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## RISKS

**Not “new”:** On paper for decades, none of the SMNR designs have solved fundamental safety issues such as fires and explosions, and cannot demonstrate they are accident-proof.

**Multiple failures:** The purpose of SMNRs is to have multiple units at one site. With many identical units, a flaw in one could mean a flaw in all. This could cause a cascading accident.

**Reduced safety measures:** To save money, SMNR owners want one control room for multiple units. Containments are also smaller and weaker and designers are pushing for fast-track licensing. But cutting corners risks public safety.

**Nowhere to run:** Since SMNRs are “small,” owners want the evacuation zone reduced to inside the property fence. But this supposes that only one reactor at a time will fail. The public beyond the boundary would not be protected.

**More radioactive waste:** SMNRs still produce radioactive waste. If there are multiple units at one site, the volume of waste will be higher. With Sellafield closing, waste will remain on site indefinitely, posing long-term risks to the surrounding population.

**Our lost land:** An accident could contaminate the surrounding landscape for decades or more. This would end farming and tourism and harm people and animals for generations.

**The weapons connection:** SMNRs are ideal for producing plutonium needed for nuclear weapons. The UK government has admitted its new nuclear program is to meet the need for trained personnel for the nuclear weapons sector. Ratepayers will be funding the Trident upgrade.

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## HEALTH

**Harm to our families:** Exposure to ionizing radiation released by reactors causes cancers and other health problems. SMNRs are not immune from leaks and spills. Young people hoping to start families should not have to leave the region to protect their children’s health.

## THE CLIMATE CRISIS

Nuclear power is too slow and too expensive to help with climate change. SMNRs are even less useful given their small output. We can reduce carbon emissions sooner, faster, and cheaper by investing in renewable energy and efficiency.

## ENERGY ALTERNATIVES

**Renewable energy:** Wales could meet 100% of its energy needs from renewables by 2035, says the Institute of Welsh Affairs. That would produce 20,000 renewable energy jobs annually in Wales.

**We’re halfway there:** Wales met almost half of its energy use with renewables — three years ago! Wales exports surplus energy. Funding nuclear will detract from this upward trend to a 100% renewable Wales.

## WHAT WE COULD LOSE

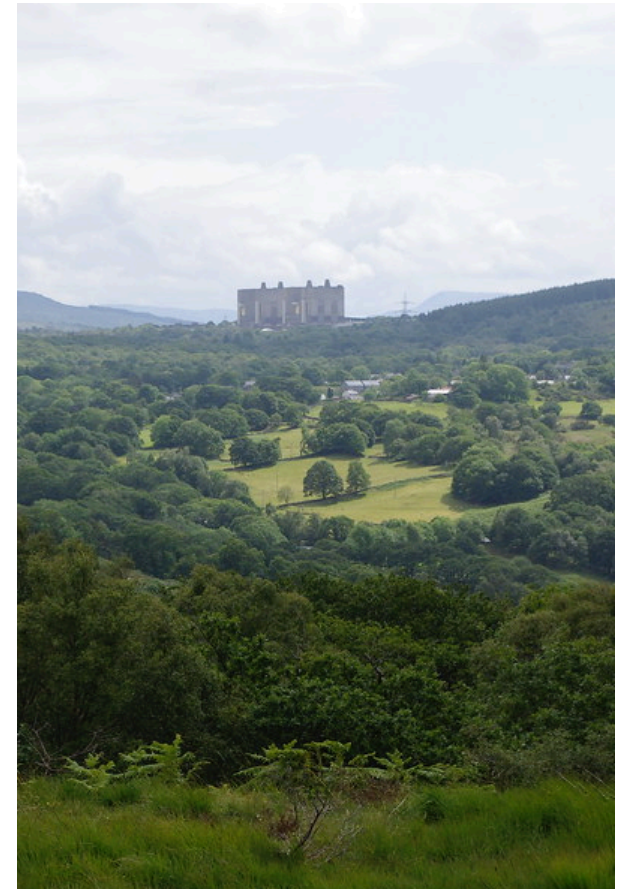
**Language and culture:** We have fought hard to save our language. We need to create needed local jobs for local people and preserve our language, culture and traditions.

**Protecting nature:** Major nuclear construction means noise, dust, light and traffic, even before the radiological risks. That will disturb and drive away wildlife and damage our spectacular natural environment, deterring tourists. ●

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# The false promise of small modular nuclear reactors

## Implications for Wales



A Beyond Nuclear publication

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## WHAT ARE SMNRs?

More properly called small modular *nuclear* reactors, SMNRs have been around on paper for decades. There are at least five basic designs each with multiple variations. None has proven it is inherently safe under all accident conditions.

## WHAT IS SMALL?

Small means 300 MW or less but smaller is not necessarily safer. (The Rolls Royce design is 450MW, so not really small at about half the size of a traditional reactor.) SMNRs are only small in power per unit generated but are physically not much smaller than a regular sized reactor.

## WHAT IS MODULAR?

Modular means SMNRs can be mass produced in a factory and the parts then assembled on site. But we already have modular energy, especially factory-produced solar as well as multi-turbine wind farms.



*Wind and solar are already “modular”*

## THE JOBS ILLUSION

**No immediate jobs:** Despite the hype, there are no orders for SMNRs, so nuclear jobs for our region are years away. We can't afford to delay meaningful employment projects while waiting for an SMNR.

**Fantasy figures:** The promise of hundreds of jobs for Wales is an illusion. SMNRs will be manufactured in factories elsewhere and only assembled on site. The job figures will be far lower and short-term.



*We need jobs now for our youth*

**Losing our youth:** With the long wait for an SMNR, if any, youth will continue to leave the area. If an SMNR ever materializes, there will be few construction jobs and the high-skilled positions will be filled by specialized workers from outside.

**Killing local businesses:** Farms and local businesses depend on reliable and experienced workers. As has happened before, when a nuclear plant promises “high paid” jobs, many essential employees on farms and at local businesses could be lured away, decimating our home-grown enterprises.

## GOOD JOBS INSTEAD

Responsible elected officials should support long-term economic opportunities that make sense for our community, not waste time and money on nuclear. For example, they should:

- Work to support our farms and farmers.
- Develop Welsh natural resources such as wind and stream power.
- Establish our scenic region as a centre of excellence for high value tourism.
- Develop and improve local and regional transport systems that can provide further economic stimulus.

## COSTS

**Costs keep rising:** The nuclear industry routinely underestimates the costs of new nuclear, and these costs keep rising. Any estimates today will be under-estimates tomorrow and cannot be trusted.

**Poor economies of scale:** An SMNR factory requires a huge upfront investment. Hundreds if not thousands of units would need to be produced before a factory becomes cost-effective.

**The industry won't pay:** Whether through a consumer-funded RAB, or government subsidies, private corporations can't pay for their SMNR projects. Ratepayers will end up funding profit-making for companies like Rolls Royce.

**SMNRs are for export:** There is — and will be — no market for small reactors in the UK. They are designed for export, not for domestic energy.