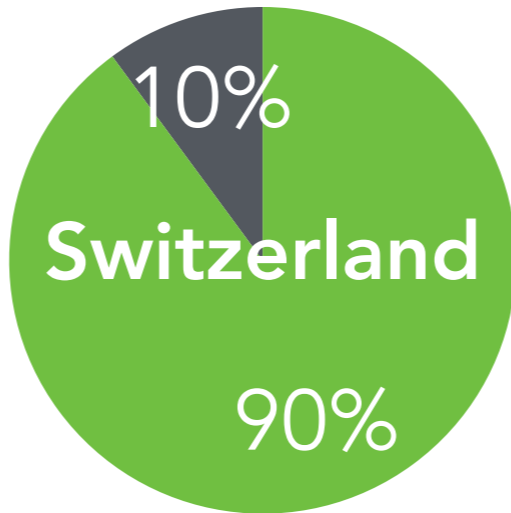
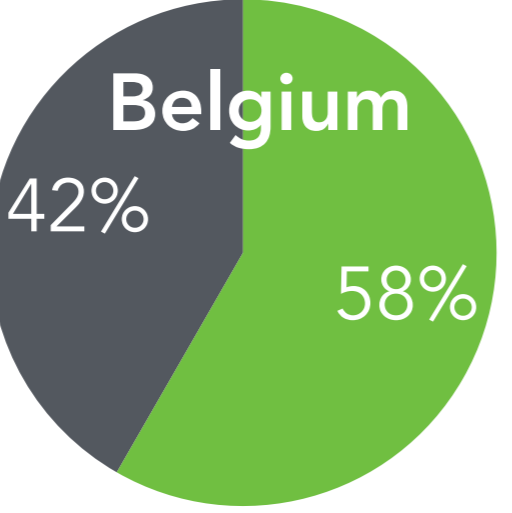
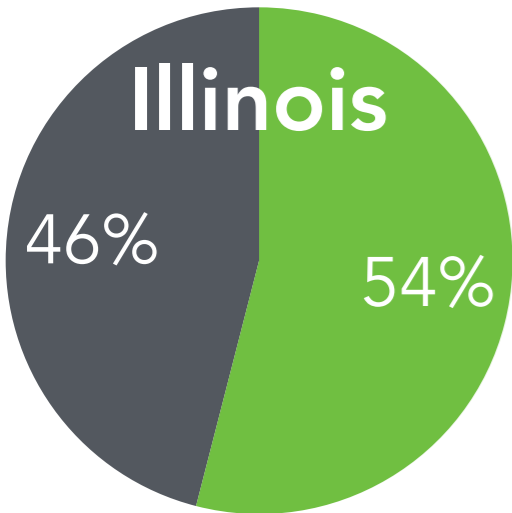
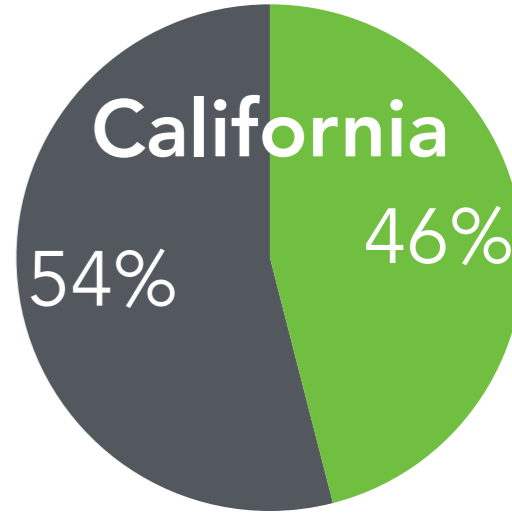
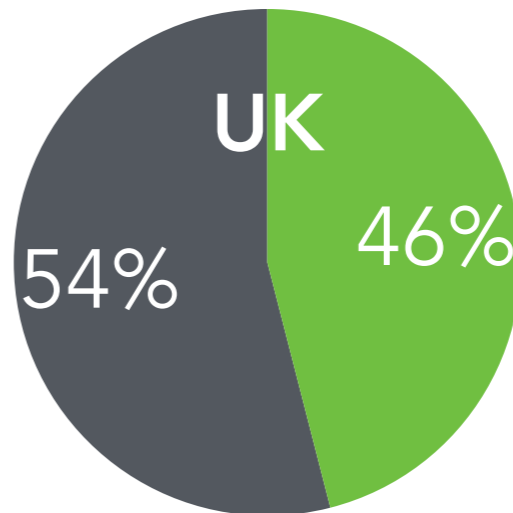
