

PUBLIC POLICY BLOG

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Acceptance or Rejection of Nuclear Energy: Switzerland and China after Fukushima

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Executive Summary

Large crisis or disasters often lead to significant changes in societies because their impacts challenge dominant ways of thinking and acting. Following the Fukushima accident, major concerns were raised about the use and reliance on nuclear energy, leading to a nuclear phase out strategy in Switzerland, while China maintained and further developed nuclear power plants. What explains these divergent reactions? The risks linked to nuclear power weighted heavier in Switzerland, where anti-nuclear movement played a significant role in mobilizing the public. China has been consistent in its support for nuclear power development, but the focus has shifted from speed to safety.

Nuclear power accidents and policy change

Significant disasters, such as nuclear accidents of the Three Mile Island, Chernobyl, and Fukushima, often lead to major considerations of the risks and benefits of a specific policy. By doing so, these critical events can shape political mobilization, debates, and lead to major societal changes. Nevertheless, it is not always clear which direction a government will take. For example, following the Fukushima accident, in some states major concerns were raised about the use and reliance on nuclear energy, leading to a nuclear phase out, while others maintain and further develop nuclear power plants. What explains these divergent reactions?

Nuclear energy is topic of contrary opinions. Some stress that nuclear power provides solutions to economic and environmental problems through secure energy supplies and low carbon emissions. Others emphasize the drawbacks of nuclear power plants: an accident can have catastrophic effects and nuclear waste is highly toxic. Whether to develop and rely on nuclear energy is thus the result of weighing its pros and cons.

In Switzerland and China, different discourses on the need and utility of nuclear energy led to divergent political actions after the Fukushima accident. The Swiss government formulated a nuclear energy withdrawal policy while China did the opposite. The cases indicate how a combination of problems, policy, politics, opportunities and political entrepreneurs determine government's decisions. In both countries, the subject of nuclear energy had already been present on the political agenda long before the Fukushima accident. Yet only the accident opened a window of opportunity to take action and new directions in nuclear energy policy.

Switzerland and Nuclear Energy

Switzerland was among the first countries to use nuclear power. Up until 2019, 5 nuclear reactors were operational in the country. Before the Fukushima accident, high reliance on nuclear power supported the argument of pro-nuclear lobbying groups that nuclear plants could not easily be replaced by wind or solar power. In 2003, nuclear power provided nearly 40 percent of Switzerland's electricity production. Before 2011, public opinion polls showed stable acceptance of nuclear power; even three applications for the construction of new nuclear power plants were submitted in 2008. Despite, this public acceptance, nuclear energy was on the political agenda in Switzerland before 2011. Since the accident of Chernobyl, anti-nuclear movements have been successful at mobilizing public attention and creating awareness of the potential dangers of nuclear power.

Following the Fukushima accident, more than 130 events (political, statements, debates, protests, and decisions) happened in Switzerland in March 2011. The anti-nuclear movement, again, played a significant role in mobilizing the public. At that time, the Swiss government was planning to replace three nuclear power reactors. Yet, following public protests and shifting attitudes among large parts of the society put increasing pressure on policymakers. The Swiss government reviewed their nuclear strategy, decided to phase out nuclear energy, and formulated a new federal energy policy. This Energy Strategy 2050 sets the scene for a domestic transition towards an economy based on renewable energy and notably excludes nuclear energy.

The Development of Nuclear energy in China

In 1970, China saw the construction of its first nuclear power plant, and now has 48 operable reactors and 15 under construction. Debates about the expansion of nuclear power are closely linked to the objective of Chinese economic development. Rapid growth in energy demand has given rise to power shortages, and reliance on fossil fuels has led to much air pollution. Over the time, the Chinese government started to view nuclear power as a reliable and clean energy source to address and overcome these challenges. In these efforts, the unified central leadership ensured a high degree of political coherence. Although the government has always emphasized the development of nuclear energy, the focus has shifted from speed to safety in line with the external environment.

The Fukushima accident caused an enormous psychological blow to the Chinese public. An anti-nuclear movement began to emerge but had only limited impact. The Chinese government immediately suspended new construction and conducted comprehensive safety checks. Politicians cooperated with companies to support economic and nuclear energy development. The government also increased subsidies for the technology and the construction of additional safety infrastructures around nuclear power plants. Educational campaigns on the safety of nuclear energy were conducted as well. This deepened the public knowledge about the benefits the government sought to materialize through its nuclear program. This increased the public acceptance of nuclear energy further, ultimately also strengthened the government's action.

Conclusion

The Swiss and Chinese examples demonstrate that the Fukushima nuclear accident caused different political reactions in different countries. While Swiss nuclear power policy changed significantly, the Chinese nuclear development programs were reinforced. In Switzerland, Fukushima gave a push to foster public mobilization, leading the Swiss government to discontinue and phase out its existing nuclear programs. The Swiss case exemplifies policy development in a pluralistic society where public debates can cause political pressure triggering policy change.

In contrast, anti-nuclear mobilization was limited in China and public awareness of problems linked to nuclear power was low. Despite the fact that China decided to maintain and develop nuclear power, its public strategy was affected by the Fukushima and evolved. The government disseminated information about the reliability of nuclear energy, implemented better supporting policy for nuclear energy construction and set new standards and safety measures. Although not changing the general policy direction, these developments show that the Fukushima accident also impacted on the Chinese nuclear energy policy.