

Nuclear power – how can public opinion be won over?

Changing the image of the nuclear industry is not going to be an easy or quick task. A three-pronged approach tackling radiation issues, realigning the arguments for nuclear power and transforming the sector's approach to communications is a potential path forward.

My recent monthly articles have concentrated on how the industry (meaning the key players and their representative organisations, national and international), should work to tackle the public acceptance issue. This month, I will summarise what needs to be done under three headings. Together they constitute a comprehensive action plan.

Although nuclear's biggest problem today is undoubtedly the cost of building new reactors, this is ultimately caused by its low level of public acceptance. Until the fear surrounding nuclear is comprehensively overcome, it is unlikely that costs will come down to levels that allow new nuclear plants to compete in today's electricity markets.

Then there are countries such as Germany which ban nuclear solely on public acceptance grounds, irrespective of the economic foolishness of so doing.

Little progress has been made in public acceptance since the Fukushima accident (see October 2014, 'Public acceptance – is there any progress?'). The industry's response to the accident has been weak and disjointed. It is, however, a battle that has to be seen in a long term perspective. There are some significant trends in place which will be hard to overcome (see September 2014, 'The world nuclear industry – is it in terminal decline?').

Picking amongst the future scenarios in the International Energy Agency's recent 'World Energy Outlook 2014', the ones showing a notable decline in nuclear in Europe and North America (but spirited growth in China and a few other countries) look the most likely. The decline in more established nuclear countries is going to take some time to reverse and the change will be very difficult to effect (see May 2014, 'The future of nuclear – are the majors lagging?'). One hope is that the lessons learned by building large numbers of standardised reactors in China will eventually transfer to the Western world; but without comprehensively tackling the public acceptance issue, this is unlikely to happen. For those of us convinced that nuclear should play a substantial role in satisfying the world's energy needs this century, this is deeply unsatisfactory. But by 2030, the message that renewable energy cannot reasonably fill the gap left by declining use of fossil fuels will surely have become established. At that point, the efforts made today to overcome the nuclear fear factor will bear ample fruit, maybe with new reactor designs achieving better economics by combining simplicity and acceptable safety (see January 2014, 'Moving beyond today's reactors – is there a viable route?').

1. Deal with radiation issues

Number one in the action plan is improving the public understanding of radiation and reforming the international radiological protection regime (see November 2014, 'Radiation – how can the industry begin to deal with its biggest challenge?' and December 2014, 'Radiation – can allies be found in nuclear medicine?'). It is fear



By Steve Kidd

of the consequences of radiation exposure that underlies most of the areas where the industry comes under attack, from uranium mining, through operating reactor safety, to waste management, decommissioning and nuclear transport. It is what marks the nuclear sector out as exceptional. Until the general public and its political representatives understand radiation better, their fear (indeed dread) of nuclear cannot be tackled

This first stage (public understanding) will be extremely difficult. Explaining all about something that cannot be detected by any of the human senses is challenging but has to start with school science lessons. While not writing off the older generations, it is essentially an educational challenge that has to start with those who will be living their lives through most of this century. It cannot be beyond

the wit of the nuclear sector to come up with fantastic educational materials that can be used internationally, bringing in sunlight (the sun as a natural nuclear reactor) plus medical and other exposures to radiation along the way. The consequences of nuclear bombs cannot be avoided here (the high releases of radiation from past atmospheric testing were significant). The industry has nothing to hide through transparency.

In parallel, the perverse international radiological protection regime founded on the "linear no threshold" (LNT) principal must be reformed.

There will undoubtedly be future nuclear accidents with at least some offsite radiation releases. It must be assumed that something of the order of Fukushima will happen again. As things stand, we would be faced with another mass evacuation of local people, without a proper assessment of the relative risks involved.

The risks of low level radiation exposure need to be put properly in the context of other risks faced by human beings. While there are still some internal disagreements on this, the industry needs to reach a consensus position whereby it can challenge the current regime. The people at Fukushima have been much more victims of mass evacuation than of radiation. The nuclear industry has to take the lead in prompting a more scientific and rational assessment of human risks and getting it put across to decision-makers. A huge amount of good work has already been done in this area (at least on the research side) but until it is reflected in public policy, the industry has a big problem. It may feel victimised while other industrial sectors escape scot free, but has to overcome this by its own actions.

2. Abandon the climate change argument

Number two in the action plan has to be abandoning climate change as the prime argument for more nuclear power. This is a somewhat controversial proposal and, as explained in last month's article (January 2015, 'Is climate change the worst argument for nuclear?'), many would regard it as heretical.

If one is to be super-critical, the mooted nuclear renaissance in the early years of this century got hijacked by particular interests more concerned about going down in human history as true savours of the world than any deep knowledge and concern about nuclear. This is reflected today by the carpet-bagger environmentalists — as in the “Pandora’s Promise” movie — who have finally seen the light and crossed the enemy lines to embrace nuclear as some kind of last resort, when everything else, in their wisdom, has failed. Fervent belief is all they bring, as these people have little understanding of the commercial realities of nuclear power in today’s energy world. Many of them find current nuclear technology so unsatisfactory that they embrace crazy new reactor concepts (which invariably have been found lacking in the past).

