

Whisper it, nuclear could prove a near-silent solution

Nuclear may be back on the agenda. Mini nuclear reactors could be generating power in the UK by the end of the decade. Rolls-Royce has plans to install and operate factory-built power stations by 2029. Mini nuclear stations can be mass manufactured and assembled relatively easily, making costs more predictable. The nuclear industry is confident mini-reactors can compete on price with low-cost renewables. Rolls Royce plans to build up 15 stations in the UK, each a 16th of the size of a major power station such as Hinckley Point.

From a noise perspective it is preferable to solar, fracking and, particularly, onshore wind. People may express surprise when we write that. But the evidence shows that any noise from nuclear plants once they are up and running (they can cause noise to the local community during construction) generates few, if any, noise complaints. And most plants will be constructed far enough away from residential properties to eliminate noise problems. Noise from badly-sited wind turbines can cause severe noise problems for local residents. As can fracking (though it can be muted by proper encasing of the plant and by diverting heavy lorries serving the plant away from local communities). Widespread use of solar panels is likely to create noise problems as they give off a hum which will annoy or disturb some people.

Countries such as France or Sweden showed long before climate change was on the agenda that the quiet alternative, nuclear, has the potential to be the catalyst for delivering sustainable energy transitions. It should not be our only source of energy but, if governments are to avoid the noise problems and ill-health associated with some of the alternatives, they should choose the nuclear option.

'the silent giant of today's energy system – runs quietly in the background, capable of delivering immense amounts of power'

Small reactors: the future: There have been concerns around cost and safety of nuclear. But much is being done to address these. Although some of the large reactors are still being built across the world, the future is probably in small reactors. A small modular reactor (SMR) is defined as nuclear reactors generally 300MWe equivalent or less. The nuclear industry expects that there could be 96 SMRs installed across the world by 2030. They will be much more affordable to low-income countries. And costs are likely to fall further as more are installed due to economies of

scale. Because of their small size and modularity, SMRs could almost be completely built in a controlled factory setting and installed module by module, improving the level of construction quality and efficiency. They also will be safer to operate and more secure. They give the potential for sub-grade (underground or underwater) location, providing more protection from natural (e.g. seismic or tsunami) or man-made (e.g. aircraft impact) hazards.

A lot of the research and development has been private sector led but, if governments are to give energy subsidies, should it not be to the silent nuclear plants rather than noisy wind turbines?

We highly recommend this film which outlines the potential of nuclear: <https://youtu.be/0NUe-pUVE8>