

abrDN Position Statement – Nuclear Energy

September 2021

In EU/EEA for Professional Investors, in Switzerland for Qualified Investors – not authorised for distribution to retail investors in these regions.

What is nuclear energy?

Nuclear power plants split uranium atoms to generate energy, which is then used to heat water, produce steam and generate electricity. The main benefit of nuclear power is that it provides a reliable baseload of electricity without generating carbon emissions. It is also a highly efficient energy source that requires a limited amount of land for power plants compared with renewables. Global electricity generation from nuclear has fallen from 20% in the 1990s to around 10% today, due largely to declining policy support and investment. High capital costs and low carbon and fuel prices make it difficult for nuclear power to compete. The issues driving this decline include:

1. Ageing infrastructure

Many of today's nuclear plants were built in the 1970s and 1980s, and are facing decommissioning or lifetime extensions, the latter of which offers a much cheaper alternative to new construction.

2. Construction complexity and costs

The design and construction of a new nuclear power plant often takes several years and requires high capital costs. The last decade has seen major construction delays and cost overruns in nuclear projects, and investors are hesitant to mobilise billions in upfront investment.

3. Health and safety concerns

The waste generated by nuclear reactors remains radioactive for thousands of years, and liability for this waste is a major issue. There is no long-term storage solution for radioactive waste yet, with most being stored in temporary facilities.

In addition, an accident at a nuclear power plant could release radiation into the environment, leading to damaged body cells and potentially cancer and death. The accidents at Chernobyl (1986) and Fukushima (2011) are two major examples.

4. Sourcing raw materials

Uranium, and in some cases plutonium, are the main raw materials used by nuclear plants for fission. These raw materials are finite and are mined in only a few countries. Uranium is relatively expensive to mine, refine and transport. And the mining process is quite energy intensive, which has to be considered in the lifecycle emissions of nuclear power generation.

5. National security concerns

Nuclear power plants are potential terrorist targets, and attacks could put population centres at risk. There are also concerns about the abuse of nuclear materials for the construction of nuclear weapons.

A divided policy landscape

The issues above are reflected in divided political support for nuclear energy. Some countries, including Germany, Belgium and Spain, have committed to decommissioning nuclear capacity. Some, such as South Korea, plan to reduce its use. Meanwhile others, including France, the US, Japan and China believe that it still has a role to play in providing reliable baseload energy during the energy transition.

EU – Some EU countries, such as France, rely heavily on nuclear power. But the EU is moving away from supporting nuclear energy. Solutions aligned with the EU's taxonomy for sustainable investments need to meet the requirement 'do not harm', and this currently excludes nuclear power.



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US – The US’s long-term energy strategy is committed to nuclear. However, nuclear investment has been reduced as a result of other energy sources being financially more viable, such as renewables and gas.

China – China’s energy policy is to increase nuclear power to help cut its reliance on coal-fired power stations. The country has the world’s highest construction rate of nuclear power plants, which is expected to be a key driver for growth in nuclear power globally.

Japan – Japan relies heavily on imports to meet its energy requirements. It had been focusing on nuclear power until the Fukushima accident in 2011, which led to public protests against nuclear energy. Japan’s current energy strategy sees nuclear as an important baseload power source contributing to the stability of energy supply¹, and aims to achieve 20–22% nuclear power by 2030.

The International Energy Agency (IEA) sees nuclear as an important part of the energy transition and says that “without action to provide more support for nuclear power, global efforts to transition to a cleaner energy system will become drastically harder and more costly”.²

“Overall, countries that see a future role for nuclear energy make up the bulk of global energy demand and CO₂ emissions.”

Nuclear energy therefore looks likely to remain part of the energy mix in a net-zero 2050 world – and growth, albeit limited, is expected in some developing regions.

Our investment approach to nuclear energy

We believe that carbon-intensive energy sources, such as coal, should be phased out as a priority. This is due to the urgent need to reduce global emissions and focus on the goals of the Paris Agreement. Reducing reliance on nuclear energy should be a secondary, longer-term consideration, though the risks associated with nuclear energy still need to be managed carefully. Ideally, nuclear energy would gradually be replaced with other low-carbon sources, such as renewables, but this would require technology advances that enable reliable and affordable energy supply with a large proportion of renewables in the mix. Affordable and reliable low-carbon energy supply must remain a priority. We do not expect countries to decommission nuclear energy in the short term. We believe they will be driven to meet energy demands with more carbon-intensive sources. We take the following approach in order to reflect this view in our investments:

1. Regional risk assessment

We recognise the varying political support for nuclear energy across the globe, and we factor this into our risk assessments. It is important to ask what viable alternatives to nuclear energy exist. These depend on a country’s access to natural resources, as well as on energy prices. New investment in nuclear plants may be justified if energy demand is growing and cost-competitive energy alternatives are very carbon-intensive. We seek to understand the implications of both continued nuclear investments and nuclear phase-out.

2. Engagement

When engaging with nuclear-energy companies, we aim to understand how the significant health and safety risks are managed, and what development plans are in place for nuclear energy in line with regional policies. Companies must demonstrate strong risk management and a clear understanding of the financial viability of continuing to invest in nuclear energy.

¹ <https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/japan-nuclear-power.aspx>.

² <https://www.iea.org/reports/nuclear-power-in-a-clean-energy-system/nuclear-power.aspx>.

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3. Low-carbon solutions

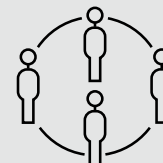
Nuclear energy is a reliable low-carbon energy source. However, given its significant health and safety risks and varied policy support, it is not a solution that we would actively seek to include in a product focused on climate solutions (though this may change as policy support alters). However, where an investment that focuses on renewables also has nuclear in the energy mix, we would not exclude it from our product if a clear transition plan was in place to phase out nuclear.

4. Exclusion

We exclude companies with exposure to nuclear from some of our funds because of the considerable health and safety-related risks outlined here, particularly issues relating to radioactive waste. We apply an ethical screen to exclude nuclear exposure where appropriate.

Sustainable investing at abrdn

As a leading global asset manager, we believe that investing sustainably can help generate long-term value for our clients. How and where the world chooses to invest has critical implications for the wellbeing of society and our planet. Equally, investments that could have negative social and environmental impacts can pose risks for the investment performance we can deliver for our clients.



Environmental, social and governance (ESG) considerations are an integral part of our decision-making when investing your capital. By understanding how ESG factors affect our investments, we believe that we can generate better outcomes for our clients, society and the wider world.

To help us achieve this

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Our dedicated, 20-strong ESG investment team works closely with colleagues across all asset classes.

ESG

Dedicated ESG asset-class analysts provide an additional layer of expertise.

Please visit our [website](#) for more detail.

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