### Green roofs, Tokyo

## The project

Dense cities, such as Tokyo, suffer from the heat island effect, with ambient temperatures considerably higher than the surrounding countryside. The Tokyo government passed regulations in 2002 to 'green' buildings with trees, plants and grass. The regulations require '20% of every new, large private building and 30% of all public buildings' to be covered in greenery (McCurry, 2004). One such example is at Roppongi Hills, a new project by the Mori Corporation – which is also claimed to be Tokyo's (Figure C.30) example of compact city development (Yabe *et al.*, 2003).

# Sustainability features

Green roofs, it is suggested, have numerous sustainability benefits. In addition to reducing the heat island effect, they help to conserve energy and fuel because of their insulation value, and ameliorate storm water run-off through absorption. They enhance biodiversity and wildlife, and provide additional green space in crowded urban areas (Anon, 2004). Roppongi Hills provides 1300 m<sup>2</sup> of roof garden space. However, such 'sky gardens' tend to be for private use, and the public benefit may be slight.

#### References and links

Anon. (2004) Green Roofs. *Sustain*, **5(5)** pp. 25–27. McCurry, J. (2004) Sweltering Tokyo tries to go Green. *The Guardian*, 24 July 2004, p. 19. Yabe, T., Terada, M., Yamagishi, K. and Yokoyama, Y. (2003) *Roppongi Hills Opening Exhibition Catalogue: The Global City*, Mori Building Co., Ltd, Tokyo. Mori Building Co., Ltd. (no date) *Roppongi Hills*, Mori Building Co., Ltd, Tokyo.



Figure C.30
A 'sky garden' at Roppongi Hills, Tokyo. (Source: Mori Building Co., Ltd.)

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