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Briefing Note

Renewable energy not nuclear power

Friends of the Earth Cymru

Cyfeillion y Ddaear Cymru

Remote and beautiful, the south of Snowdonia National Park is host to a decaying and dangerous nuclear power station. Trawsfynydd lake and the site will be polluted with radiation for thousands of years, even though the power station itself closed in 1993. Electric pylons wend their way through the surrounding park in two directions, carrying electricity to keep the defunct power station cool. Nearby, the Centre for Alternative Technology (CAT) and local windfarms testify to alternative methods of generating energy.

Cefn Croes windfarm is one such local windfarm near Aberystwyth which opened recently. Its 39 powerful turbines are now supplying half of Ceredigion's annual electricity demand. Mid Wales could in fact generate much of its own electricity demand from the regions' own wind resources.

What is climate change?

Top scientists agree - climate change is real, and it's happening. The world is getting warmer and the weather is getting more extreme. More droughts, storms and floods are on the way. It's a direct result of burning more and more fossil fuels for increasing energy use. The carbon dioxide (CO_2) released traps the heat from the Sun in the atmosphere causing a greenhouse effect. CO_2 levels are now about a third higher than they were before the industrial revolution.

Getting our energy

Nuclear power currently supplies about 22 per cent of UK electricity demand. Most existing nuclear power stations will be closing between 2010 and 2020. Some large coal stations are also closing down in the same period. In all, about 30 per cent of UK generating capacity will need replacing, if electricity continues to remain high.

Wales' current electricity needs could be generated solely by renewable energy sources. Wind energy, offshore and onshore could generate around 30 per cent. Underwater turbines could generate up to 50 per cent. Biomass, solar power and hydroelectric schemes could also make smaller, but significant contributions to make up the difference. Tidal lagoons in the Severn estuary could generate more electricity than Wales needs. Wave energy and tidal streams are other technologies that could be considered.

The Assembly Government's target for renewable energy generation is about 20% of Welsh electricity demand by 2010. Onshore windfarm is likely to supply about 14% of this demand or the needs of around 400,000 people in Wales. Offshore windfarms either built, approved or proposed could supply another 14% of demand by about 2011. This, together with energy efficiency savings,

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shows that renewable energy can fill the gap left by defunct power stations.

Nuclear problems

The nuclear industry has been operating for around 50 years and yet there is still no convincing way of storing long-term radioactive waste safely. This waste would remain deadly for tens of thousands of years. In comparison, renewable energy schemes including windfarms can be taken down in weeks with little visual or toxic trace remaining.

Although it is claimed that new types of nuclear power station would produce a smaller volume of waste, it would produce a higher proportion of high-level radioactive waste. Nuclear power stations release harmful radioactive pollution. The plants themselves, as well as waste sites, are an attractive target for attack by terrorists.

Real energy costs

The nuclear industry is proposing the construction of between eight and ten new stations to replace the outgoing ones. But it would take at least ten years to commission the first of a new series of nuclear power stations in the UK. And it would take billions of pounds in capital investment. It has already cost billions of pounds in the past and costs are still rising because of unsolved waste storage issues. Such capital investment would better be spent on renewable and other non-nuclear low-carbon technologies which would steadily increase supply and reduce emissions.

Electricity from 'renewables', particularly onshore windfarms, will soon be as cheap or cheaper than that from gas-fired power stations. Renewables are also far cleaner and safer than nuclear power. Renewables are not a potential target or weapon of mass destruction. Wales has large renewable resources particularly offshore, both in terms of tidal and wind. There is also a high potential for creating jobs in sustainable renewable energy industries in existing communities around the country.

Making a difference at home

Micro-wind turbines on homes, offices and industrial buildings are one way of addressing energy use responsibly. Energy efficiency such as insulating homes and using energy efficient technology can significantly reduce energy use and bills.

The future

The electricity needs of one million people in Wales could be generated by wind energy within ten years. Wales could be among the renewable energy leaders globally. The world has huge renewable energy resources, which in combination with energy efficiency, and non-nuclear low-carbon technologies can supply future global energy needs. There are huge and intractable dangers in nuclear power and new nuclear programmes are not needed to tackle climate change.

What can be done about it?

There is much that can be done to halt and reverse the increase in the emission of the gases that are changing the climate. Far more emphasis has to be given to energy saving measures, renewable energy systems (such as wind, solar and tidal power) and good public transport systems. The planning system has a role to play in ensuring that climate change is addressed by, for example, ensuring that people can work, shop and enjoy recreation facilities near to their homes – reducing the need for excessive travel.

Join the Big Ask

Friends of the Earth's new Big Ask campaign helps people who are concerned about climate change to press their MPs to pass a law that obliges the UK Government to make annual 3 per cent CO_2 emission cuts year on year.

- The UK government needs to act now to reduce carbon dioxide emissions – from electricity generation, from transport, and from industry. *Join the Big Ask Climate change campaign to ask the government to start acting on climate change www.thebigask.com.*
- You can also take action in your own home or office by saving energy and backing renewable energy initiatives, avoiding unnecessary flights and car trips and buying locally. *For further information visit our website on www.foecymru.co.uk*