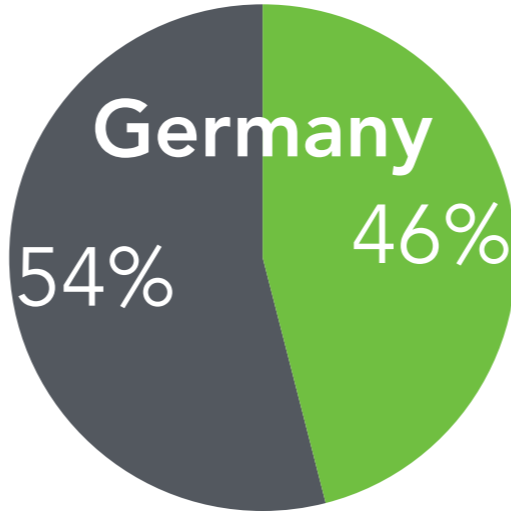
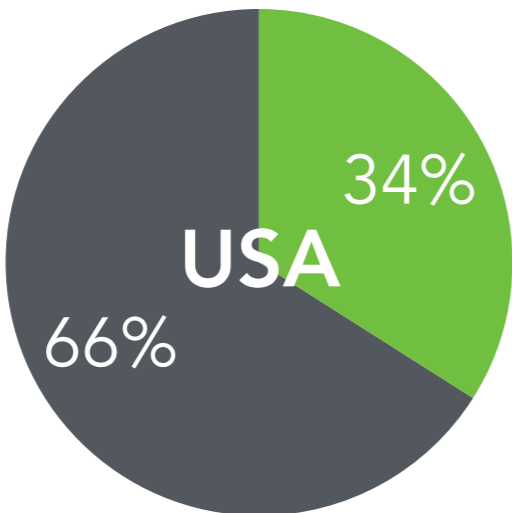
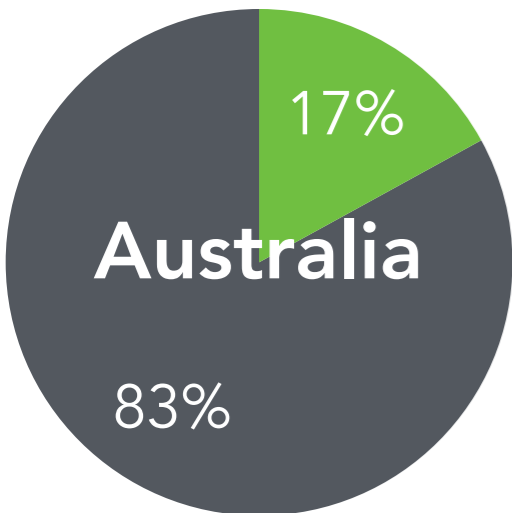
Electricity in Germany Remains 10x More Carbon-Intensive than in France