Even if one believes firmly in the science (that dangerous and irreversible impacts on the climate have already occurred from human activity and, without action, many more will come), the whole climate change process has become an international bureaucratic nonsense. It seems unlikely that nuclear will gain much, if anything, from measures that will be brought in (see March 2014, ‘European energy policy – will doors open for nuclear?’). Look at what the US Environmental Protection Agency (EPA) is proposing to curb carbon emissions. The industry finds itself fighting a battle because the rules actually penalise nuclear.

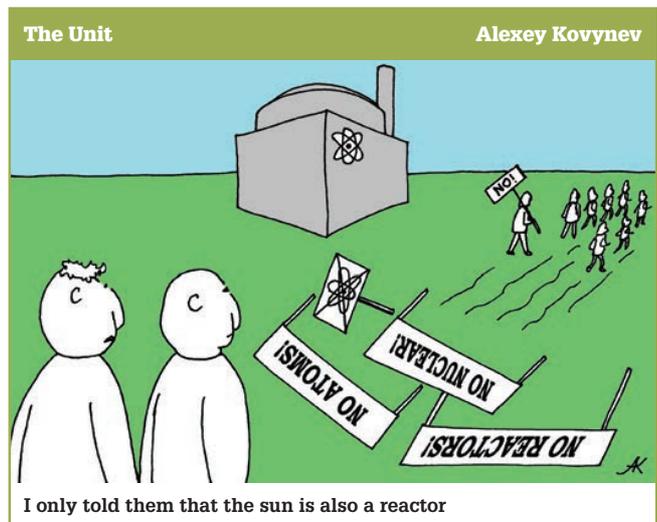
It seems that whenever nuclear gets involved in anything where bureaucrats try to command, control and protect the public, it tends to miss out (and badly too). This is somewhat reminiscent of the problem nuclear has over radiological protection. Well-intentioned people set out to be helpful, but the results are often perverse. With climate change policy, it is renewable energy that has greatly benefited, but there are perverse results – such as the rise of carbon emissions in Germany, which has burned more coal, and an economically suicidal increase in costs. Policymakers seem unable to cope with the need to achieve different fundamental objectives with a limited range of policy measures. One ends up with a dog’s dinner of an energy policy. A good example is the UK (see August 2014, ‘UK energy policy – where did liberalisation go?’).

The environmental case for nuclear is better rooted in its potential to clean up the air in Chinese cities, and its good stewardship of the Earth’s resources – in saving valuable hydrocarbons which have important alternative uses than power generation. But we know that policy-makers have unfortunately comprehensively ignored nuclear’s benefits, although they have been identified by life cycle analysis of energy systems for many years.

Nuclear’s biggest selling point is that it can produce huge quantities of power very reliably and cheaply, assuming it is done properly. It therefore should avoid getting caught in anything involving more costs, government intervention, taxes and similar, which is where the climate change argument inevitably ends up. This is effectively making energy costly, inefficient, and unreliable in the name of getting votes from people who don’t really understand.

3. Scrap the fact-based approach

Third and final in the action plan is to get away from the facts-based approach to winning over public opinion. Nuclear proponents have always believed that “the truth will set you free” and therefore rely on supplying a mass of news and information, which will surely convince people that their technology is the best option. But most people operate on a level where factual information holds little sway and belief is all-powerful. The anti-nuclear camp has been very successful over the years in convincing people that nuclear power is dangerous and evil. Fears are stoked up by appealing to peoples’ emotions rather than their intellect. Hence any factual statements against that belief will be eschewed. Attempts by frustrated nuclear proponents to offer more and better information will be entirely counter-productive.



I have mentioned in these columns on several occasions (see, for example, October 2014, ‘Public acceptance – is there any progress?’) the concepts of “confirmation bias” and “dreaded risk”. The representative organisations of the nuclear industry probably provide more and better information to the wider world than any other. Services such as the World Nuclear Association (WNA)’s website and World Nuclear News (WNN) are excellent, but frankly help very little in getting public opinion onside. Indeed, claims that people are irrational when presented with the facts about nuclear are often wide of the mark. What industry proponents think are very positive messages about the increased safety of the latest reactor designs or how much a new procedure beats established regulatory limits actually provide the opposite message, further stoking up public fears.

The answer has got to be to change the image of the industry.

This will be very difficult to achieve given the unfavourable starting point: many people think that nuclear is one of the most dangerous things on the planet. Getting a better understanding of radiation and putting across the right positive messages about nuclear (cheap, clean and secure) will help a lot, but this is clearly a task for the smartest PR firm in the world. Positive images of nuclear on TV and in the movies would help, possibly a nuclear-related cartoon character (certainly not Homer Simpson!). All to give the impression that nuclear is a normal, everyday activity and not a doomsday machine. Some good third-party advocates showing support for the industry would also be useful – maybe notable sportspeople, actors or musicians.

Ultimately, to those who do believe, no proof is necessary, and to those who do not believe, no proof is sufficient. Getting away from the mushroom cloud and James Bond movie images will certainly be tough, but is achievable over a period of time. There are no quick fixes and the international industry needs to agree a strategy that will allow nuclear to prosper in the longer term. Public opinion is certainly local, but even in countries where nuclear attracts better levels of public approval (such as in the UK) there is still an underlying fear factor. An international approach, but with communication vehicles channeled to local cultures and sensitivities, is certainly now urgently needed. ■

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