



## RepRisk Special Report on Nuclear Power

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As concerns rise across the globe about climate change and dependency on petroleum-based energy, governments and businesses have largely looked to nuclear power as the answer to calls for a clean, safe, sustainable source of energy. However, the damage caused to the Fukushima Daiichi Nuclear Power Station by the recent earthquake and tsunami in Japan has caused many to question the wisdom of such a strategy for power generation. Experts and anti-nuclear power activists have used the increased public awareness from the current situation to highlight the dangers, expressing concerns about the risks associated with radioactive materials, the impacts of nuclear power plants on the environment and local communities, and the instability of a number of locations where nuclear plants have been built or are planned for construction. Governments have also reacted, with Germany imposing a temporary suspension on the operation of 7 of its older plants, and China suspending a number of its planned projects.

This RepRisk Special Report on Nuclear Power highlights the issues currently faced by five of the most criticized nuclear power plants (NPP) throughout the world and offers insight into the sector's controversial history. The five examined in this report are:

1. Fukushima Daiichi NPP (Japan)
2. Jaitapur NPP (India)
3. Belene NPP (Bulgaria)
4. Cernavoda NPP (Romania)
5. Angra 3 NPP (Brazil)

*All information has been taken from the RepRisk database, which objectively monitors the level of criticism to which a company is exposed in the media and other public sources. It also quantifies the negative news collected through its RepRisk Index (RRI). According to the Current RRI, Fukushima Daiichi Nuclear Power Station is the most controversial project in the RepRisk database at present. For further information about RepRisk methodology, please see page 3.*

According to critics, two failures can be linked to the current crisis at Fukushima Daiichi NPP: failure to adequately judge the facility's vulnerability to seismic activity and failure to maintain proper safety standards.

Despite clearly outlined risks, governments all over the world have approved the development of nuclear power plants in earthquake-prone areas. Before the March 2011 earthquake in Japan, the most

controversial nuclear power project was the Jaitapur NPP. The plant was approved by the Indian Ministry of Environment in late 2010 for development on the Konkan coast, an environmentally sensitive area reportedly prone to strong earthquakes.

China reportedly has plans to build an additional 25 nuclear power plants despite the country's vulnerability to earthquakes, and many other countries, in their pursuit of alternatives to fossil fuels, have also chosen to pursue nuclear projects in seismically risky areas. Since the beginning of 2011, RepRisk has detected criticism of Belene NPP, Cernavoda NPP, and Angra 3 related to the projects' high-risk locations. It is alleged that these projects were approved very quickly and with little consideration of the risks and potential impacts. This even extends to the United States, where a usually cautious government is considering re-approving the operating license for the Diablo Canyon NPP, in spite of its being located close to a major fault line that runs along the California coast.

Since the natural disaster in Japan, Fukushima Daiichi NPP has received extensive news coverage revealing that TEPCO engaged in numerous cover-ups and falsified safety records to keep the plant open. According to these recent news articles, safety officials recommended that Daiichi's Mark 1 design, developed by General Electric in 1960, be discontinued in 1972 because it presented unacceptable safety risks. By 1980, experts claimed that Mark 1 reactors had a 90 percent probability of bursting should the fuel rods overheat and melt in an accident. Evidence indicates that TEPCO chose not to address these concerns.

The Russian government has also allegedly chosen to ignore serious safety concerns about the Belene NPP in an attempt to expedite the construction process. Cernavoda NPP investors voiced similar concerns, and Angra 3 has been criticized for using "antiquated equipment" in an effort to cut costs. The Nuclear Power Corporation of India (NPCIL) has also received considerable criticism for forcing approximately 2,500 people off their land in order to speed up the construction of the Jaitapur NPP.

These projects also have a long history of criticism for their refusal to address the impacts on local communities and the environment. Thermal discharge from the Jaitapur NPP will reportedly heat up the coastal area by 5 degrees Celsius, destroying the fragile ecosystem and thus the local fishing industry. Angra 3's environmental impact assessment reportedly showed "blatant deficiencies".

The dangers associated with radioactive material is undeniably the greatest risk attached to these nuclear power plants, and there is concern that the proliferation of such material could potentially create further security threats. Iran and North Korea have both started nuclear power programs that have been accused of being cover projects for the development of nuclear weapons programs.

The push to approve more controversial nuclear power projects does not only come from emerging markets such as India, Brazil, Russia, and China, however. Of the 100 most controversial nuclear power projects, 48 percent are located in North America or Western Europe, with 18 percent in Germany and France alone. Areva SA, a French nuclear power company, has been criticized for its participation in the development of the Belene, Jaitapur, and Angra 3 projects, and RWE AG, the German utility company, only recently withdrew its participation in the Belene and Cernavoda projects. However, RWE has participated in the development of 11 nuclear power plants, six nuclear waste facilities, and two uranium enrichment facilities, that have been criticized for environmental or social impacts in the RepRisk database since 2005. The continued growth of nuclear power is an important aspect for both the growth of emerging markets and the continued prosperity of many western countries, which many claim creates powerful incentives to ignore such risks.

It is only in the aftermath of extreme disasters that companies and governments are forced to reevaluate their position. Since the March 2011 earthquake in Japan, Germany, the United States, and China have taken steps to reevaluate their current positions on proposed nuclear power projects, but it is still unclear what impact the disaster at Daiichi NPP will have for the future of nuclear power.

## **Methodology**

This RepRisk Special Report on Nuclear Power is compiled using information from the RepRisk database based on recent negative news related to companies' and projects' environmental, social and governance performance. They are compiled using information from the RepRisk database, which currently contains criticism on more than 17,500 companies and holds news from thousands of sources, ranging from commercial newspapers and online media to NGO websites, blogs and newsletters. Once the negative news has been identified with advanced search algorithms and analyzed for its novelty, relevance and severity, risk analysts enter it into the database and link it to the companies in question. No news is entered twice unless it has been escalated to a more influential source, contains additional information, or has not appeared for the past 6 weeks. This helps to ensure the balanced and objective rating and weighting of the negative news, and thus the company's quantitative measure of risk exposure, the RepRisk Index (RRI). The RRI measures the risk to a company's reputation, not its actual reputation in general.

RepRisk objectively monitors the level of criticism to which a company is exposed. All data is collected and processed by a strictly rule-based approach; it is not the result of an assessment, rating or verdict from our analysts.

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## **About RepRisk**

RepRisk is the leading provider of dynamic data on environmental and social risks for an unlimited universe of companies and projects. The company's web-based tool, RepRisk, allows you to identify and assess the environmental and social issues that may present financial, reputational, and ethical risks. It is used by investment professionals, financial institutions, supply chain managers, multinational corporations, and compliance managers, and includes a variety of features enabling clients to monitor risk trends over time, create customized watch lists, tailor alert services, and more. The tool plays an integral role in increasing transparency and ensuring compliance with internal and international standards, thereby helping reduce risk exposure.

RepRisk's comprehensive and relevant database enables you to meet the risk management and compliance challenges in an increasingly complex world. On a daily basis, RepRisk tracks a company's or project's environmental and social risk exposure by monitoring independent third-party sources such as all major print media, over 700 NGOs, newsletters, news sites, governmental agencies and blogs. Controversial issues covered include environmental footprint and climate change, human rights and community relations, labor conditions and employee relations as well as corruption and money laundering. In particular, all principles of the UN Global Compact are addressed. RepRisk covers all major business languages (English, Chinese, Japanese, Korean, French, German, Spanish, Portuguese, and Russian) and its database currently includes over 17,500 companies and 3,500 projects, and is updated and growing daily.

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