

Dreaming of a future with abundant clean reliable energy – then dream about nuclear

When we look to the future, people the world over are hopeful for an era of abundant reliable electricity supplying all of our energy needs; all at a reasonable cost and with little to no impact to the environment. Unfortunately, in many western countries the politics of electricity planning has become largely a case of exploring the depths of our imagination with no real path to achieving this essential goal.

As stated by Malcolm Grimston at the World Nuclear Association (WNA) Annual Symposium last month in his brilliant talk ***“Sclerosis at the heart of energy policy”*** (in advance of a book he has coming out), we have become so accustomed to reliable and cost effective electricity supply that we can no longer ever consider a scenario where this can be at risk. He noted we even use the less than frightening phrase “keeping the lights on” when talking about reliability which greatly understates the importance of reliable electricity supply to our modern society. (As he said, he turns out his lights every night without concern – certainly a large scale disruption to our energy supplies would be much worse than having the lights go off.)

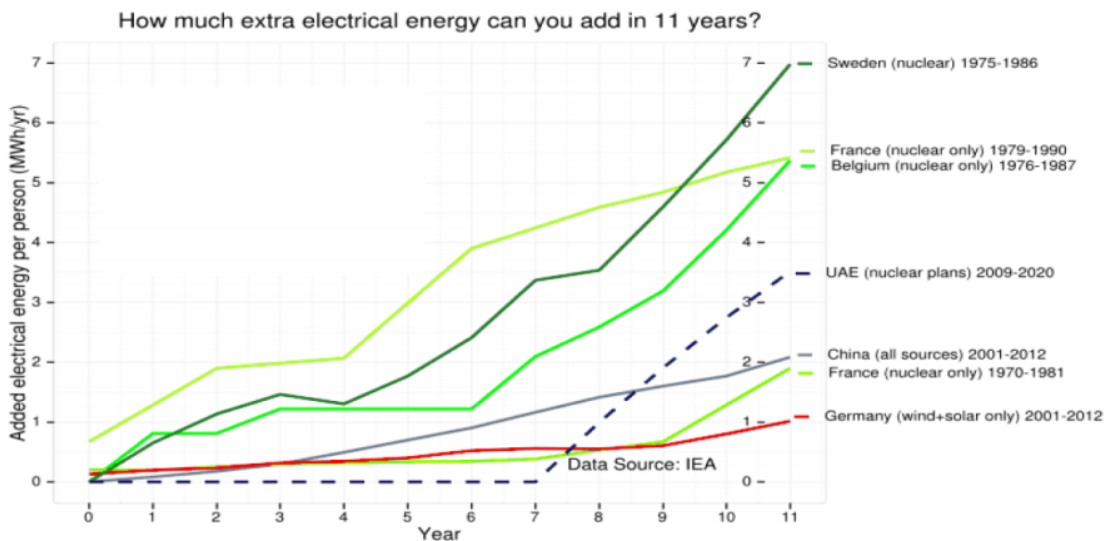
Given we can't imagine electricity reliability to be at risk; and given we have relatively slow growth in most western advanced economies there is a major reluctance to take decisions to protect and invest in our infrastructure for the future even while we want to work towards decarbonizing the system. Yes electricity demand growth is modest, but our lives depend more on reliable electricity supplies than ever before.

Without electricity society quickly becomes paralyzed with no ability to communicate, travel, maintain our food supply, sanitation, deliver health care and so on...in fact it is very difficult for us in all of our modern comfort to imagine how severe the consequences would be. Therefore in our great complacency we continue to do nothing because we all expect that the next great technological breakthrough is just around the corner. All we need to do is wait and advanced renewables will be available so we can have clean limitless energy forever. And so goes the narrative.

Ben Heard in his excellent WNA presentation "***World without Nuclear***" quotes Naomi Klein as she spoke to the media against the nuclear option in South Australia – "*What's exciting about this renewables revolution spreading around the world, is that it shows us that we can power our economies without the enormous risk that we have come to accept*". She said the latest research showed renewables could power 100 per cent of the world's economies. "*We can do it without those huge risks and costs associated with nuclear so why wouldn't we?*" she said.

But of course if it sounds too good to be true, it probably is. Ben's presentation goes on to review 20 studies that suggest that a world powered by 100% renewables can be a reality. However, in his review he rates most of these studies as poor. Overall he concludes that there is actually scant evidence for 100 % renewable feasibility while the literature affirms large dispatchable, i.e. guaranteed 24/7 supply is indispensable. His final conclusion is that global decarbonization requires a much faster-growing nuclear sector.

Nuclear makes quick, lasting decarbonisation possible



Source: Geoff Russell – [nuclear has scaled far more rapidly than renewables](#)

Reproduced from Agneta Rising Presentation at the WNA Annual Symposium 2015

But how can we have more nuclear when it has this perception of huge risks? We have written extensively on the issues associated with the perception of nuclear as a dangerous technology when in reality it has the best safety record of all technologies out there so we won't talk about that again now. In his presentation Malcolm Grimston places much of the responsibility for this public perception squarely on the nuclear industry noting that the industry *"spends half of its time implying that it is the new priesthood, with superhuman powers to guarantee safety; and the other half of its time behaving as if radiation is much much more dangerous than it actually is."* While it is hard to know what comes first, the fear or the industry reaction to it, we certainly agree that Malcolm makes a good point.

Then there are those that say nuclear power is way too expensive to be part of our future electricity system even though there is no doubt that wind and solar power are clearly the more expensive options. The most recent edition of

“Project Costs of Electricity”; an important report that is now in its 8th edition from the IEA and NEA looking at the costs of various forms of electricity generation has just been published. (This report is a must for anyone seriously looking at trends and costs of electricity generation around the globe.) While the report acknowledges the huge gains made by renewables in reducing their costs, it also demonstrates that nuclear power is one of the lowest cost options available depending upon the scenario. Of more importance, the report notes that the belief that nuclear costs continue to rise is false stating that, in general, baseload technologies are not increasing in costs and specifically *“this is particularly notable in the case of nuclear technologies, which have costs that are roughly on a par with those reported in the prior study, thus undermining the growing narrative that nuclear costs continue to increase globally”*.

We will have more to say about this report in upcoming posts. But for now, let’s all do more than dream about a future of abundant, reliable, clean and yes, economic electricity; let’s make this dream a reality by making sure that the electricity system of the future includes highly reliable 24/7 nuclear power.