

March '20 Blockfile (TFA State)

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A2 Aff (Nuclear Power Good)

A2 Air Pollution

1. Mariotte of the NIRS explains that, as uranium becomes scarce, we would have to use more energy to extract the same amounts of uranium. Mariotte concludes that, going forward, nuclear energy will release just as much carbon dioxide as natural gas, if not more.

Commented [1]: in the neg case

A2 Climate Change

1. Turn. Fleming '07 of TEQ explains that the process of enriching uranium for nuclear powers use requires the addition of fluorine. Unfortunately, the nuclear process creates hexafluorine gases

that are released into the environment by accident. Fleming concludes that these gases are 10,000 times more destructive to the environment than carbon dioxide.

2. Turn. [The Wall Street Journal](#) explains that the process of mining uranium releases carbon dioxide into the atmosphere. [Mariotte of the NIRS](#) explains that, as uranium becomes scarce, we would have to use more energy to extract the same amounts of uranium. [Mariotte](#) concludes that, going forward, nuclear energy will release just as much carbon dioxide as natural gas, if not more.

A2 US Leadership → Non-Prolif

1. Trump pulled out of the Iran nuclear deal and has isolated us from the rest of world, so even if we increased nuclear production Trum likely won't negotiate treaties.
2. India, North Korea, Israel, and Pakistan all broke non proliferation treaties. Any country that wants nuclear weapons can get them regardless of treaties.

A2 Safety Regulations

1. [Jaczko '19 of the Washington Post](#) explains that even after Fukushima, when safety reforms were being pushed for, the nuclear energy industry disapproved, watered down or deferred many of the safety recommendations. They only ended up implementing a few modest reforms instead of the improvements that were needed.

A2 Carbon Lock-in

A2 Reliability

A2 More Energy

A2 Natural Gas Tradeoff

A2 Developing World Spillover

1. DA: Accidents bad in the developing world

A2 Neg (Nuclear Power Bad)

A2 Solar/Wind Better

1. Defense. [Rhodes '18 of Yale](#) explains that nuclear energy only produces emissions during the construction and maintenance aspects of its running, the same as solar and wind, producing no more emissions than other forms of greentech.
2. Turn. [Rhodes '18 of Yale](#) explicates that nuclear power is a better form of green energy because it has a higher capacity factor, functioning at full power for a greater share of the year. In fact, nuclear power operates at full capacity 92.3% of the time, whereas hydroelectric, solar, and wind power all operated at capacity less than 40% of the time, creating a reliable transition to fully renewable energy.

A2 Nuclear Meltdowns

1. Defense. [Shellenberger '19](#) writes that the worst nuclear meltdown in history, Chernobyl, was the result of a lack of regulation and little oversight in Soviet Russia, which wouldn't happen now because regulations are much stricter. Moreover,
2. Defense. [Shellenberger '18 of Forbes](#) explains that nuclear meltdowns aren't actually that dangerous, but governments and media outlets overreact, stoking public fear of nuclear energy. In fact, two of the most notorious meltdowns in recent history -- Fukushima and Three Mile Island -- killed zero people total.

A2 Labor Shortage

1. Turn. [Diesendorf '18 of Energy Post](#) explains that solar and wind have more severe worker shortages, quantifying that it would take ten years to train workers to switch to renewable energy.

A2 Uranium Scarcity

1. [Oberhaus '19 of Wired](#) explains that the United States is attempting to abandon uranium reactors as the Nuclear Energy Leadership Act calls for the demonstration of two more advanced clean nuclear reactors by 2025 and up to five other reactor demonstrations by 2035. The most likely advancement will be towards thorium as [Mandala '19 of the University of Pittsburgh](#) explains that the United States' nuclear program is centered around thorium as it is undeniably the future of nuclear energy. (someone can write this better- the implications are pretty obvious)
2. Defense. [Conca '19 of Forbes](#) writes that we have more uranium right now than we would need in order to use nuclear power for hundreds of years as our primary energy source.
3. Defense. [Partanen '19](#): We won't run out of uranium until climate change kills us or we solve it.
 - A) We have 80 years of uranium stockpiled for use right now.
 - B) The price of uranium will rise and increase exploration of uranium, every time we've looked for uranium we've found it. Nuclear reactors also are getting better at using uranium more efficiently.
 - C) Alternative sources like coal ash, sea extraction, and phosphate extraction ensure that we'll have uranium for centuries and are becoming price competitive right now.

Commented [2]: "2025"

Commented [3]: "undeniably the future"

A2 Disposal

1. Defense. [Rhodes '18 of Yale](#) explains that the US Waste Isolation Pilot Plant, which stores nuclear waste in impenetrable lead barrels in the remains of an ancient sea, could store the entire world's nuclear waste for the next 1,000 years, providing a safe place to store waste effectively infinitely.

A2 Water Shortages

1. Defense. [Styles '18 of Stanford](#) writes that nuclear energy consumes either similar or less water than all other comparable forms of energy. He concludes that nuclear energy is one of if not the most viable energy sources when it comes to water consumption.

A2 Native Americans

1. Defense. Conca '19 of Forbes writes that we have more uranium right now than we would need to use nuclear power for hundreds of years as our primary energy source. This means we won't need to mine anymore uranium for the long term.
2. Defense. Shellenberger '19 of Quillete: renewables generate more waste from rare earth minerals that we ship to poor communities in Africa and Asia.

A2 Mining

1. Defense. Johnson '18 of Grist explains that uranium miners are exposed to roughly 4 percent of the federal limit of radiation for x-ray technicians and other workers who deal with radiation. This shows the amount of radiation they deal with is safe and that the effects of this radiation is exaggerated, because if it was true, we should be seeing these effects in x-ray technicians. Nativ
2. Turn. Johnson '18 of Grist furthers that digging up the elements for solar panels exposes workers to more radiation than uranium mining.

A2 Construction

1. Defense. The average construction time between 1976 and 2009 for nuclear plants was 7.7 years.
<https://inis.iaea.org/collection/NCLCollectionStore/Public/42/105/42105221.pdf>(command f 7.7)
2. Defense. If it is Leonardo Di Caprio Foundation about 93 million dead. It says if the whole world went all nuclear this would happen, not about US specifically. 14 years of continued air pollution deaths in the US would be around 420,000, not 93 million.
<https://www.sciencedaily.com/releases/2019/07/190723142937.htm> (30000 *14)

A2 Radiation

1. Turn. Hvistendahl '07 of Scientific American explains that coal plants produce more than 100 times the amount of radiation in the surrounding environment than nuclear power plants, meaning that by increasing nuclear power as a share of our energy, our radioactive waste goes down.