Why Are ESG Funds Fighting Against Climate Change Solutions?

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Vehement opposition to nuclear energy has been a core tribal marker for 40 years, despite the consensus among scientists that it must be part of the solution to climate change. But that could be on the verge of a change. The asset management industry could play an important role in that change – but, first, it must end the practice of excluding nuclear energy from ESG and SRI mandates.

I'll review the history of nuclear energy and the opposition to it, before I turn to central question of how asset managers can play a role in solving the climate change crisis.

The truth about nuclear radiation

Nuclear energy has more than an 80-year history, starting from when Otto Hahn and Fritz Strassman first produced nuclear fission in Berlin in 1938. It was then an incredibly short time before its first "practical" use – in atomic bombs dropped on Hiroshima and Nagasaki in August 1945.

After the war, there was a major push to turn nuclear energy toward humanitarian goals. President Eisenhower delivered a speech titled "Atoms for Peace" to the United Nations General Assembly in December, 1953. An "Atoms for Peace" U.S. postage stamp was printed (costing three cents). The intention was to help the world appropriate nuclear energy for electric power instead of weaponry.

Nuclear energy for power production was, at first, embraced by the scientific-environmental movement – which disdained a foremost alternative to it, large hydroelectric dams, because of their destruction of natural habitat.

But eventually, fear of radioactive fallout from atomic bomb testing blended into a fear of radioactive emissions from nuclear power plants, and turned environmentalists against nuclear energy.

Fear of nuclear radiation was entirely rational when little was known about its effects. The assumption was that if a radiation dose of five Sv (Sv stands for sieverts, the measure of nuclear radiation) would kill 5,000 out of 10,000 people who receive it, then a dose of 50 mSv (millisieverts), or one-hundredth as much, would kill one-hundredth as many people – 50 out of 10,000. Thus, the same amount of radiation, even if widely dispersed, would kill the same number of people.

This was called the linear-no-threshold assumption (LNT). It assumed that the percentage of a population dying from nuclear radiation would be proportional to the dose, and that there would be no threshold below which nobody would die.

Research since that time – including research on residents of Hiroshima and Nagasaki when the bombs fell in 1945 – has shown that the LNT hypothesis is false. Low levels of radiation appear to cause no additional deaths, with a threshold possibly in the range of 100-200 mSv or even greater – levels reached near the Fukushima and Chernobyl accidents. And evidence from Fukushima and Chernobyl shows that cancer incidences have been much lower than the LNT hypothesis would suggest.

The evidence even points to a process called hormesis, in which low doses fortify the body's immune system and increase its resistance.

These findings have allayed the original fears of nuclear power radiation– even the long-term storage of nuclear waste. Nevertheless, there is powerful opposition to it, for reasons to be explored below.

Nuclear power and climate change

In the meantime, since the origin of the anti-nuclear movement, another concern has become greater – the concern over the widespread, long-term effects of climate change.

The physics behind climate change has been known for more than a century. It shows that certain gases in the atmosphere, known as “greenhouse gases,” have a greenhouse effect – that is, they let in short-wave energy rays from the sun, but impede the return of that energy from the earth when it is emitted as longer-wave heat rays.

The vast majority of the emissions of greenhouse gases – primarily carbon dioxide and methane – is caused by our use of fossil fuels, most of it from burning them to generate electric power or to fuel transportation.

The long-term “unknown unknowns” of climate change (to use Donald Rumsfeld’s now famous terminology) pose a much greater risk than the now “known knowns” of nuclear radiation – much more risky, indeed, than the fact, often cited by anti-nuclear activists, that some nuclear waste, very small amounts of it, can remain radioactive for 100,000 years.

Nuclear power emits no greenhouse gases during its operation. Some anti-nuclear activists argue that the activities engaged in in order to construct nuclear power plants emit greenhouse gases, but the same can be said for wind turbines and solar arrays.

For these reasons, a recent book, “A Bright Future: How Some Countries Have Solved Climate Changed and the Rest Can Follow,” by Joshua Goldstein and Staffan Qvist, argues that the solution to climate change is rapid expansion of nuclear power. Nuclear power, they argue, can replace fossil energy much faster than renewables can – and their evidence for this claim is sound.

