

2022-08-12 Stopping Sizewell C and all nuclear power in favour of a rational energy policy, Gordon Taylor

I am a Chartered Mechanical Engineer with a long-standing interest in energy technology and policy.

My resume is at: <http://cms.energypolicy.co.uk/about/246>

My key documents are at: <http://cms.energypolicy.co.uk/home/>

and my documents on (against) nuclear power are at: <http://cms.energypolicy.co.uk/nuclear/>

Of these, I highlight five that support 'Stopping Sizewell C and all nuclear power in favour of a rational energy policy':

1) 2012-04-11 The Real Lessons of Fukushima, <http://cms.energypolicy.co.uk/nuclear/244>

This report was prompted by the inadequacy of the reports from the IAEA and the UK Office of Nuclear Regulation. It took me about one year full time and is of 86 pages, including 231 references, almost all of which were freely available online. The Fukushima disaster confirmed the majority of countries worldwide in not using nuclear power and convinced Germany, Switzerland and Italy to join them and phase out nuclear power. In particular, the German Government set up an Ethics Commission for a Safe Energy Supply. This found that: 'The withdrawal from nuclear energy is necessary and recommended to rule out future risks from nuclear in Germany. It is possible because there are less risky alternatives'. 'The Ethics Commission has come to the conclusion that a safe energy supply can be achieved which provides more jobs in business and manual trade without compromising environmental protection, whilst also avoiding a power shortage and having to import nuclear energy'. (See: <https://archiv.bundesregierung.de/resource/blob/656922/457334/784356871e5375b8bd74ba2a0bde22bf/2011-05-30-abschlussbericht-ethikkommission-en-data.pdf>).

2) 2021-03-10 Fukushima at 10 Presentation - What Happened and the Real Lessons for Energy Policy, <http://cms.energypolicy.co.uk/nuclear/335>

To mark the 10th anniversary of the Fukushima disaster, I updated an earlier presentation with new material. This showed that:

- There has been gross negligence for over 50 years by all Japan's nuclear operating companies and nuclear safety agencies.
- The Fukushima disaster was aggravated by the personnel being responsible for multiple reactors under emergency conditions.
- There had been no testing or drills of the loss of grid power and the loss of reactor cooling.
- Once meltdowns and releases had occurred, they had no means of mapping the radioactive fallout to guide evacuation, and had to rely on the US military based in Japan.
- The later Abe government coerced 'voluntary' evacuees to return by stopping their housing subsidies after only six years. Many still resist returning, despite the hardships.
- The Abe government encouraged the restart of the 39 remaining operable npps, but succeeded with only a few. Nuclear power is still strongly resisted by most Japanese people.
- The Abe government put back the date for clearing the used nuclear fuel that still requires cooling, to 30-40 years hence. Meanwhile, any loss of cooling risks further disastrous radioactive releases.

3) 2022-06-18 Nuclear Insecurities, <http://cms.energypolicy.co.uk/nuclear/349>

This is a three-page document setting out 16 distinct characteristics of nuclear power, any one of which would prevent completion on time and use for the planned lifetime. Yet being carbon-intensive and unsustainable, it would reduce energy security. Moreover, six could lead to extensive human harms - cancers, deaths and genetic - in this and all future generations.

4) 2021-06-09 The Futility of Fusion - A Dream Too Far. <http://cms.energypolicy.co.uk/nuclear/348>

This is a presentation of 27 slides for a talk that I gave to an audience of engineers. It draws on publications by three former fusion scientists and a nuclear physicist, showing that research on fusion is futile as it cannot affect the global GHG emissions by 2050. The links are given in the adjacent document: 2021-06-09 The Case Against Nuclear Fusion Power.pdf

5) 2022-06-14 Energy Transition Technologies, <http://cms.energypolicy.co.uk/allsectors/350>

This is a three-page document following the Energy Hierarchy of the Institution of Mechanical Engineers. From most to least sustainable, Tier 1 is Energy Demand Reduction, Tier 2 is Energy Efficiency, Tier 3 is Utilisation of Renewable, Sustainable Resources, Tier 4 is Utilisation of Other, Low-GHG-Emitting Resources, and Tier 5 is Utilisation of Conventional Resources as we do now.

In addition to reduced volumes of goods and transport, the potential for end-use energy reduction and efficiency is some 80%. Renewables like solar, wind, and hydro, supported by storage, are already low in cost and complement each other. These are quicker to deliver and sustainable, unlike heat, transport and power using the depletable fuels gas, oil, coal and uranium. Meanwhile, the UK government is funding nuclear fusion, increased fossil fuels with carbon capture, and small modular (nuclear) reactors, that the private sector will not fund without huge subsidies and guarantees against lethal risks. This discourages safe investments in energy savings and efficiency to meet the challenges of energy security and climate change.

As the UK government makes energy and climate proposals without consulting independent scientists and engineers, it seems that the public must resort to the courts to force them to do so. (See: 2022-07-18 Court orders UK government to explain how net zero policies will reach targets, Damien Gayle, <https://www.theguardian.com/environment/2022/jul/18/court-orders-uk-government-to-explain-how-net-zero-policies-will-reach-targets>).

I would be glad to answer any questions.

Gordon Taylor, B.Sc., M.Sc., M.I.Mech.E., Email: gordon@energypolicy.co.uk