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A Comparative Sustainability Assessment and Indication of Future Housing Trends in Hong Kong

Introduction

This chapter reports on research that assesses the environmental and economic sustainability of current public and private sector housing blocks and a proposed speculative development, The Integer Concept Tower, in Hong Kong. Comparisons are made between each of the housing types using the following indicators: capital cost and costs in use; embodied and operational energy and carbon dioxide (CO_2); and construction waste. As the relative values of the environmental and economic impacts of each housing type are shown, indications emerge of where to concentrate the industry's efforts in reducing or mitigating negative impacts on sustainability.

The research has drawn on a range of work including studies that have shown the potential benefits of the extensive reuse of construction products in terms of the reduction of embodied impacts (Amato, 1999) and that has assessed the market barriers to the wide-scale adoption of reusing construction elements and components (HKUST *et al.*, 1999). The research also builds on work recently carried out by Davis Langdon and Seah (DLS) Management Ltd. that compared the cost of the main structure in standard public and private housing blocks,