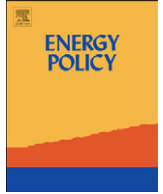


Contents lists available at [ScienceDirect](#)

Energy Policy

journal homepage: www.elsevier.com/locate/enpol

Introduction to Section 6—Decentralised systems

In the UK, today's homes and businesses are lit and heated by energy derived from Norwegian gas, Saudi oil, or perhaps Australian uranium, while we take it for granted that power stations may be owned by a German company or by the French state. But may this era of large scale, top down, energy systems be coming to an end? In this section we examine the scope for decentralised energy systems to contribute to sustainable built environments. So far, for example, the UK has been slower than many other European nations to make the most of combined heat and power (CHP), preferring to invest in natural gas and centrally generated electricity. Here Hinnells looks at the barriers to greater use of CHP for domestic heat and light by industry, while Wolfe considers the potential technological development of CHP systems.

An important concern about decentralised systems is whether they can contribute to reduced carbon emissions. Supporters of renewed investment in nuclear power may doubt this claim. But smaller-scale systems may be able to use renewable energy from the wind, the sun or sustainable sources of biomass, in ways that are not available to large-scale suppliers. Kierstead takes up this issue.

One question is just what counts as decentralisation. In some cases, a whole city might develop and implement a low-energy strategy, whilst elsewhere, a single street or even household might do so.

A further issue is whether such systems will exist as islands of energy autonomy, or will remain connected to national networks which they use as backup suppliers or as customers for their own surpluses. Bouffard and Kirschen consider issues of scale, while Mitchell and Baker consider future regulatory structures for distributed energy.

These issues are not fully resolved. But there is a strong feeling among Sustainable Energy Management and the Built Environment project participants that many energy consumers would prefer to know they had a national reserve supplier of power. There is a danger that systems which do not offer this level of assurance will be regarded as second-rate and will be used by the poor, adding fuel uncertainty to the fuel poverty from which they already suffer, an issue which Walker takes up.