Sources: Daily German electricity production data from Fraunhofer ISE. Hourly French electricity production from RTE-France.

Methods: Calculation of German Specific Carbon Intensity uses values of 1100g, 950g, 350g, and 983g of CO2 per kWh for lignite coal, hard coal, natural gas, and biomass (respectively). Calculation of French Specific Carbon Intensity calculated by RTE-France.

Low-Carbon Share of Electricity Supply



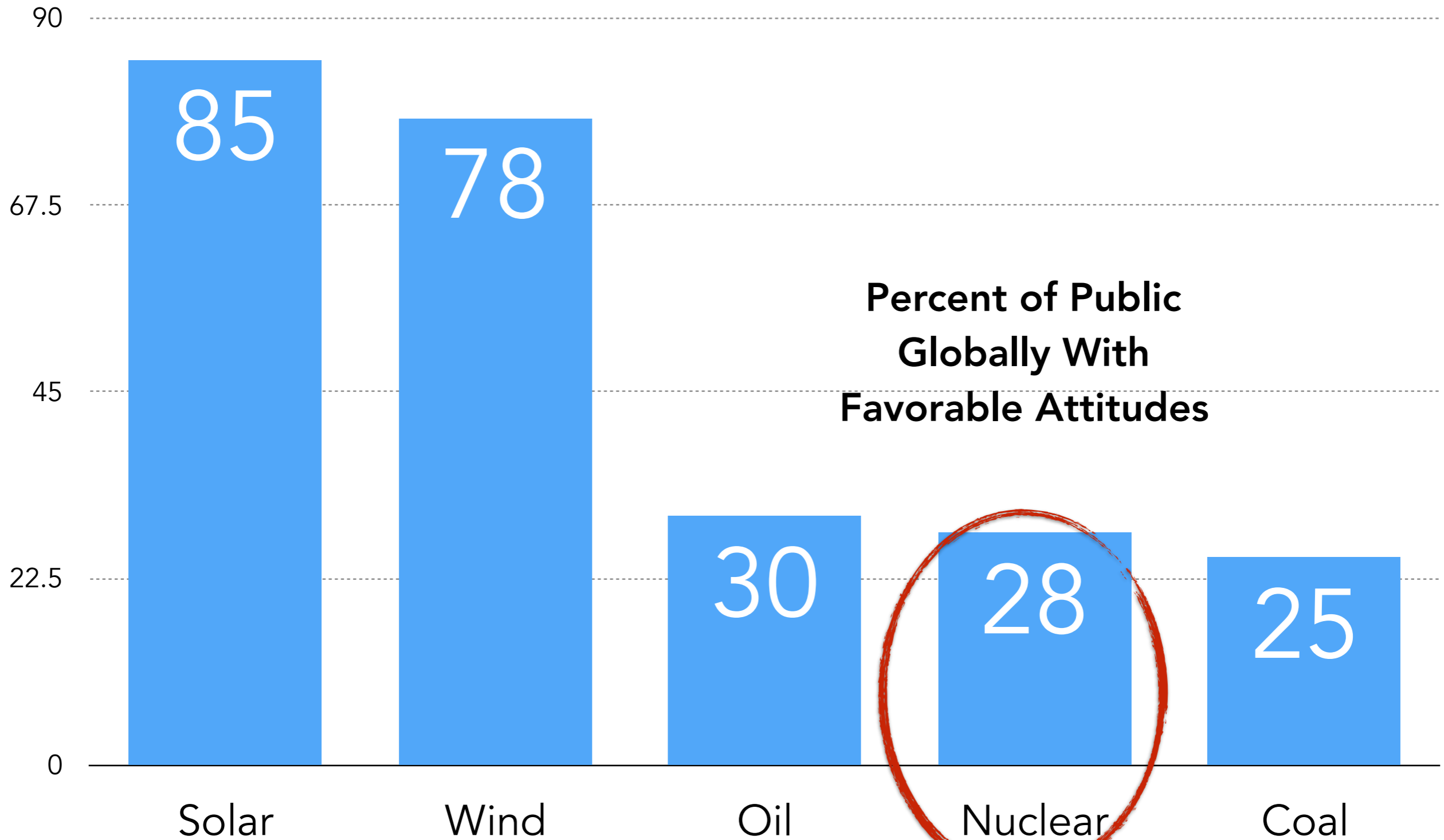
● Clean
● Dirty

The Storage Fantasy

California has 23 minutes of electricity storage — if you used every car and truck in the state along with existing storage.

Why is this happening?

Public fears nuclear...



Percent of Public Globally With Favorable Attitudes

They oppose it because they think it's dangerous.

Why do you oppose using nuclear energy as one of the ways to provide electricity for the U.S.?

