can also have a significant impact on the success of the compact, sustainable urban form.

The chapter by Gillen also examines accessibility in cities, in relation to the workplace. Work patterns are changing and, with them, demands on good work environment. Gillen argues that the main requirement that workers have is for increased communication connections to one another. This chapter explores the impact of communications on the workplace and how new technology can be extrapolated to guide the design of the city. Gillen suggests that virtual and physical space have distinct yet complementary roles to play in the city; and as such, aspects including accessibility, public space and privacy encompass a further dimension for sustainable urban design.

Roaf *et al.* consider the application of strategies and technologies for the use of renewable energies in a community-wide framework in the UK. The scope for the building industry to reduce current levels of carbon dioxide emissions is considerable and the authors suggest that significant emission reductions are achievable with relative ease. The reported research involves two pilot studies in Oxford: equipping a small area of houses with photovoltaics with a single connection to the grid, and plans for a solar suburb. The research also involves the testing of public opinion towards the implementation of the two initiatives: part of the collaborative approach adopted by the *Oxford Solar Initiative*.

The next chapter by Mardaljevic also considers solar energy, in terms of solar access and social sustainability. The quality of life in dense urban areas can be affected by the amount of daylight and sunlight that one has access to, particularly in public spaces. Mardaljevic suggests that solar access can influence people's perceptions of the city: gloomy and unattractive as opposed to well lit and bright. Traditional methods of estimating solar access in urban areas are critically examined, and a new schema is proposed to quantify urban solar access with examples demonstrating the application. Solar access prediction represents an important advance for sustainable design in a climate where policies are calling for higher densities and public open space is at a premium.

The final chapter in this section discusses the sustainability of buildings. In the context of urban sustainability, having the ability to assess the sustainability of buildings is imperative. This chapter uses the extreme case of high-density, high-rise housing in Hong Kong as a case study. Three housing

blocks are compared: one private, one social and one at the conceptual design stage (the Integer Concept tower). Embodied and operational energy, construction waste and costs, as well as recycling are modelled to give an analysis of the sustainability of the building's full life cycle. Although in its early stages, Amato *et al*. suggest that this model has the potential to help the construction industry and designers make sustainable decisions when building in urban areas.

The chapters in this section present different aspects that have a direct or indirect impact on the sustainability of the urban form. Ensuring that similar aspects (such as changing travel patterns or changes in policy) are adequately accounted for in urban design now and in the future is fundamental to the achievement of urban sustainability.

Conclusion: future forms for city living

The conclusion briefly draws together the research and practice discussed in the book. Together with reference to additional schemes and proposals, it adds to the research in the chapters with examples of large-scale designs proposed and/or implemented over the past decade or so. This offers some indication to planners and designers of sustainable urban forms that might be achievable in the future.

Note

1. The chapters in this book have been adapted from a selection of papers drawn from a major international symposium held in September 2002 in Oxford, UK. This was the fifth symposium of the International Urban Planning and Environment Association, entitled *Achieving Sustainable Urban Environments: Future Forms for City Living*. These chapters were selected from the 'futures' theme, one of the six themes in the symposium.

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