

## **Comments by the Institution of Environmental Sciences on the Royal Commission Study of Energy and the Environment**

### **Energy sources**

1. Key policies would include support for the development of technologies that can be demonstrated to work and provide the necessary energy at no additional cost. This requires carefully reviewing all of the options open and then supporting those that appear to be the most promising. At the same time, encouragement should be given for the development of new ideas for the provision of renewable sources of energy.
2. The most critical limiting factor is that the renewable source does not itself cause pollution.
3. The most readily available renewable source of energy is municipal waste combined with production of both heat and power. This could be developed even further through improved technologies. There is the hurdle of public perception to overcome but we believe that this can best be achieved by speaking in terms of a Combined heat and Power generating station fuelled by domestic waste as opposed to a waste incinerator. Water, wind and solar power all offer some scope but nuclear power is already well developed.
4. The use of the energy should also be considered. Should we, for example, be considering wider use of wood as a building material - where little energy is consumed and the carbon dioxide is already sequestered- as opposed to steel and concrete - where considerable energy is used in their manufacture. Otherwise, this possibility should come well down the list for development.
5. We are already using more conventional nuclear power than most people realise - imported from France. The major problem to overcome at present is that of public attitudes. There have been mistakes made in the past, but those wishing to adopt negative attitudes have magnified these. Most of the technology is in place. Valid disposal strategies do need to be developed for the disposal of both production wastes and ultimate decommissioning wastes.
6. Much of the technology for fast breeder reactors has been developed and these should be regarded as potentially viable sources of energy in the next century. Nuclear fusion must be approached as an engineering project rather than as theoretical nuclear physics research.

### **Improvements in energy efficiency**

7. Stabilisation of demand largely depends on attitudes. All users need to be aware of the need to reduce demands. At the same time, producers of energy will want to sell as much as possible to increase their profits. Some means must be found of meeting both requirements.
8. Largely as with 7 above we would suggest that one of the major drivers could be to

sharply increase charges to consumers when certain thresholds of use have been reached. As above, the income to energy producers should be offset to encourage them to introduce such policies. The development and introduction of Good Practice Guides could perhaps, reduce barriers.

9. As above.

10. This is not readily quantifiable, but all contributions can help.

11. It is essential that courses on environmental issues are built into all professional training. At the same time, it is desirable that environmental issues are included in the general education syllabus at an earlier stage.

12. -

13. There are many groups that could have responsibility for promoting energy efficiency. It is, however, essential that this is concentrated with the one group rather than confusion arising through excessive amounts of duplicated information being produced. The Energy Efficiency Office would appear to be the most likely focus point.

#### **Implications of climate change**

14. The full facts should be obtained before rushing into any measures that could prove to be costly and unnecessary. We should of course, adopt a precautionary approach and monitor very carefully but it should be recognised that nature is resilient and will adapt to some changes that are made.

15. Probably the major constraint on the use of fossil fuels is the impurity levels in them. The presence of sulphur with the consequent production of acidic gases on combustion is much more likely to be a limiting factor.

#### **Social issues**

16. This depends on the strategies adopted. The major consideration should be that the "polluter pays".

17. -

18. -

#### **International considerations**

19. This depends on what the trends are. If stepped pricing is introduced, the height of the step can be increased. Is this in the hands of the Regulator?

20. If necessary, the UK should take the lead but at the same time should strongly urge others to follow reasoned arguments for the adoption of similar policies.

21. -

22. Yes, but this should not start until there is a clear assessment of all the currently available information in order that a focused rather than shotgun approach is adopted.
23. There are obvious opportunities providing it can be demonstrated that UK has a clear and enthusiastic lead in specific technologies.

### **Additional**

- There does not appear to be a clear heading to emphasise that most energy and environmental issues have in the past been treated on a short-term basis. Any attempts to improve energy production and usage should be regarded as long-term and be given the necessary Governmental support - perhaps through low (or no) interest loans.