Environmentalists [calling for nuclear energy](http://www.cnn.com/2013/11/03/world/nuclear-energy-climate-change-scientists-letter/index.html) initially sounded counterintuitive. Why would earth minded activists advocate for radioactive materials to be put in communities around the nation? With cancerous fumes leaking from their smoke stacks and employees who’s basic errors can cause a severe meltdown, they’ve always seemed to be bad idea… that’s why we hate them right? In the face of climate change, environmentalists are frantically searching through alternative energy options, and some have decided to reevaluate their stance on nuclear. As environmentally concerned citizens, shouldn't we? The following will examine the United States’s past with nuclear to understand how the public made a statement, how it affected the nation, and how there’s a lesson to be learn from it.

Where there ever plans for nuclear development?

“Although our greatest dependence for energy until now has been on fossil fuels such as coal and oil, we must not and we need not continue this heavy reliance in the future. The major alternative to fossil fuel energy for the remainder of this century is nuclear energy.” This quote from President Richard Nixon [address](http://www.presidency.ucsb.edu/ws/?pid=3817) to congress in 1980, in which he set goals that would mark a turning point in nuclear development for the United States. The former president nuclear energy goals, later known as [project independence](https://www.nixonfoundation.org/2016/10/26948/), targeted 25% of the nations demand to be met by nuclear in 5 years, 1985, and 50% by 2000. Though it was an appropriate time for a new energy plan, the context couldn’t have been worse.

 The increase in nuclear energy was a response to the Organization of Petroleum Export Countries (OPEC). The Arabian based OPEC used [fossil fuel sanctions](https://history.state.gov/milestones/1969-1976/oil-embargo) as retribution for the U.S’s support of Israel in the Arab-Israeli conflict of 1973. The United States’s heavy reliance of oil and lack of alternative fuel made its demand inelastic to the unexpected shortages throughout the 70’s. The cheap and abundant fuel that propelled the U.S’s economy now stifled it: raising concerns of how to meet our energy demands as well as reliance on foreign resource. A push for upgraded nuclear energy was a progressive step by the Republican president, hoping to focus fossil fuel usage on transportation as to electricity.

What happened to American Nuclear Plans?

8 a.m on a [Wednesday morning](http://www.pennlive.com/specialprojects/index.ssf/2009/03/timeline_of_the_accident_at_th.htm) in March of 1979, an announcement was made on a small radio station in Middletown Pennsylvania, warning of of minor issues at the local nuclear reactor, but ended ensuring residents they weren’t in danger. Later that day local police were seen closing the free way closest to the reactor. A large thud was heard from the three mile island facility. The following Thursday, the governor announced the nuclear issue is solved. On Friday those living within 5 miles of three mile island were suggested to stay indoors. Later Friday, an optional evacuation for children and pregnant women.

The three mile island incident caught the public by surprise. It was one of the first major nuclear power incidents and happened in the United States, where the technology for nuclear energy had been developed. The nuclear regulation committee and local government’s inability to deal with the crisis effectively grew further distrust in among the public on their ability to control this power source. Skepticism of nuclear energy and its environmental impacts had been growing before the incident, but three mile island catalyzed environmentalists to lead an explosive call to action.

Three months after three mile island, protests went international. Nuclear power plants in twenty-two states, and six countries became the ground for [demonstrations and arrests](https://news.google.com/newspapers?nid=1906&dat=19790604&id=fNAfAAAAIBAJ&sjid=INkEAAAAIBAJ&pg=3161,1688808). 2,000 protesters took to the street in Spain, provoking a police officer to open submachine gun fire, killing one civilian. These extremely powerful and well organized demonstrations originated with a growing distrust by the American public. Groups such as the Clamshell Nuclear Alliance (CNA), were one of the many responsible for organizing protests such as those following the three mile island incident. Formed after successfully obstructing development of a local power plant in 1976, the CNA was founded under the following  [principles](https://www.clamshellalliance.net/legacy/2010/03/06/founding-statement-of-the-clamshell-alliance-adopted-july-1976-and-reaffirmed-november-1977/): (1) that the survival of humankind depends upon preservation of our natural environment; (2) that nuclear power poses a mortal threat to people and the environment; (3) that our energy needs can be adequately met through utilization of non-nuclear energy sources.

Nixon’s plan to increase the U.S from 8% nuclear energy consumption to 25% in five years directly defied the public’s narrative of environmentalism. Advocacy groups joined together, taking to parades on the street or protests at plant construction sites. The environmentalist stance at the time was black and white and their cause was further motivated by the catastrophic [Chernobyl incident in 1986](http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx). The fierce battle by environmentalists, and the eventual resignation of Nixon, lead to many forgetting the plan for half nuclear energy dependence by 2000. The environmentalists had fought their battle and won.

What would it have looked like if America took a different path?

In 2007 a tidal wave caused by seismic activity in Japan flooded the nuclear power plant of Fukushima. In awe, the nuclear power community watched as the [plant exploded](https://www.youtube.com/watch?v=vbBk0Y6cQZQ). In 2011 the aftershock could be felt in France, as the pro-nuclear discourse the country had so firmly stood on started to tremble. To compromise with public uncertainty, in a country where nuclear energy provides a quarter of the power, a new regulatory group known as the ASN was established. In 2011 [implementing](https://www.nature.com/articles/481113a) new seismology maps and stress tests to their current nuclear plants.

Is nuclear power a mortal threat to people and the environment?

