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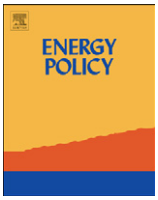

Introduction to Section 7—Innovative construction and built form

In this section, seven papers examine what future buildings will look like and how they will be built. The UK construction industry is famously slow to change, although in recent years technology has improved and more components are being produced in factories rather than on site. There are several reasons why it should use even more advanced techniques. One is that despite the employment of much immigrant labour in the sector, skills shortages are a continuing problem. Another is that build quality is a key determinant of the energy performance of a building. It is common for buildings to fail to deliver the energy performance they were designed to achieve, mainly because of poor construction quality. In future we will pay more attention to the whole life-cycle of buildings, the energy they use, and the cost of supplying it. Here Glass and her colleagues, and Pitts in a separate paper, consider future buildings, the materials that will go into them, and the technology that will be used to manufacture them.

Many of today's buildings are ill suited to the era of climate change and renewable energy. Wright examines the connection between energy use and built form. Some buildings lack space for renewable energy equipment to be added, or even the storage capacity for woodchips or other biofuels. Others face in the wrong direction to collect solar energy. In this section, Roberts examines how climate change is altering the demands on our buildings and at how buildings can be future proofed against changes in the climate and in future patterns of energy use. More buildings will have renewable energy equipment fitted as standard, but use will also be made of passive design to cut energy use, making them cooler in summer and helping more ambient solar energy to be made use of in winter. Roberts examines the issues. One common theme is that buildings are going to need open spaces more than ever, especially to keep cool in a warming world. Smith and Levermore look at the spaces around buildings and their growing importance.

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