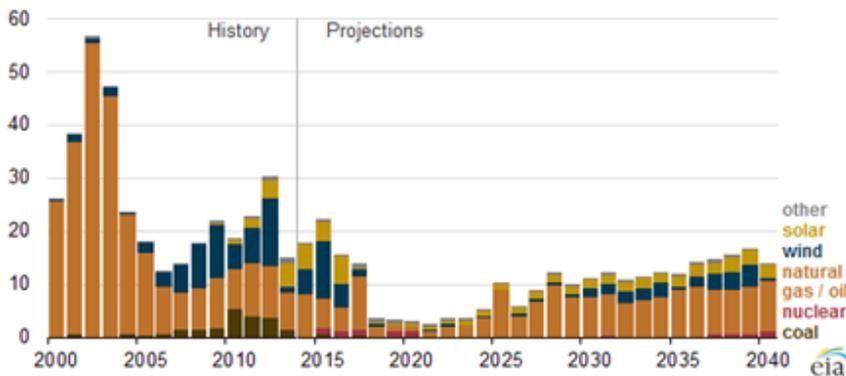


Guess what? US may not need much new capacity—Perry Sioshansi’s Letter From America

Tepid demand growth means little need for new capacity

Historically there was a lot of interest in how and who was going to invest in what type of capacity to meet growing electricity demand. But what if there is little or no increase in demand and little or no need to build anything, except for

Additions to electricity generating capacity in the AEO2015 reference case



Source: EIA

begin decreasing over time. In the reference case, 287GW is expected to be added by 2030, while 90GW is expected to retire. Other scenarios suggest less new capacity will be needed.

Moreover, with mandatory renewable portfolio standards in place in 30 states, much of new capacity additions are likely to be renewable.

“Capacity additions through 2017, much of which are under construction, average about 17GW per year and about half are non-hydro renewable plants (mainly wind and solar) prompted by federal tax incentives and renewable portfolio standards”, EIA said in a statement. “From 2018 to 2024, projected capacity additions average less than 4 GW per year, as earlier planned additions are sufficient to meet most growth in electricity demand.” In the context of a 1,000GW system, adding 4GW per annum amounts to very little.

The latest AEO2015 says that average annual capacity additions from 2025 to 2040 will average 12GW a year—mostly in natural gas-fired and renewable technologies. Between 2000-13, additions each year averaged 26GW.

The reference case also suggests that natural gas-fired plants will account for 58% of capacity additions through 2040. Renewable sources will account for 38% and nuclear for 3%.

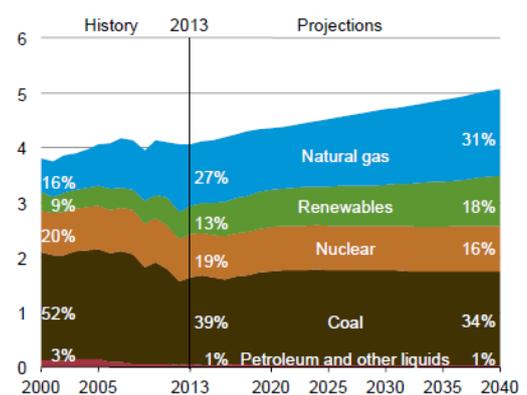
According to EIA, this is because “natural gas-fired combined-cycle plants are relatively inexpensive to build in comparison with new coal, nuclear, or renewable technologies, and are generally more efficient to operate than existing steam plants that may be powered by natural gas, oil, or coal”.

The renewable sources being added to the grid are being helped because of federal tax credits as well as renewable targets. In the EIA reference case, 109GW of renewable capacity is added to the grid, which includes 49GW of wind and 48GW of solar. AEO2015 says that 9GW will be added in nuclear—including 6GW from plants already under

some replacements for retiring plants or to replace aging and polluting coal-fired plants? That question is going to be asked more often in many rich countries facing little demand growth. Total installed capacity in the US has actually declined roughly 3GW since 2012, and no one seems to have even noticed.

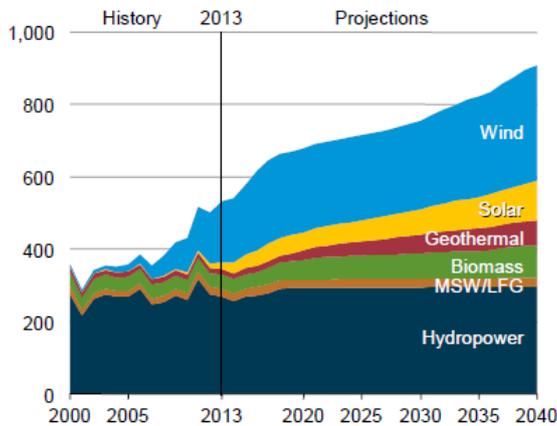
The latest release of the Energy Information Administration’s (EIA) *Annual Energy Outlook 2015* (AEO2015), says total US generating capacity is likely to increase modestly from 1,065GW in 2013 to 1,261GW by 2030 under the reference case. In this case, required capacity additions will

Not a lot of growth



Source: EIA

...And mostly renewable



Source: EIA

certain renewable energy technologies that are scheduled to expire under current law can also have a significant effect on projected capacity additions and retirements.”

Critics of the EIA point out that despite repeated upward revisions over the past few years, the agency—like many others—continues to under-estimate the potential growth of renewables and the relative demise of fossil fuel and nuclear technologies.

construction and another 3GW to be built after 2029. Coal will also add 1GW to the grid. Clearly nuclear and coal are not likely to be contributing to new generation capacity under any future scenario.

The reference case of electricity capacity only takes into account current rules and regulations, and because the Clean Power Plan (CPP) is not currently in place, the case did not factor that in to the reference case.

“The analysis in the AEO2015 includes several cases that examine different assumptions of macroeconomic growth, world oil prices, and higher oil and natural gas resource availability, which yield a range of projected capacity additions”, EIA explained. “Policies such as the proposed Clean Power Plan, or the continuation of tax credits for

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