

Nuclear Energy: Selling Out Future Generations

The Johannesburg Plan of Implementation called on governments to consider the reliability, affordability, economic viability, social acceptability, and environmental soundness of energy services and sources. Based on these criteria, nuclear energy CANNOT be considered to be a sustainable solution to access on energy.

Nuclear energy is not reliable: Though environmental lobbyists tell us that nuclear reactors are now “clean and safe”, this was the same message that was expressed 21 years ago prior to Chernobyl. Based on the historical precedent, nuclear energy cannot be considered a reliable option. Even Generation 3 or 4 nuclear reactors (which exist now only on paper) cannot guarantee a 100% safety record.

Nuclear energy is not affordable: Nuclear energy has long term costs which are not internalised in the direct costs. The costs of both nuclear waste management and the decommissioning of nuclear power plants are substantial and will be borne over the long term. For example, the half life of plutonium, one of the ingredients of nuclear waste, has a half life of 24,000 years—roughly the equivalent of 1,000 generations. Furthermore, the cost of reprocessing waste is high, as it inevitably leads to leakage into ocean and underground water sources.

Nuclear energy is not economically viable: Nuclear energy is receiving both direct and hidden subsidies, through subsidies for the production or buying of nuclear fuel and waste management. This subsidization occurs over the long term, demonstrating that nuclear energy is not economically viable. Nuclear energy is a powerful centralized energy source, making it potentially unaffordable for many developing countries because of the significant investment required in energy grids. Additionally, every nuclear plants requires substantial state guarantees which could potentially put developing countries into debt.

Nuclear energy is not socially acceptable: Because of the long term costs associate with waste management and decommissioning, the use of nuclear energy means that its costs will be borne by future generations. This undermines the very principle of sustainable development by “compromising the ability of future generations to meet their own needs”, and is therefore not socially acceptable.

Nuclear energy is not environmentally sound or emission free: Nuclear power plants emit radioactive gases which affect not only the environment but also atmospheric conductivity that leads to climate change. Furthermore, the process of cooling reactors requires large volumes water of water, which can evaporate into the atmosphere contributing to climate change. Heat contamination from this process can also alters the water ecosystems.

Nuclear energy is not renewable: The required natural resource input, namely natural uranium, is limited and prices are on the rise. Extracting plutonium from spent nuclear fuel results in unmanageable volumes of liquid nuclear waste. The reactors which used plutonium proved to be unreliable.

Contrary to popular belief, nuclear energy is not a solution to climate change: From a life cycle perspective, including mining and transportation, the production of nuclear energy leads to greater Co2 emissions than renewable sources of energy such as wind.

The proliferation of nuclear energy leads to the proliferation of nuclear weapons: Furthermore, both nuclear power plants and waste processing plants and storage facilities are good targets for terrorists and can be a good resource for dirty bomb materials.