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UK: supporting renewables over controversial Hinkley nuclear plant could save billions, finds report

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Study by thinktank the Intergenerational Foundation projects savings of GBP 40 billion over the next 35 years if money earmarked for Hinkley Point nuclear station was instead steered towards solar power.



Nuclear power has received a lot of political favor in the UK, largely at the expense of cheaper and safer renewable energy alternatives, finds the report.
DECC

A report by the U.K.'s Intergenerational Foundation (IF) has forecast that the country could save £39.9 billion (\$56.7 billion) over the next 35 years if government steered the estimated £24 billion (\$34 billion) required to build and run the controversial Hinkley Point nuclear plant towards solar PV investment instead.

The deal for Hinkley was struck with French power utility EDF and the British government last year at a strike price of £92.50 per MWh for the next 35 years of electricity output. This price is currently more than double the wholesale price of electricity in the U.K. Indeed, during the same CfD auction, three solar projects were awarded a strike price of £79.23/MWh, guaranteed for only 15 years. But with the average solar panel's lifespan exceeding 30 years, and with solar costs projected to continue their rapid fall over the next few decades, the IF has calculated the immense savings the government could make if it backed renewable energy rather than nuclear.

The report, titled [*Toxic Time Capsule: Why nuclear energy is an intergenerational issue*](#), found that similar levels of onshore wind investment would save the country £31.2 billion (\$44.4 billion) over the 35-year term, while solar PV investment offers more scope for cutting investment costs.

"The cost of nuclear subsidy is to be double that of large-scale solar, costing £29.7 billion compared to £14.7 billion," the report said. "In the case of the solar subsidy, it is also worth noting that a significant proportion of that - £10.9 billion – is for the development of energy storage and flexibility infrastructure that would also be of benefit to other variable but predictable renewable sources, such as wind, therefore bringing added value."

The IF report is [based on the Solar Trade Association's \(STA\) analysis](#) as well as Bloomberg New Energy Finance's (BNEF) projections for wind and solar costs in the future. Cost

calculations are also based on the Department of Energy and Climate Change's (DECC) contracts for difference (CfD) scheme, which provides varying 'pots' of financial support for different electricity generation technologies.

From April 1, new [large-scale solar PV projects were no longer eligible for the Renewable Obligation \(RO\) scheme](#), while the feed-in tariff (FIT) has been drastically reduced for smaller systems. The author of the report, Andrew Simms, said that the government's new plans for nuclear power will "break spending records, and pass both high costs and large, unknown economic risks on to every U.K. child for generations to come."

Estimated to cost £24 billion, the Hinkley Point C nuclear plant – planned for the southwestern county of Somerset in England – would be "the most expensive building on earth", and, the report says, represents an expensive and burdensome way to secure the country's energy future. The fact that nuclear is "not quick enough to build at scale to stave off dangerous global warming" is also taken into consideration.

"Readily available, [cheaper, safer and quicker renewable energy options](#) would help Britain live both within its environmental and economic means, while also protecting and providing for future generations," said Simms. In contrast, the authors added, an overreliance on nuclear capacity is "expensive, poor value, slow, insecure and an obstacle to better alternatives".

DECC unmoved

Faced with a barrage of criticism for backing the nuclear horse, DECC has remained steadfast in its belief that its policies are providing the best and more affordable energy mix for bill payers. "Our plan is working: we're delivering affordable, secure and low carbon energy for hardworking families and businesses," read a DECC statement emailed to **pv magazine**. "Last year energy bills were down by £46 and we got a quarter of our electricity from renewable sources."

In responding specifically to the IF report, DECC said that it does not recognize the figures presented in the study, adding: "Hinkley Point C is a good deal for consumers and, once operational, will provide 60 years of secure, reliable and low-carbon electricity for the cost of 35 [years]. This will help us to keep the lights on while meeting our emissions targets in the most cost-effective way."

However, the IF report calculates that the 'nuclear premium' amounts to between £175 billion to £220 billion, which represents a bill of £2,700-£3,400 for every individual in the U.K. If the cost were applied just to the population below the age of 16 – who have no choice over the policy but will inherit new nuclear's infrastructure and make up the working population during its operating life – it would be a bill of between £14,200 and £18,000 each.

Looking at the numbers more closely, Tom Burke of environmental thinktank E3G told the Guardian that while the precise figures presented by IF were debatable, the report's main points were accurate. "The government is essentially pushing this cost on to future generations," Burke said. "It is a terrible thing to do to your kids."

The CfD mechanism tops up payments for electricity to reach an agreed 'strike price' for certain energy sources. Projecting ahead 35 years for something as volatile as energy prices is often a foolhardy pursuit, but various studies have showed that solar PV generation costs will only decrease as the technology improves, efficiencies rise and adoption rates accelerate worldwide. Since Hinkley Point C first came under consideration in 2010, the report muses, [solar costs globally have fallen 70%](#). An initial government estimate for Hinkley in 2008 estimated a cost of £5.6 billion. Today, that cost has soared to £24 billion.

"We risk locking in an energy infrastructure that will be vulnerable to security and climate risks, while also restricting the flexibility of the energy system and reducing room for maneuver of future generations," concluded Simms. "And perhaps worst of all, our government stands to make these choices knowingly, and while missing a once-an-era opportunity to lead the world with better, safer, cheaper alternatives."

The IF's co-founder, Liz Emerson, told **pv magazine**: "Chancellor George Osborne made much of his concern for the next generation in the recent budget, but his proposed plans for new nuclear would be consigning our children to a toxic legacy."

Report author Andrew Simms told **pv magazine**: "In the absence of any coherent, rational and evidence-based criteria for its energy policy, the UK government is allowing nuclear power and fossil fuels to defy economic and environmental gravity. When perverse subsidies and political support are removed, the economic, social and environmental benefits of renewables including solar and wind power literally shine through. We need clear design criteria for a long-term, intergenerational energy policy. In our report we have suggested where such criteria might begin. As soon as they are applied - demand management, efficiency and new renewable capacity come before anything else."

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