# 1NC

**We negate** that the United States should increase its use of nuclear power

## C1: Killing Renewables

#### Nuclear power construction is too slow, expensive, and unsustainable for fighting climate change. However, renewables are rapidly expanding

**Dunai 19**

Marton Dunai & Geert De Clercq, 9-24-2019, "Nuclear energy too slow, too expensive to save climate: report," Reuters, https://www.reuters.com/article/us-energy-nuclearpower/nuclear-energy-too-slow-too-expensive-to-save-climate-report-idUSKBN1W909J

BUDAPEST/PARIS (Reuters) - **Nuclear power is losing ground to renewables** **in** terms of **both** **cost and capacity** **as** its **reactors** **are** increasingly seen as **less economical and slower to reverse carbon** **emissions**, an industry report said. **In** mid-**2019**, **new wind and solar** **generators** **competed** **efficiently** **against** even **existing nuclear power plants** **in** **cost** terms, **and grew generating capacity** **faster** **than** **any other power** **type**, the annual World Nuclear Industry Status Report (WNISR) showed. “**Stabilizing the climate is** **urgent [but]**, **nuclear power is slow**,” said Mycle Schneider, lead author of the report. “It meets no technical or operational need that low-carbon competitors cannot meet better, cheaper and faster.” The report estimates that **since 2009 the average construction** **time** **for reactors** worldwide **was just under 10 years**, well above the estimate given by industry body the World Nuclear Association (WNA) of between 5 and 8.5 years. **The extra time that nuclear plants take to build** **has** **major implications for climate** **goals**, **as** existing **fossil-fueled plants continue to emit CO2 while awaiting** **substitution**. “**To protect the climate**, **we** **must abate** **the most carbon at the least cost and in the least time**,” Schneider said. The WNA said in an emailed statement that studies have shown that nuclear energy has a proven track record in providing new generation faster than other low-carbon options, and added that in many countries nuclear generation provides on average more low-carbon power per year than solar or wind. It said that reactor construction times can be as short as four years when several reactors are built in sequence. **Nuclear is also much more** **expensive**, the WNISR report said. The **cost** **of generating solar power** **ranges from $36 to $44 per megawatt hour** (MWh), the WNISR said, **while** onshore wind power comes in at $29–$56 per MWh. **Nuclear energy costs between $112 and $189**. **Over the past decade**, the WNISR estimates levelized costs - which compare the total lifetime cost of building and running a plant to lifetime output - for **utility-scale solar** have **dropped by 88% and for wind by 69%. For nuclear**, **they** have **increased by 23%**, it said. Capital flows reflect that trend. In 2018, China invested $91 billion in renewables but just $6.5 billion in nuclear. In the United States, renewable capacity is expected to grow by 45 GW in the next three years, while nuclear and coal are set to retire a net 24 GW. China, still the world’s most aggressive nuclear builder, has added nearly 40 reactors to its grid over the last decade, but its nuclear output was still a third lower than its wind generation. Although several new nuclear plants are under construction, no new project has started in China since 2016. Global nuclear operating capacity has increased 3.4% in the past year to 370 gigawatts, a new historic maximum, but with renewable capacity growing quickly, the share of nuclear in the world’s gross power generation has stayed at just over 10%. In the decade to 2030, 188 new reactors would have to be connected to the grid to maintain the status quo, which is more than three times the rate achieved over the past decade, the WNISR estimates. In May, the International Energy Agency warned reut.rs/2mqcG8j that a steep decline in nuclear capacity will threaten climate goals, as advanced economies could lose 25% of their nuclear capacity by 2025.

