Security and sustainability: the role of science, design and technology
SGR Conference and AGM, 16 November 2013

Summary by Paul Marchant

The conference was opened by Dr Jan Maskell, a member of the SGR National Coordinating Committee. She highlighted that the previous year had been an exceptionally busy one for SGR with the office move to Lancaster, the launch of a major new report, and a number of staff changes.

Presentations

The first speaker was Dr Stuart Parkinson, Executive Director of SGR, who gave a presentation centred on SGR's latest report, *Offensive Insecurity,* which uncovers and assesses the UK governmental spend on R&D in relation to national and international security. A key aspect of current policy is to have a major offensive military capability, i.e. a large destructive capacity with the ability to strike at long range. (In this context, it is worth noting that the UK has the world's fourth largest military budget and actively deploys nuclear weapons.) The 10-year defence equipment plan involves spending £160 billion, an increase over current annual levels, when government expenditure in civilian areas is decreasing. The MoD R&D budget runs at £1.8 billion annually with the highest spending being on strike planes, attack helicopters, long range submarines, nuclear weapons, nuclear propulsion and drones. Stuart argued that much nuclear weapons R&D is likely to be undermining nuclear weapons treaties, and highlighted evidence that armed drones cause more civilian deaths per strike than manned warplanes. He then argued that this offensive capability – and its use – was resulting in less security. For example, a former Director General of MI5 had stated that the invasion of Iraq had "substantially" increased the terrorist threat to the UK. In addition, the UK is a major exporter of arms to countries with repressive regimes.

A further issue that is likely to fuel unrest in the world is climate change, through drought, crop failures, sea-level rise etc. This is an area in which the UK could take much more action as its carbon footprint is much higher than a sustainable level. The UK's high consumption of fossil fuels is also problematic especially through its reliance on imports from unstable parts of the world. The presentation then developed the theme of 'sustainable security', which is the tackling of the major root causes of insecurity, in particular, competition for resources, global militarisation, economic inequality/ injustice and climate change. Although the government has recognised the existence of such broader threats, security policy remains too narrowly focused on the ability to 'project force'. Nevertheless, there are some good signs, for example, renewable energy production has increased significant over the past decade and there is some R&D spending on sustainable security issues, though the funding is several times smaller than that on military R&D. The conclusion of Stuart's presentation was that there should be a shift in spending towards sustainable security R&D with priority given to arms control and disarmament, tackling environmental problems, promoting economic reform, and promoting security for all in energy, food and water.

The second presentation was given by Dr Phillip Webber, Chair of SGR, on the huge humanitarian problems that would result from the use of nuclear weapons. There is a current international push to get nuclear weapons banned. This builds on the success of international treaties banning landmines and cluster bombs. There has been good progress at the UN with 125 countries signing UN General Assembly motion 68. SGR has been involved in calculating the impact from the use of nuclear weapons. For instance, what effects would a typical weapon (100 kilotonnes) have on a medium sized city? Manchester had been used as an example in a briefing co-authored by SGR, and the calculations revealed casualties of 81,000 dead and 212,000 injured within just one minute. It is extremely troubling that there are still over 17,000 nuclear weapons in the world's stockpiles. Even the non-nuclear states of NATO are involved in nuclear strike planning and operations.

Philip also presented the climatic consequences – the drop in temperature and rainfall over several years – resulting from nuclear exchanges of different sizes. The firepower of just one Trident submarine (40 warheads) would be devastating, the climatic disruption resulting in a global-scale famine. He concluded that the effects would be so destructive that they would cause huge losses even in the country launching the weapons – and hence their use would be suicidal and self-defeating. Continued deployment is therefore irrational and needs to be abandoned.

The final contribution was from Dr Ian Fairlie and it was entitled, *UK Energy Policy: Secure, Sustainable, Sane?* Key background issues, he explained, are dwindling reserves of oil and gas coupled with anthropogenic climate change. He contrasted UK policy with that of some other European countries. For example, whereas the UK government is planning for a doubling of electricity demand by 2050, the German plan is to reduce it by a quarter. Some European states have high levels of renewable energy consumption (more than one third), but the UK is near the bottom of the league despite recent increases. While Germany, Italy and Switzerland are all exiting nuclear power, the UK government has just approved a financing deal for a new nuclear power station at Hinkley Point with a guarantee to pay double the current price for electricity produced for 35 years. This is more generous than any deal involving renewable options. He also pointed out that unit costs for nuclear power are on an upward trend, while those for (e.g.) solar photovoltaics are on a steeply downward one and crossed with nuclear three years ago. The conclusion of the talk was that current UK policy is not 'sane'.

Annual General Meeting

Philip Webber opened the AGM, and a review of the year's activities was given by Stuart Parkinson, while Treasurer Alasdair Beal reported on SGR's finances. Full details are given in SGR's annual report, which was approved by the meeting.

The election of the National Co-ordinating Committee (NCC) for the coming year was then carried out. All the candidates standing were elected unanimously. The NCC for 2013-14 is thus:

Chair: Dr Philip Webber
Vice-chair: Dr Jan Maskell
Treasurer: Alasdair Beal CEng
Secretary: Dr Harry Tsoumpas
Committee members:
Martin Bassant MPhil, Dr Tim Foxon, Dr David Hookes, Dr Paul Marchant CStat

The AGM concluded with a short discussion of future activities, including plans for a new SGR briefing on shale gas and fracking, and new educational activities focused on ethical careers in science, design and technology.