Showing top 50 words



NUCLEAR ENERGY OPPOSITION. <i>Which of the following is the biggest reason you are opposed to using nuclear energy to provide electricity for the U.S.? Showing %</i>	Total	Democrats	Republicans	Independents
Nuclear waste	38	37	41	37
The threat of a meltdown like Fukushima	34	40	24	31
The threat of an attack on a nuclear facility	15	12	21	17
It encourages rouge countries, like Iran, to generate nuclear energy	5	3	10	3
It raises electric prices	2	1	3	0
Other	2	3	0	3
Don't know	5	4	0	9

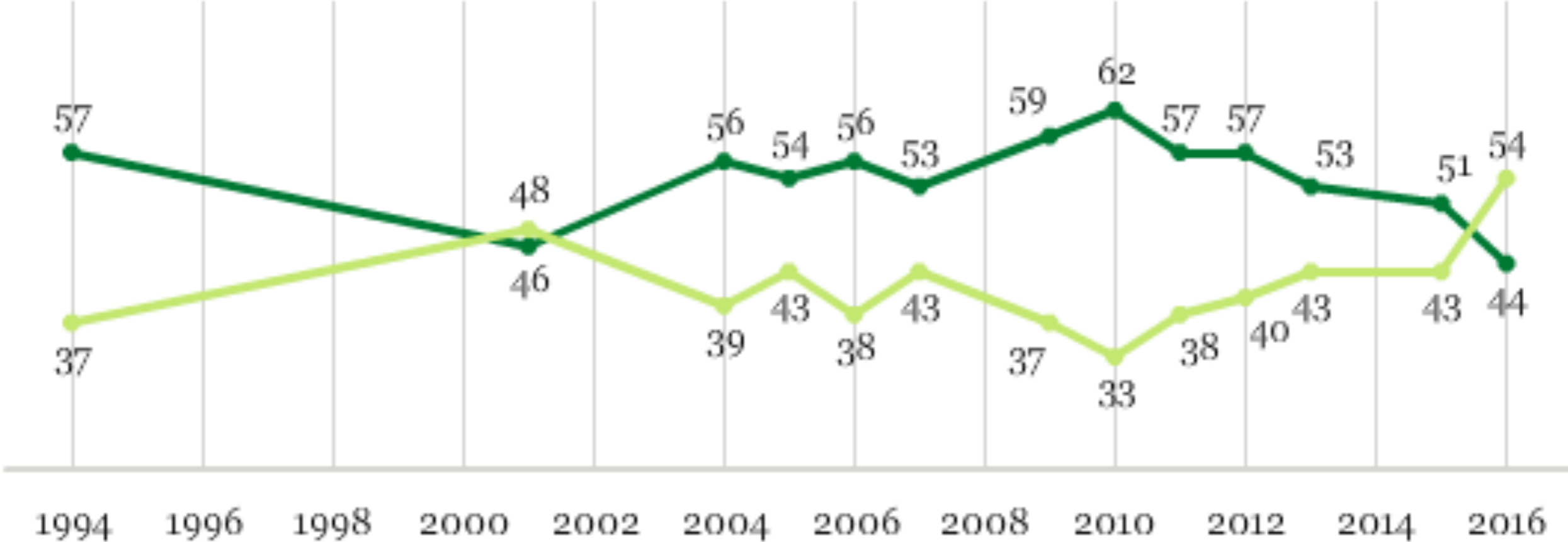
NUCLEAR ENERGY SAFETY. <i>Which of the following more closely describes nuclear energy? Showing %</i>	Total	Democrats	Republicans	Independents
Dangerous	57	68	50	49
Safe	32	27	41	31
Don't know	10	5	9	20

Nuclear support declined from 62% to 51% last five years

Majority of Americans Now Say They Oppose Nuclear Energy

Overall, do you strongly favor, somewhat favor, somewhat oppose or strongly oppose the use of nuclear energy as one of the ways to provide electricity for the U.S.?