During the 1970s, 1980s, and 1990s when nuclear power expanded quickly in France, the United States, and Sweden, it was expanding much more rapidly than wind and solar are now, even in Germany and China. For example, during a 15-year period, France installed 58 nuclear power plants that are safely serving 75 percent of the nation’s power demand.

The staying power of the anti-nuclear movement

Nevertheless, in January, advocates of the “Green New Deal,” which is focused on solving the problem of climate change, sent a letter to Congress stating that “As the United States shifts away from fossil fuels,” it must transition power generation to 100% renewable energy, and *it must exclude nuclear*.

Why is this? Let us trace the history.

On March 16, 1979, as the anti-nuclear movement was gathering steam, a thriller of a movie was released to theatres. It was titled *The China Syndrome* and starred the famous actors Jane Fonda, Jack Lemmon and Michael Douglas. It depicted a nuclear power plant accident as something that could have drastic, virtually unstoppable and inexorably spreading disastrous consequences. This impression has stuck with the public ever since.

Not only did much of the viewing public take this scenario seriously, but only 12 days after the movie was released, on March 28, 1979, there was an actual severe nuclear power plant accident at Three Mile Island in Pennsylvania. This power plant accident, though serious and very costly to the plant’s owners and a disaster for the affected plant itself, resulted in no deaths or injuries. Estimates made of eventual cancer deaths from the very small amount of radiation released were approximately zero.

But coinciding with the release of a very well-made, gripping and scary motion picture and prevailing concerns about nuclear energy, the double-whammy of *The China Syndrome* and the Three Mile Island disaster effectively signaled an end to the construction of nuclear power plants in the United States and retarded their construction globally.

The movie was not just about nuclear energy though. It was about the little gal and the little guy – in this case two journalists, as well as lower-level employees of the nuclear power plant – fighting against all the odds with a conspiracy of corporate-executive titans. And to add to the symbolism, the lead actor in the movie, Jane Fonda, was in real life an anti-Vietnam War activist associated with protests against the government-military-industrial complex.

In a 1982 book, *Global Fission: The Battle over Nuclear Power*, author Jim Falk viewed nuclear power as a symbol of centralization, and thus a target of protesters in both the Soviet Union and non-Communist countries. He said, “In the capitalist countries, nuclear power helps legitimate the centralization of power in large corporations and the state.”

This, then, may be at the root of opposition to nuclear power in the anti-corporate political left. However, the lingering fear of radiation has spread more widely – so much so that it proved politically impossible to situate long-term storage of nuclear waste at an ideal site for it in Nevada.

In the US, studies have been ongoing for more than 45 years of a storage site 1,000 feet below Yucca Mountain in Nevada. Scientists were confident that the site would provide secure storage and that no radioactive products would leak out. The area around the site was virtually deserted of people for miles around, and the nearest major settlement, Las Vegas, was 140 miles away.

And yet, it was impossible to gain approval for storage of nuclear waste at the site. A bill approved by the US Congress in 1987 to concentrate on Yucca Mountain as the site for this waste became known in Nevada as the "Screw Nevada Bill."

Nevada had a booming tourist business at Las Vegas, whose potential visitors might not be aware that the nuclear waste storage site was 140 miles away, 1,000 feet underground and declared safe by eminent scientists. Why should Nevada risk accepting this waste repository and any possible blot on its reputation as a tourist Mecca, even one that might be irrational or uninformed?

Pushback against the movement

But now, serious pushback has been developing against the anti-nuclear movement. Nearly all climate scientists are in favor of nuclear energy as part of the solution – led, among others, by James Hansen, former head of the NASA Goddard Institute for Space Studies, whose 1988 testimony to Congress sparked widespread concern about climate change.

Stewart Brand, the long-time core countercultural figure best known for his launch of *The Whole Earth Catalog* in 1968, has come out as a strong proponent of nuclear energy, even engaging on the pro side in a TED debate on the subject.

Eight major environmental groups declined to sign the Green New Deal letter mentioned above, in part because it rules out some zero-carbon technologies, especially nuclear energy.

Meanwhile, the claim that renewable energy – primarily solar and wind – can 100% replace fossil fuels is not holding up. Germany, whose vaunted *Energiewende* (energy transition) to a low-carbon, nuclear-free economy – which must be applauded for its contribution to the large-scale commercialization of renewable energy and consequent lowering in price – has been encountering serious difficulties.

