

The Risks of Nuclear Power: A Closer Look

This factsheet explores the often overlooked implications of nuclear energy on the environment, public safety, and future generations, and why civil society groups say nuclear energy cannot be a part of a just energy transition.

Finances, Resources and Time Constraints

The construction of nuclear power plants is notorious for high cost, cost overruns and delays. The development of a 2500 MW nuclear power plant has been conservatively estimated to cost R350bn and 10 years to build.

Unfavourable agreements, getting into debt to build nuclear facilities, and the expensive process of shutting them down could make things hard for the future generations. Choosing nuclear energy could trap South Africa in an old-fashioned and unsafe energy setup, while there are better, safer and cheaper energy options available.



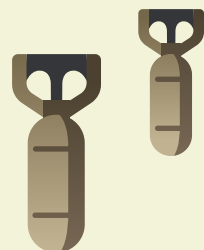
Nuclear Accidents

Past accidents at Three Mile Island (1979), Chernobyl (1986) and Fukushima Daiichi (2011) demonstrate the catastrophic consequences of reactor meltdowns, resulting in widespread contamination, displacement, and lasting environmental damage. The effectiveness of new safety measures and reactor designs remains largely uncertain, and regulatory bodies are left to enforce safeguards.



Proliferation

The same technologies that are used in nuclear power can potentially be misused for the development of nuclear weapons, raising global security concerns.



Significant risks of nuclear cannot be overlooked when addressing the energy crises or combating climate change. Investing in cleaner and more sustainable alternatives will contribute to a safer, healthier, and environmentally responsible future. We encourage you to support the just transition to clean energy solutions and raise awareness of the impacts and costs of nuclear energy.

1. Eskom Holdings SOC Ltd. (2023). Eskom. <https://www.eskom.co.za/>

2. Ingerop. (2013). Study of the Cost of Nuclear Power. Department of Energy RSA.

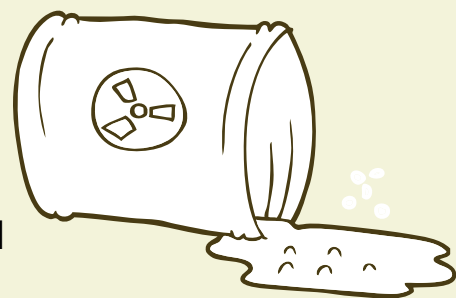
*** See part 2 and 3 for further information and faith perspectives.

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Nuclear energy is being promoted as a part of a just energy transition, while the impact to the environment and public safety, and the burden on future generations is overlooked.

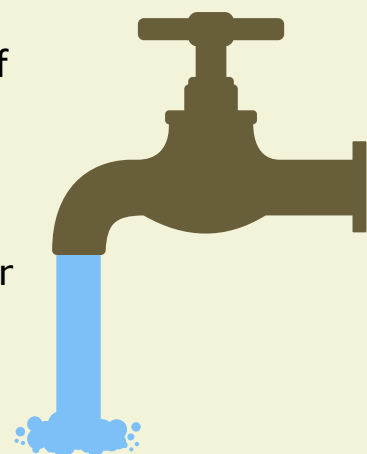
Nuclear Waste

Radioactive waste is hazardous for thousands of years and even a small exposure can cause cancer, genetic mutations, and reproductive problems. Communities in proximity to nuclear plants and waste storage sites are at risk of nuclear accidents or groundwater contamination. Koeberg Power Station alone produces over 32 tonnes of spent fuel annually. An above-ground Storage Facility is planned for Vaalputs (Northern Cape) to store higher level waste, adding to the threats to the environment and health of future generations.



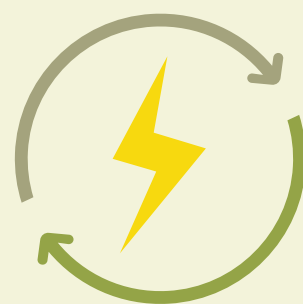
Water Use

Nuclear reactors consume 1,500 to 2,700 litres of water per MWh of electricity generated and it is estimated that Koeberg uses 1370 kilolitres of potable water per day in a water scarce country. Koeberg also uses 22 billion litres of seawater per year to cool its condensers. Thermal pollution in the oceans can impact local wildlife and marine ecosystems.