#### Expanding nuclear crowds out spending for faster and more cost-effective alternatives in providing zero carbon power

**Cooper 19**

Mark Cooper, 8-xx-2019, “THE ENDGAME FOR NUCLEAR POWER: A DESPERATE PUSH FOR SUBSIDIES IN THE 2019 TAX EXTENDERS”, Institute for Energy & Environment @ Vermont Law School, <https://1bps6437gg8c169i0y1drtgz-wpengine.netdna-ssl.com/wp-content/uploads/2019/10/2019-10-22_Final-FOE-ITC-Study.pdf>

Since that is the history, the only legitimate question is, why stop now, **why not increase subsidies to nuclear power** instead of allowing uneconomic plants to retire? **The answer is straightforward**: **Nuclear** **has failed** for over 50 years **to control its costs**, **even with help** **from massive subsidies**, and **alternatives** **are available** to **reduce greenhouse gas emissions at a much lower** **cost**. However, the **alternatives** **need to penetrate the supply side** as quickly as possible, **while** utilities and **grid operators build the physical** and institutional **infrastructure to manage the 21st -century electricity system**. The **continued operation** **of nuclear reactors**, **with** their **huge**, **inflexible quantities of “must-run” generation**, **gets** **in the way**. **Nuclear advocates** are **pushing subsidies** **now** precisely **because** **they have become** so **uneconomic**, they are **beginning to retire**, **and** **there is** **no chance they** **will** **ever** be able to **compete**. By **keeping reactors online** in the near term, the industry **crowds out the alternatives**, **as nuclear power has always done**. Unfortunately, bad economic analysis of nuclear power can enable bad policy outcomes. This paper looks at the push by nuclear utilities for new tax subsidies from three points of view. First, it considers the consequences of including an ITC for existing reactors as a tax extender. It estimates the cost to ratepayers and taxpayers over the short, medium, and long term.

#### [In fact], every dollar spent on nuclear produces one-fifth the clean energy that we would get out of renewables

**Cirino 19**

Heidi Hutner & Erica Cirino, 5-28-2019, "Nuclear power is not the answer in a time of climate change – Heidi Hutner &amp; Erica Cirino," Aeon, https://aeon.co/ideas/nuclear-power-is-not-the-answer-in-a-time-of-climate-change

Lassiter and several other energy experts advocate for the new, Generation IV nuclear power plants that are supposedly designed to deliver high levels of nuclear power at the lowest cost and with the lowest safety risks. But other experts say that the benefits even here remain unclear. The biggest critique of the Generation IV nuclear reactors is that they are in the design phase, and **we don’t have time to wait** for their implementation. **Climate** abatement **action is needed immediately**. ‘New nuclear power seemingly represents an opportunity for solving global warming, air pollution, and energy security,’ says Mark **Jacobson**, **director** of **Stanford** **University’s** **Atmosphere** and **Energy Programme**. But it makes no economic or energy sense. ‘**Every dollar spent on nuclear** **results** **in one-fifth the energy** **one would gain with wind or solar [at the same cost]**, **and** **nuclear** energy **takes five to 17 years longer before it becomes available**. **As such,** **it is impossible for** **nuclear to help with climate goals of reducing 80 per cent of emissions by 2030**. Also, while we’re waiting around for nuclear, coal, gas and oil are being burned and polluting the air. In addition, nuclear has energy security risks other technologies don’t have: weapons proliferation, meltdown, waste and uranium-worker lung-cancer risks.’ Around the world, 31 countries have nuclear power plants that are currently online, according to the International Atomic Energy Agency. By contrast, four countries have made moves to phase out nuclear power following the 2011 Fukushima disaster, and 15 countries have remained opposed and have no functional power plants.

#### [Ultimately,] Increasing nuclear power destroys the renewable energy market

**Karlin 18**

Max Karlin, 6-06-2018, “Experts: Nuclear Bailout Could Cost up oto $17 Billion a Year and ‘Destroy’ Renewables Industry In US”, Nuclear Information & Resource Service, <https://www.nirs.org/press/experts-nuclear-bailout-could-cost-up-to-17-billion-a-year-and-destroy-renewables-industry-in-u-s/>