France adopted nuclear energy later than the United States, but the country has experienced immense success in its state run nuclear program, leading to the lowest [price](https://en.selectra.info/energy-france/guides/electricity-cost) per kilowatt hour of electricity in Europe. But cost isn’t the only reason France chose nuclear. Being the world leader in combating climate change, nuclear energy is recognized as the most consistent method for power [without releasing](https://www.ucsusa.org/nuclear-power/nuclear-power-and-global-warming#.WoicWujwaT8) carbon emissions or other heat trapping gases to the atmosphere. Though it’s not a perfect solution, spent radioactive fuel can be managed effectively to minimize environmental harm.

Understanding that there isn’t a perfect solution to energy, French president [Emmanuel Macron said](https://www.reuters.com/article/us-france-macron-nuclear/nuclear-renewables-to-help-french-co2-reduction-goals-macron-says-idUSKBN1EB0TZ), “I don’t idolize nuclear energy at all. But I think you have to pick your battle. My priority in France, Europe and internationally is CO2 emissions and (global) warming… What did the Germans do when they shut all their nuclear in one go? They developed a lot of renewables but they also massively reopened thermal and coal. They worsened their CO2 footprint, it wasn’t good for the planet.”

How Did America Get Out of the Energy Crisis?

America found another way around energy crisis brought on by OPEC. With blocked development for an alternative fuel source to coal and oil, we were motivated to dig our fingers deeper in the ground. Shale and fracking have become [major resources](https://www.cnbc.com/2018/02/13/iea-report-extraordinary-us-shale-growth-could-force-opec-into-action.html) for the fossil fuel industry, even off setting OPEC’s ability to control the supply. In 2015, the amount of domestically pumped oil lead to a severe collapse in [Saudi Arabia’s economy](https://www.forbes.com/sites/sarazervos/2016/01/26/saudi-arabia-shale-iran-everything-you-need-to-know-about-the-oil-crisis/#2eb2caa66b2c) as American companies were able to lower the price per gallon of oil. Dependence on Canadian oil sands lead to the construction of the [Keystone XL](http://www.bbc.com/news/world-us-canada-30103078) and [Dakota Access](https://www.thenation.com/article/the-fight-against-the-dakota-access-pipeline-is-not-over-heres-how-you-can-join/) pipelines, both highly contested by American environmentalists who see this furthering our nation's dependence on fossil fuels. Fracking has been theorized as causing [microearthquakes](http://www.futurity.org/fracking-earthquakes-942002/) and [water contamination](https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/) around the country.

Has Nuclear Development Ended the in U.S.?

Unfortunately for American politicians, the jury is still out on whether greenhouse gases [cause climate change](http://www.newsweek.com/trump-questions-climate-change-piers-morgan-793135). With nuclear energy being a touchy subject and a recent abundance of oil, there hasn’t been much need for nuclear power. The first nuclear reactor constructed since 1996 had been [built in Tennessee](https://www.washingtonpost.com/news/energy-environment/wp/2016/06/17/the-u-s-is-powering-up-its-first-new-nuclear-reactor-in-decades/?utm_term=.be5b9b8dc58f) in 2016. America is still five percent under what Nixon had planned for 1985. While nuclear energy is still a question of public support, nuclear weapons have been an enduring industry. American military has been manufacturing and further developing its [nuclear arsenal](http://www.newsweek.com/us-military-new-nuclear-weapons-782853). While a new head of NASA still hasn’t been appointed, a new [nuclear weapons arsenal chief](https://www.defensenews.com/pentagon/2018/02/16/senate-confirms-nuclear-weapons-chief-key-pentagon-officials/) has.

What can we learn?

 As hard as it is to blame environmentalists who passionately fought to keep radiation out of their local communities, their efforts undoubtedly lead to more dependence on fossil fuels and further incentive to develop methods of extraction. The amount of fossil fuels in transportation used in 2016 (26,482 trillion BTu) is matched approximately 88% in the production of electricity (23,542 trillion BTu). While stopping nuclear as an alternative energy, the most threatening issue, stockpiling of WMD’s by various military’s have continued. There’s much that can be learned from where the public discourse lead and how to better prepare for the future.

 First, American environmentalists have enormous ability to change and influence our nation. Though it’s argued the protests weren’t in the best interests of the protestors, their effects have nonetheless changed the course of the country’s development. Environmentalists and advocators need to be flexible to context, with knowledge of the harm of fossil fuels environmentalist needed to take up the reigns of that changing context, even if it meant going back on their position for nuclear in wanting what's best for the natural environment. Learning and evaluating changing contexts is important in a rapidly advancing era. Afterall, it might take a little more than half a decade to fully understand some of these humanity changing technologies.

Second, when advocating against developing technology, specification counts. In France, amid concerns of natural disaster and seismic activity, the ASN was establish to specifically address those issues. Instead of changing an aspect of the industry, the American public rejected the nuclear industry altogether. This is a regressive and extremely detrimental approach to development. For example, genetically modified organisms can have [potential for removing carbon](http://www.sandiegouniontribune.com/business/biotech/sd-me-salk-climate-20171117-story.html) from the atmosphere, but their implementation can just as easily be thwarted by a public who thinks of Montecito when hearing “GMO.”

 In a complex world, advocacy needs to change to be effective in progression in the right ways, not regress technology all together. Understanding the agency of environmentalists, but also the need to cause change with the precision of a surgeon, nuclear energy provides a good lesson of advocacy in the modern world.