Energy Diversification

Investing in nuclear power can divert financial resources from more diverse, quick to install, affordable and flexible energy solutions, such as renewable sources like solar, wind, and hydroelectric power. The emphasis on nuclear energy may hinder the development of a more resilient and decentralised energy system.



The significant risks of nuclear cannot be overlooked when addressing the energy crises or combating climate change. Investing in cleaner and more sustainable alternatives will contribute to a safer, healthier, and environmentally responsible future. We encourage you to support the just transition to clean energy solutions and raise awareness of the impacts and costs of nuclear energy.

1. Eskom Holdings SOC Ltd. (2023). Eskom. <https://www.eskom.co.za/>
2. Kate Green. (2019). *Nuclear power and its water consumption secrets*, Monarch Partnership.
3. Yolandi Groenewald. (2018). *Eskom responds to water crisis with Koeberg desalination plant*, News24 Business

*** See part 1 and 3 for further information and faith perspectives.

SAFCEI is an environmental organisation that works with people of faith for climate and eco-justice, and sustainable living. Our anti-nuclear campaign calls for affordable, accessible and sustainable energy for all.



The Risks of Nuclear Power: Faith Perspectives and Ethical/ Moral Concerns

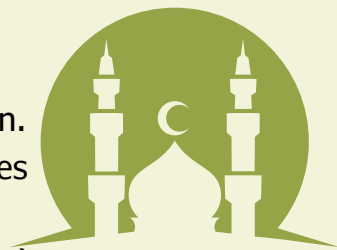
Christianity

- Concerns around nuclear energy have led Christian scholars to question its moral legitimacy, considering the stewardship of creation and the preservation of dignity.
- "I would not use nuclear energy until there is total security. There is not enough security to guarantee that there will not be a disaster." - Pope Francis



Islam

- The principle of avoiding harm (haram) underlies Islamic perspectives on nuclear energy. Islam recognises that technology with the potential for catastrophic harm should be approached with caution.
- "We do not want these things for the sake of ourselves and our religion and because reason is telling us not to do so"- Ali Khamenai (fatwa against nuclear in Iran)



Judaism

- Ethical considerations about the risks to life and the environment posed by nuclear and radioactive waste align with Jewish principles of social responsibility.
- "Choose life, that you and your descendants may live" (Deuteronomy 30:20)



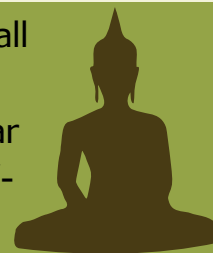
Hinduism

- Hindu opponents stress the potential risks to human health, the environment, and the sanctity of life.
- "Sanctity cannot be found in forms or beliefs, but in going beyond our instinct for self-preservation"- Sadhguru



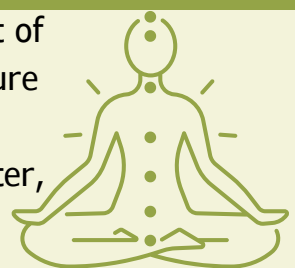
Buddhism

- Buddhism prioritises non-violence and the well-being of all beings as well as compassion and non-harm.
- "Of all the dangers we face, from climate chaos to nuclear war, none is so great as the deadening of our response."- Joanna Macy (environmental activist)



Indigenous & Nature-Based Spiritualities

- Indigenous Peoples consider themselves as one element of the sacred natural world that needs to be whole for future generations.
- Indigenous leaders prioritise the protection of land, water, and life.



Quaker

- Quakers recognise the interconnectedness of all life and the imperative to work for peace and justice. Potential nuclear accidents and weapons proliferation raise moral concerns about contributing to violence and suffering.



Bahá'í Faith

- The Bahá'í Faith promotes unity, justice, and sustainability. Concerns about nuclear energy align with the faith's principles of global cooperation and environmental stewardship.



The ethical dilemmas posed by nuclear power do not align with faith values and the high costs raise questions about the economic wisdom of investing in nuclear energy, especially in a rapidly evolving energy landscape driven by renewable technologies.

*** See part 1 and 2 for for a closer look at the risks of nuclear power