RCEP – Topics for a future study

Institute of Physics response to a RCEP request for input

A full list of the Institute’s responses and submissions to consultations can be found at http://www.iop.org

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Dear Ms Rizzi

RCEP – Topics for a future study

The Institute of Physics is a scientific charity devoted to increasing the practice, understanding and application of physics. It has a worldwide membership of over 36,000 and is a leading communicator of physics-related science to all audiences, from specialists through to government and the general public. Its publishing company, IOP Publishing, is a world leader in scientific publishing and the electronic dissemination of physics.

The Institute welcomes the opportunity to respond to the RCEP’s request for views and comments to inform its selection of a future study. The topics shortlisted by the RCEP would all make excellent studies, but following consultation with members of its Energy and Environmental Physics Groups, the Institute is of the view that the following, in rank order, are timely and important to current public concerns:

New technologies for waste management; deciding environmental priorities; environmental impact of demographic change; multi-level governance and the environment; and human rights and the environment.

Comments on the topics can be found in the attached annex.

If you need any further information on the points raised, please do not hesitate to contact me.

Yours sincerely

Professor Peter Main
Director, Education and Science
New technologies for waste management

- Compared with the sophistication of most everyday technology that of bulk waste management is relatively primitive. The issues set out in the RCEP's description are very appropriate and timely, particularly with regard to recovering energy and producing methane or biofuels from organic wastes to ease the current problems associated with fossil fuels.

- At a fundamental level, there needs to be clarification of the status of materials that are recycled. Are these ever ‘wastes’? Indeed, is ‘waste’ a misleading term for materials that are an input resource for further industry? This is important, for legislation now requires materials classified as ‘waste’ to be treated differently from materials classified as ‘resource’. From a fundamental physics point of view, all materials can be recycled so long as there is a supply of energy, so in principle nothing need be ‘waste’ for permanent disposal. A study that includes such fundamental theory with case studies of recycling could be important.

- Waste management and the possibility (and problems) of waste to energy conversion must be a high priority given the pressure on landfill sites and the need to tap into new sources of energy supply.

- To what extent will deep geological disposal of nuclear waste feature under this heading?

Deciding environmental priorities

- The issues set out in the RCEP's description are important, particularly the criteria to be used in deciding where to invest resources – that they should be objective, scientific and transparent. With the prospect of significant expenditure on the amelioration of global warming coinciding with a global recession, this topic could be very timely.

Environmental impact of demographic change

- This topic should include population growth or (more desirably) population control or decrease, which is perhaps the single most important influence on the future of the interaction between humanity and the planet. The RCEP would no doubt be seen to be controversial or, in some quarters, unacceptable in addressing such an issue but it is time that this particular nettle is grasped if we are to understand the increase in this human pressure on the environment. In addition, another potentially taboo subject is that of meat consumption; the RCEP could consider, under the heading of this topic or another, the issue of the energy expense and environmental impacts of a high meat diet.

- If our living space has changed by the dispersal of people across more land then the RCEP could review whether that dispersal is effective in energy use
in individual oil consumption and pollution, and balance the gains made by reduced prices in out-of-town malls and out-of-city commutes. Should we change to a Le Corbusier type of 3-D environment with tightly packed people?

• The RCEP could investigate the possibility of making, in most cases, consumer goods, including electronics, to last 10-20 years instead of 5 years, and the abolishment of all non-degradable packaging.

Multi-level governance and the environment

• Businesses are subject to regulation by local authorities, the Environment Agency, the Sewerage Undertaker, and others. The source of these regulations may be the government, more likely the EU or even international treaties. The interaction of these bodies and legal requirements does not always work smoothly, and a review by the RCEP could offer significant benefits in, at least, spreading best practice. In addition, the RCEP could look at international comparisons to see if the UK could consider a more fundamental change in its regulatory framework.

Human rights and the environment

• This would be a fundamental and important topic that few other agencies are likely to tackle. It would be important to put the subject into a historical and legal context. One class of such ‘rights’ relates to renewable energy. For example, the historical rights for fuel wood, peat, grazing, daylight, mill streams, etc. It is possible that many of these ‘rights’ exist now but are not considered? For renewable energy, a major study of such ‘rights’ is important. For instance:

  • If a solar device is installed on a building, do the owners have rights to sunshine should another building be proposed to the south that would cause shading? Similar remarks apply to wind turbines.

  • If a ground sourced heat pump is used, what happens if this affects the temperature of the ground beneath a neighbour’s property who also wants to use a ground-sourced heat pump (such effects are already occurring in cities with ground-sourced heat pumps)?

  • There is also an issue as to what extent legislation should be used as opposed to persuasion. One could imagine limiting transport, banning incandescent bulbs, rationing meat, etc. The RCEP could determine the political acceptability of such proposals.
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