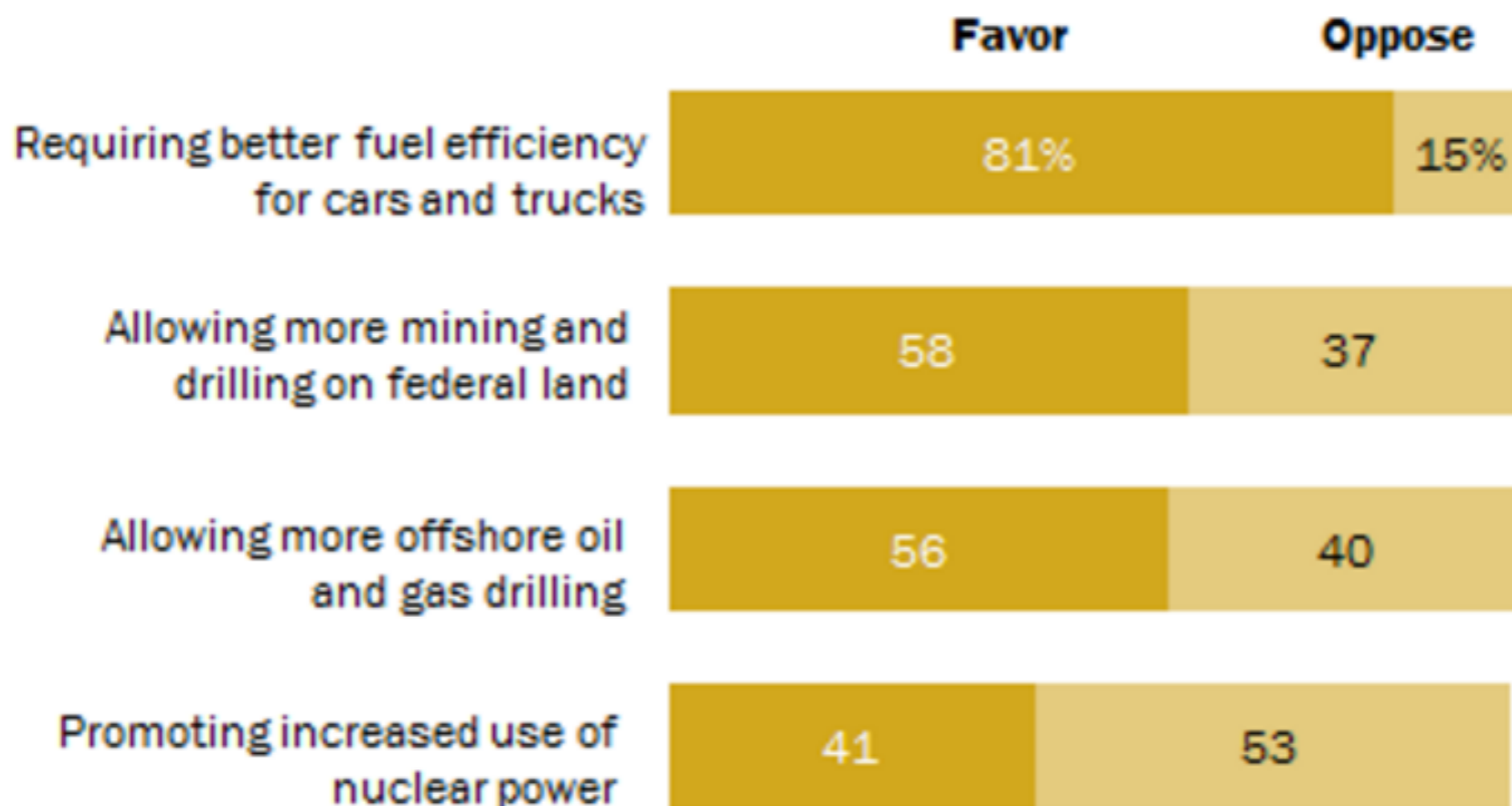
■ Total % favor ■ Total % oppose



Note: Surveys in 2001-2009 and 2012 asked this question of a half sample

Gallup: 53% Oppose "increased use" nuclear power