The controversial Trump Administration plan to nationalize the nuclear energy marketplace could cost U.S. consumers up to $17 billion a year in artificially high electricity bills, with the prospect of extensive coal-fired power plant subsidies potentially doubling that figure. Further, **the bailouts of nuclear** and coal **could** **trip** **up** **America‘s renewables industry**, **leaving** **the U.S.** even **further behind in the global race** **for** **clean** **energy** technology **development** **and deployment**, according to three experts participating in a news conference today. Today, the Nuclear Information & Resource Service (NIRS) updated and expanded the nuclear bailout costs estimated in its November 2016 report that concluded that federal handouts for nuclear alone could add up to $280 billion to electricity bills by 2030. A bailout of coal-fired power plants would leave ratepayers and taxpayers holding the bag for even more. NIRS estimates that the current Trump bailout scheme could cost consumers $8-$17 billion for just the nuclear element and as much again for coal subsidies. Forcing the purchase of overpriced and non-competitive nuclear and coal power also would crowd out renewables, leaving the U.S. farther behind in wind, solar and energy storage technology development and use. Tim Judson, executive director, Nuclear Information & Resource Service (NIRS), said: “**By pushing for** a **nationwide** **bailout for nuclear power** and coal, the **Trump** administration **is rushing headlong** **into** **an energy buzz saw**, and they don’t even seem to know it. **Subsidizing** the **nuclear** industry **alone** **is** **likely** **to** cost American consumers $8 billion to $17 billion per year, and subsidies for coal could cost just as much. Betting on old, increasingly uneconomical nuclear and coal power plants as a national security strategy is like gold-plating a Studebaker and calling it a tank. **And it could** **destroy** **the booming renewable energy industry**, **which** **is** **already employing more** Americans **than coal and nuclear combined**.” Peter A. Bradford is a former member of the U.S. Nuclear Regulatory Commission (NRC) and former chair of the Maine and New York utility commissions. Bradford also taught energy policy and law at the Vermont Law School. Commenting on the bailout scheme, Bradford said: “The Trump Administration’s desire to tax American consumers to support failing power plants is energy policymaking gone haywire. As was said in the runup to the 2003 invasion of Iraq, the facts are being fixed around the desired end result. We have no military crisis and no threats of our system reliability or resilience that require this drastic and expensive governmental intervention.

**The impact is reducing emissions:**

#### The US is currently dramatically reducing emissions through renewable energy

Mark **Hand**, xx-xx-20**18**, "Renewables, not natural gas, were main driver behind drop in U.S. power sector emissions in 2017," No Publication, https://thinkprogress.org/carbon-emissions-decline-with-renewables/

