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What About Nuclear Power Isn't Good?

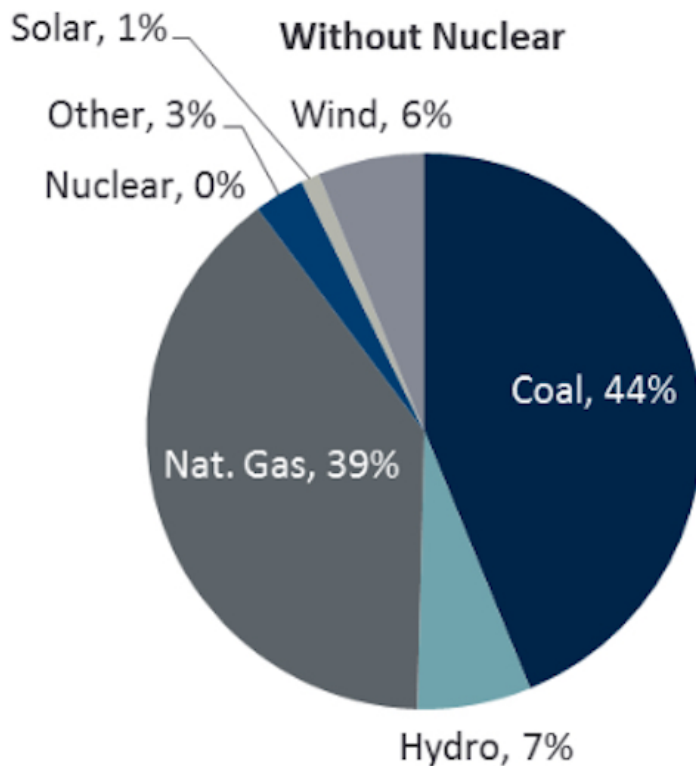
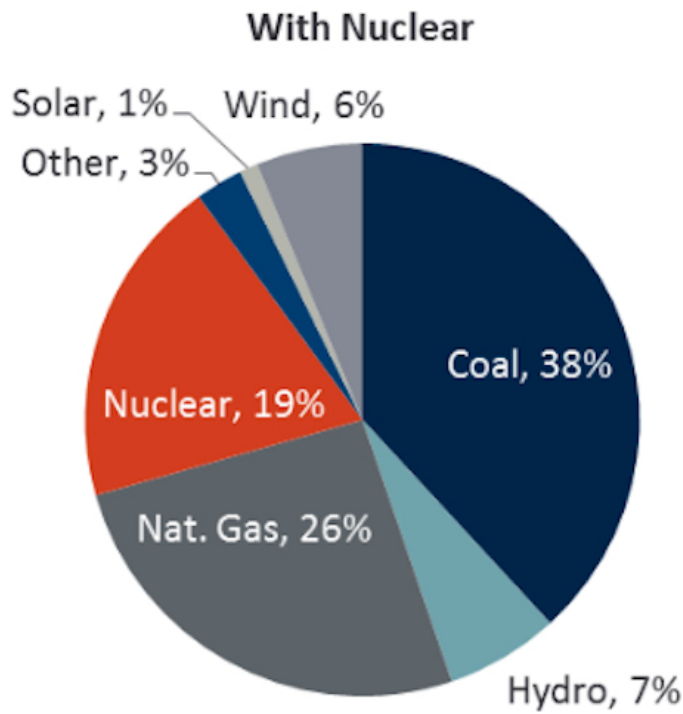
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Over the last fifty years, nuclear [energy](#) has proven to be the safest and most efficient of all energy sources, from both the human health and environmental perspectives. In total, to produce a trillion kWh of electricity, nuclear takes less land, uses less steel and concrete, has less emissions, kills fewer people, and has lower life-cycle costs than any other energy source.

America has 62 nuclear power plants with 99 operating reactors comprising over 100 thousand MW of installed capacity that produces 800 billion kWhs of electricity each year – about a fifth of America's power.

So what about nuclear power *isn't* good?

Apparently not much. A [new report](#) came out today analyzing the contributions of nuclear energy to our nation's economy. "*The Nuclear Industry's Contribution to the U.S. Economy*" by economists Dr. Mark Berkman, Dr. Dean Murphy and Mr. Stephen Lagos at [The Brattle Group](#), shows that nuclear energy plants contribute about \$60 billion annually to America's gross domestic product (GDP) and over \$100 billion in gross output.



United States Energy Mix with and without nuclear. Without nuclear, fossil fuel use would increase, along with a 23% increase in GHG emissions and an average electricity price increase of about 6%. Source: Nuclear Matters and The Brattle Group

In addition, the study discusses the other economic and societal benefits of nuclear power, especially in comparison to coal and natural gas, such as

- nuclear avoids 573 million tons of greenhouse gas emissions each year (worth \$25 billion if priced)

- nuclear supports 475,000 full-time jobs
- in energy markets having nuclear power, nuclear helps keep retail electricity prices about 6% *lower* compared to markets having no nuclear power
- annually nuclear provides \$10 billion in federal revenues, and \$2.2 billion in state tax revenues
- annually, nuclear avoids emitting 650,000 tons of nitrogen oxide and over one million tons of sulfur dioxide emissions which, according to National Academy of [Science](#) estimates, is worth about \$8.4 billion
- nuclear provides over two-thirds of our low-carbon energy and has prevented America from putting about 20 billion tons more of CO₂ into the atmosphere over the last 40 years.

Nuclear is also the energy source that is most immune to climatic changes and severe weather events.

The report, commissioned by [Nuclear Matters](#), estimated the value of nuclear power with a widely-used dynamic input-output model of the U.S. economy developed by Regional Economic Models Inc., together with the Brattle model of the U.S. electricity sector. By linking these models, the authors were able to measure the overall value of the U.S. economy with and without the nuclear industry, providing the most accurate picture to date of this power source's contribution to the overall economy.

This approach explicitly subtracts off the economic value of any alternative generation that would be necessary in the absence of nuclear power, to find the incremental contribution of the nuclear industry.

“The economic and environmental benefits of nuclear energy are often undervalued in national and state energy policy discussions,” said Berkman, co-author and Principal at The Brattle Group.

These figures are even more important in light of potential attempts to close nuclear plants prematurely, as is being attempted on many single merchant nuclear plants.

“Reducing carbon emissions is one of our country’s top priorities,” admitted former Senator Evan Bayh (D-IN), co-founder, along with former Senator Judd Gregg (R-NH), of the bipartisan Nuclear Matters. *“And yet, in this carbon-constrained world, existing nuclear energy plants receive no value for their ability to generate an astounding amount of carbon-free, reliable energy. Without nuclear power, it would be impossible to achieve our carbon reduction objectives.”*

Fortunately, the way America values our energy sources is beginning to evolve into a more holistic approach. It's not just about overnight costs anymore.

[2015.30 Under 30: Energy](#)

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