Views of Policies for Addressing U.S. Energy Supply

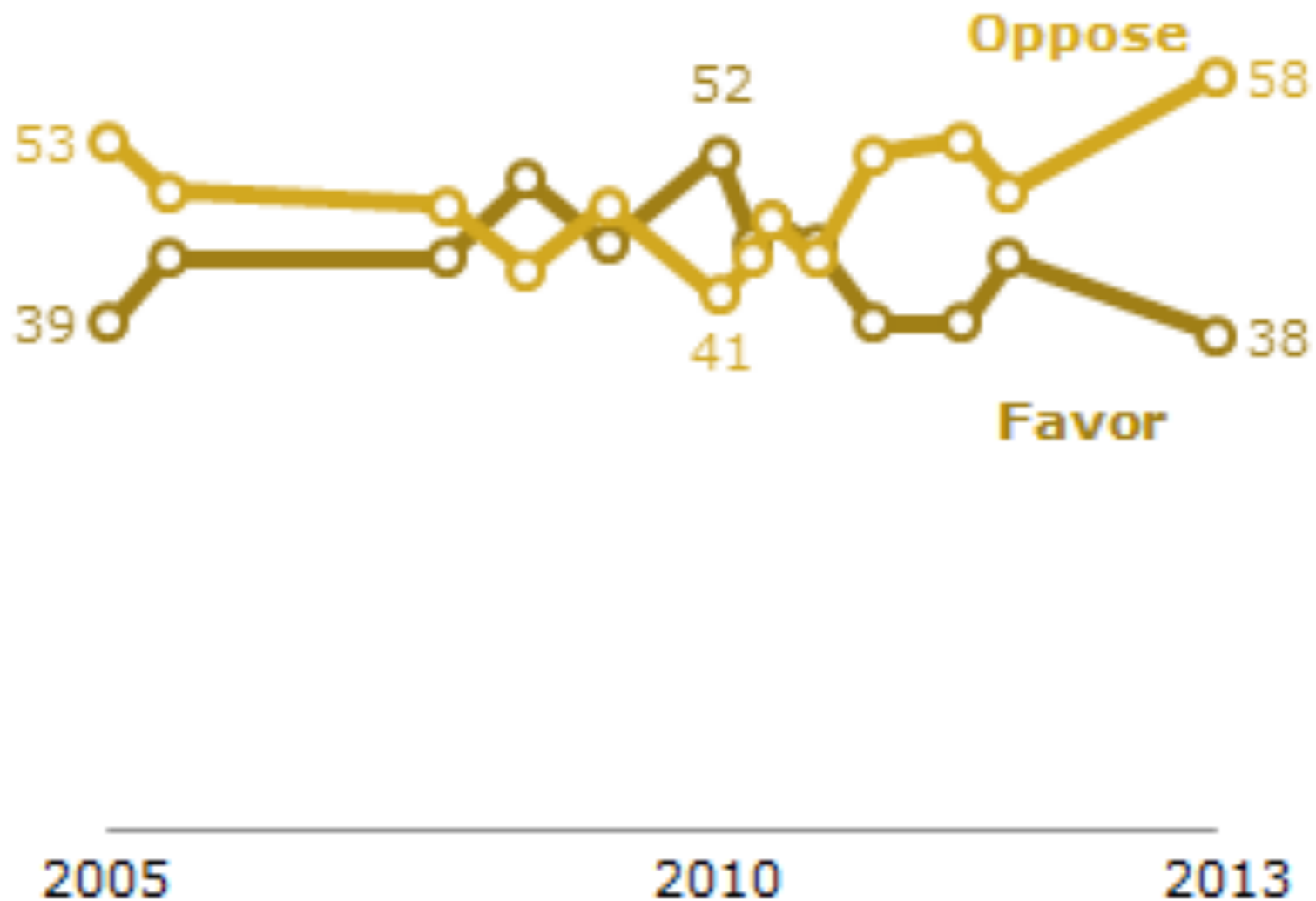


Survey conducted Dec. 3-7, 2014. Don't know responses not shown.

