Energy and Waste

Introduction (Peter Landshoff)

Conclusions from 2030 Vision:

Retrofitting for energy efficiency is essential and more beneficial than raising existing standards for new housing.

Potential for local renewable energy (wind and solar) must be exploited.

Behaviour with regard to energy use must change.

'By 2030 there will be a micronuclear power station under Parker's Piece'.

Discussion (lead by Barry Pearce)

Provision of Energy

Whilst fossil fuels remain the dominant provider of energy needs, renewable sources have grown significantly in the last ten years and new technology will accelerate this growth. Planning permission for new house build will require solar panels to be installed and they will become increasingly cheaper to install and more efficient in providing energy. They will become more acceptable aesthetically such as the use of tiles as solar panels. Similarly wind farms' costs of installation are declining although inland planning permission is a limitation.

The transmission of energy by a Supergrid from the Sahara to Europe should be feasible before 2050. Such a grid would also 'smooth out' the availabilty of renewable energy from other sources.

Small modular nuclear reactors and the development of nuclear fusion [already in trial in France] can also be expected to compensate for the decline in the use of fossil fuels. The suggestion that there might be a micronuclear power station under Parker's Piece did not go down well with all members of the group.

The use of wood pellets has been widely condemned as environmentally dangerous from carbon and particulate emissions.

Energy saving

Retrofitting of existing housing has been government policy for many years (70% of cavity walls are insulated, and 66% of lofts) but will contribute a declining benefit in the future as the costs of completing the programme will escalate as more expensive solutions are needed e.g. insulating solid wall housing. The city council has proposed that planning permission for extensions would be dependent on retrofitting the rest of the house, but it's not clear if this would be legal.

Technology development such as insulating plaster will lead to cost savings and greater efficiency, as would greater implementation of ground and air source heat pumps. But there

are still benefits to be had from simple improvements such as better draft sealing and thicker winter curtains.
The switch to electric vehicles should reduce costs in the long run as the supply of fossil fuels declines by 2050 but has the more important benefit to the environment in reducing pollution.
The storage of energy in batteries requires huge investment in research as results at present are very limited whether for industry or vehicles.
Greater use of electrical machinery in off peak hours should be rewarded financially.

Reduction in demand

Reducing room temperatures through the wearing of warmer clothing.
Increasing the cost of energy at peak times may reduce demand but would be politically unpopular.
Cycling should be encouraged by making it safer. It was felt that cycling provision in Cambridge is very poor, though improving. Greater use of power-assisted bikes should be encouraged.
Investment to encourage train travel through longer trains and new lines will switch more motorists to rail.

Waste

There should be greater emphasis on reducing waste in the first place, in particular plastic packaging and the more efficient use of cardboard packaging.
The potential to generate energy and useful materials from waste has now been fully recognised but the UK is well behind initiatives on the Continent. Those who had visited the Waterbeach Waste Management Park had been very impressed.
Biodigesters are being installed locally and greater savings and efficiencies will be achieved in the future.

Conclusions

Local authorities should continue to support policies that

- Aim to reduce energy demand and improve efficiency.
- Aim to reduce waste and enhance recycling.
- Encourage innovative R & D.