Realistic analysts admit that for a zero-carbon-emitting energy future, nuclear power, as well as renewables, must play a major role.

For an eventual 100% zero-carbon emitting economy, Goldstein and Qvist argue, we must "electrify everything." The electric power sector can go carbon-emissions-free by shifting to nuclear and renewables while the transportation sector can't, so the transportation sector must be "electrified." This can be done by shifting to electric vehicles and manufacturing transportable fuels with electric power – for example creating hydrogen by means of electrolysis.

ESG and nuclear energy

ESG investing – environmental, social, and governance – is an offshoot of socially responsible investing, or SRI. SRI was a niche area of investing until fairly recently – of interest mainly to what the writer David Brooks so wonderfully called "Bobos" in his 2000 book *Bobos in Paradise: The New Upper Class and How They Got There*. (A Bobo is a bourgeois Bohemian, defined by Merriam-Webster as "a member of a social class of well-to-do professionals who espouse bohemian values and lead bourgeois lives.")

The new, ESG version of SRI has now made very strong inroads into conventional investing, based partly on the principle that it is a way to identify risks that could jeopardize the future of a public company. One of the principal risks is that of climate change, particularly the risk to a company of "stranded assets" belonging to fossil fuel-based companies (assets that may cease to be able to generate revenue). Therefore, coal companies, especially, and oil companies tend to receive low ESG ratings and to be excluded from mutual funds and ETFs that carry the ESG or SRI label.

Companies involved with renewable energy, of course, tend to receive high ESG grades.

But in many or most cases, companies involved with nuclear energy are categorically excluded.

For example, the Summary Prospectus for Vanguard's FTSE Social Index Fund says that "The Fund employs an indexing investment approach designed to track the performance of the FTSE4Good US Select Index." It then says, "The Index excludes companies involved with weapons, tobacco, gambling, alcohol, adult entertainment, and nuclear power."

I got curious and looked up the FTSE4Good Select Index Ground Rules. They do not say that the index excludes nuclear power. On the contrary, they say only that companies involved with nuclear energy must meet certain routine health and safety standards.

An inquiry to Vanguard about this dead-ended, so I put in a call to the London Stock Exchange Group, which owns the FTSE Russell brand.

There, a press officer named Nandeep Roopray researched the issue. She then explained that nuclear power generating companies and uranium mining companies are eligible for inclusion in the FTSE4Good Index Series but, despite the similar name, this is not the same series as the FTSE4Good US Select Index, the index on which the Vanguard fund is based.

It's rather confusing.

Also confusing is another major index series, the MSCI ESG indexes. Here, the "MSCI SRI Indexes" explicitly exclude nuclear power, but other of the MSCI ESG indexes do not.

This is all a result of the mix-and-match choose-your-own index industry, which to my astonishment has spawned in excess of *3.7 million* market indexes. It is also apparently a result of the evolution from SRI to ESG.

While nuclear energy has traditionally been *verboten* in SRI funds, there is some indication that the freeze on nuclear is moderating in the ESG regime. Jon Hale, Morningstar's Global Head of Sustainability Research, tells me that traditional SRI funds often excluded nuclear and some of those are still around today, including the Vanguard FTSE Social Index fund, which was launched in 2000. But investors using the newer ESG approach, led by some big institutional investors, are the ones leading the effort to get companies to address climate change, and he doesn't believe they rule nuclear out of the mix of solutions.

A paper titled "Nuclear Power and ESG: Can They Play Together?" coauthored by Morningstar and Sustainalytics even-handedly evaluates nuclear power as a potential positive ESG component. The first of its "Key Takeaways" is "Market underappreciates nuclear's positive ESG attributes."

And emerging low-carbon designations, such as Morningstar's, obviously cannot *a priori* exclude nuclear, the most powerful zero-carbon-emitting energy technology.

If ESG funds and their sponsors stop excluding nuclear energy and start to include it as a positive feature of an ESG / SRI portfolio, it is likely to significantly change the consensus toward public acceptance of nuclear power as an essential component of the fight against climate change.

And nuclear energy certainly needs investors' capital – not only to build more plants using proven existing technology, but to develop next-generation technologies that will further increase its advantage in terms of its economics, safety, and essential capacity to reduce or eliminate greenhouse gas emissions.

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