

Zero Carbon Britain

On July 7, 2007, the Centre for Alternative Technology (CAT) launched 'zerocarbonbritain', a blueprint for Britain to reduce its energy-based CO₂ emissions to zero by 2027. It defines a global carbon budget and identifies an equitable portion for Britain. Using only existing and proven technologies, it maps a potential scenario with a dual process of 'powering down' energy demand, and 'powering up' renewable energy supplies.

Powering down: The strategy recommends that by 2027 Britain require half as much energy as at present. An important measure is a limiting number of tradeable energy quotas (TEQ), of which a part is distributed equally to citizens, and another part is auctioned to business. The heat demand for buildings is expected to decline by 50% and electricity demand by around 10%. New buildings will be effectively zero-carbon after 2012 and there will be a vigorous programme to refurbish older buildings. A strong emphasis on combined heat and power (CHP) will guide power-plant construction. Private vehicles will become more expensive to run, but this will be offset by hugely improved rail and bus services. Virtually all vehicles will be electrically powered, with the capacity to feed into the grid as well as draw from it. This will be an important component for balancing a renewables-based grid.

Domestic air travel may be limited to emergency use, while international flights will have to pay their full carbon costs.

The increasing costs of petroleum-based agrochemicals and of bulk transport are likely to lead to a much more local, organic food supply. It will also motivate a large reduction in livestock, probably by 60% or more, and a diet with less meat and fat. This will free up of large areas of land for forestry and biomass crops.

Power Up Renewables: Renewable electricity supply will be increased, requiring reinforcement of the National Grid and its development into a more sophisticated system for integration and balancing of supply. When renewables are generating more energy than is needed in a local area, energy can be stored in vehicle-to-grid systems, flow batteries, pumped storage, and geologi-

cal hydrogen stores. When demand is high and production low, there will be shedding of demand on 'economy' tariffs. The scenario demonstrates that energy storage requirements are achievable. Wind will provide the greatest proportion of electricity, around 50% by 2027.

The report concludes that zero-carbonbritain is both scientifically necessary and technically possible. With TEQs it can be made socially acceptable. It may also deliver a higher quality of life.

What is needed now is to make a zero-carbon Britain politically thinkable. The authors are convinced that this can be achieved.

More information:

www.zerocarbonbritain.com

New Renewable-Energy Masters Programme at CAT in UK - Innovative Courses for a Zero-Carbon Future

The Centre for Alternative Technology (CAT) are launching a unique MSc in Renewable Energy and the Built Environment in September 2007. Half of the modules on the course focus on practical activities, making it the only masters course of this kind in the UK.

The course from CAT's Graduate School for the Environment is designed for people with a technical graduate background, including engineers, architects, system specifiers and planners. The new programme is taught in collaboration with the University of East London (UEL) and builds on the success of CAT's existing MSc programme "Architecture: Advanced Environmental and Energy Studies", which has grown exponentially from 30 students in 2000 to almost 400 today.

CAT is a world leader in sustainable education and a member of INFORSE-Europe.

Info: www.cat.org.uk/courses.



zerocarbonbritain
an alternative energy strategy