**The growth of clean energy in 2017 was one for the record books: Last year was the first time a reduction in U.S. power sector carbon emissions could be attributed** more to renewable energy and energy conservation than the nation switching from coal to natural gas to generate electricity. Carbon emissions from the power sector dropped 4.2 percent in 2017, this time on the back of declining load and greater renewable generation, according to a new report from Bloomberg New Energy Finance (BNEF). In 2016, switching from coal to natural gas for power generation was the primary driver of the 5.8 percent downturn in carbon emissions. Power-sector emissions are also declining compared to other parts of the U.S. economy. For decades, the power sector had been the nation’s biggest source of carbon emissions. But as emissions from the electricity sector plummeted again in 2017, transportation retained its place as the largest carbon-emitting sector for the second year in a row, BNEF researchers wrote in the 2018 edition of the “Sustainable Energy in America Factbook.” BNEF produced the publication for the Business Council for Sustainable Energy. **With the near-record deployment of renewable energy resources across the country, U.S.** greenhouse gas **emissions hit a 25-year low** in 2017. **Power-sector emissions now sit 28 percent below their 2005 peak**, which puts the U.S. only 4 percentage points away from achieving its former Clean Power Plan target of 32 percent below 2005 levels by 2030, according to BNEF. **The rapid emissions reduction also helped to bring the nation halfway to its Paris climate agreement target of slashing economy-wide emissions to 26 percent below 2005 levels by 2025**. Last summer, President Donald Trump announced that the United States would initiate the formal process to withdraw from the Paris agreement. In response to the proposed withdrawal from Paris and fading federal-level climate action, **sub-national actors have created alliances to** support **continue**d **progress on U.S. greenhouse gas reduction targets**. California Gov. Jerry Brown with German Federal Minister for the Environment Barbara Hendricks. CREDIT: AP Photo/Linda Wang Cities and states solidify their plan to move forward on climate without Trump The most recent “State of Green Business Report” noted that 71 Fortune 100 companies have a public target for renewable energy. Of those companies, 21 have committed to using 100 percent renewable energy, Andy Bilich, a clean energy analyst for the Environmental Defense Fund, wrote in a blog post about the BNEF report. “Despite attempts by the Trump administration and the coal industry to limit clean energy in favor of fossil fuels — including a tariff on solar energy, a thinly disguised bailout for coal and nuclear power plants (that was rightly rejected), and a dramatic proposed cut to energy research — we are accelerating the transition to a cleaner electric grid,” Bilich said. Renewable energy generation, including hydropower, climbed 14 percent to an estimated 717 terawatt hours in 2017, from 628 terawatt hours in 2016. The growth brought renewables to 18 percent of total U.S. generation, double their contribution a decade ago. Renewables set new highs in 2017 due to a rebound in hydropower as reservoir levels on the West Coast recovered after a prolonged drought. Also, the large number of wind and solar projects built in 2016 had their first full year of operation in 2017, boosting non-hydro renewable energy generation by 15 percent to 413 terawatt hours, according to BNEF. 2017 showed the global clean energy revolution is unstoppable no matter what Trump does Cost also is contributing to the rapid growth of wind and solar energy. According to a separate study released late last year, building and running new renewable energy is now cheaper than just running existing coal and nuclear plants in many areas. A widely-used yearly benchmarking study — the Levelized Cost of Energy Analysis (LCOE) from the financial firm Lazard Ltd. — reached this conclusion: In many regions “the full-lifecycle costs of building and operating renewables-based projects have dropped below the operating costs alone of conventional generation technologies such as coal or nuclear.”

#### Renewable energy is imperative in reducing emissions

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Interestingly, results from Model 2 of Table 4 also indicate that, while change in the proportion of national income held by the top 20% of earners does not have a direct effect on emissions until roughly three fourths of all energy consumption is drawn from renewable sources, increasing the share of income held by the bottom 20% of earners ap- pears to reduce emissions regardless of renewable energy consumption status (see Table 5). In order to examine this result further, in Model 3 of Table 4 we interact the share of national income held by the bottom 20% of earners with renewable energy consumption. Findings of Model 3 suggest that, though there is no significant interaction between re- newable energy consumption and change in the share of income held by the bottom 20% of earners, increasing the share of income of the bottom 20% of earners has a significant negative effect on CO2 emis- sions that is of a notable magnitude. Specifically, we find that **growing the share of total energy consumption from renewable sources by 1% is estimated to reduce CO2 emissions per capita by .357%,** while in- creasing the proportion of national income that is earned by the bottom 20% of earners decreases CO2 emissions per capita by .322%.

#### Current carbon emissions are a leading cause of death in the US

**Mcquate 19**

Sarah Mcquate, 11-20-2019, "Emissions from electricity generation lead to disproportionate number of premature deaths for some racial groups," UW News, https://www.washington.edu/news/2019/11/20/electricity-generation-emissions-premature-deaths/

**Air pollution doesn’t just come from cars on the road, generating electricity from fossil fuels also releases fine particulate matter into the air.** In general, fine particulate matter **[AND]** **can lead to heart attacks, strokes, lung cancer and other diseases, and is responsible for more than 100,000 deaths each year in the United States. N**ow University of Washington researchers have found that air pollution from electricity generation emissions in 2014 led to about 16,000 premature deaths in the continental U.S. In many states, the majority of the health impacts came from emissions originating in other states. The team also found that exposures were higher for black and white non-Latino Americans than for other groups, and that this disparity held even after accounting for differences in income.