PEW RESEARCH CENTER

Pew: 58% oppose expanding nuclear power

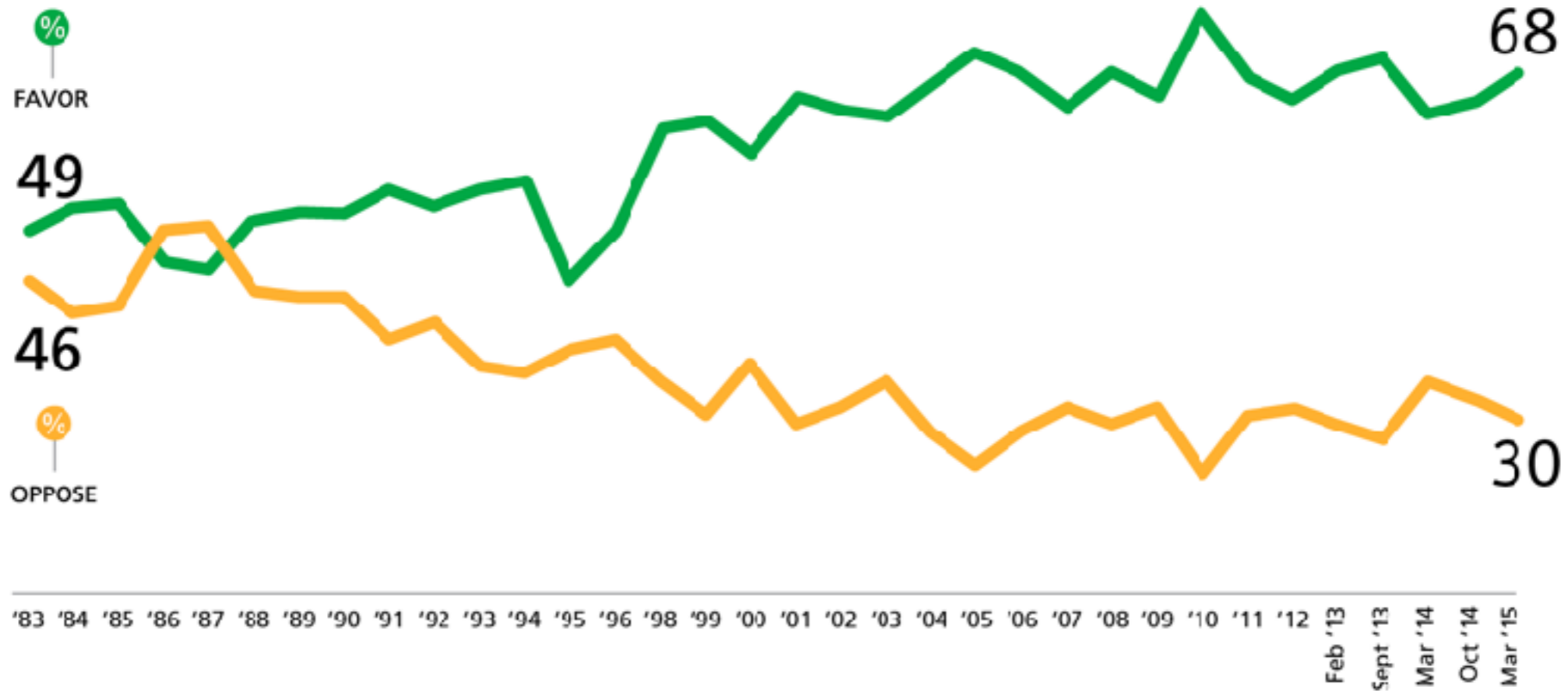
Promoting the Increased Use of Nuclear Power



PEW RESEARCH CENTER Sept. 4-8, 2013. Don't know responses not shown.

NEI polling excludes mention of solar and wind, thereby showing higher support for nuclear.

Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?



Bisconti Research, Inc. with GfK Roper and Quest Global Research



NUCLEAR ENERGY INSTITUTE

#futureofenergy



State clean energy standards exclude nuclear...

States with Renewable Portfolio Standards (mandatory) or Goals (voluntary),
January 2012

