Chart with y-axis "Waste volume (dm^3/m^2 CFA)" ranging 0 to 1200. Legend: Volume to landfill deconstruction; Volume to landfill initial.

Bar values: 920 dm^3, 1024 dm^3, 833 dm^3, 833 dm^3.

X-axis categories: Housing Authority Standard Block (50 years); Private Sector Standard Block (50 years); Integer Concept Tower (50 years); Integer Concept Tower (75 years).

20.84 dm^3/m^2/annum	23.37 dm^3/m^2/annum	19.45 dm^3/m^2/annum	12.51 dm^3/m^2/annum
0.007 dm^3/m^2/ occupant/annum	0.036 dm^3/m^2/ occupant/annum	0.033 dm^3/m^2/ occupant/annum	0.021 dm^3/m^2/ occupant/annum

Table 20.2
Waste volume figures for various life-cycle stages.

Chart with y-axis "CO$_2$ (kg/m^2 CFA)" ranging 0 to 9000. Legend: Operational CO$_2$ due to energy consumption; Repair and maintenance; Initial.

Bar values: 6082 kg, 5918 kg, 5808 kg, 8060 kg.

X-axis categories: Housing Authority Standard Block (50 years); Private Sector Standard Block (50 years); Integer Concept Tower (50 years); Integer Concept Tower (75 years).

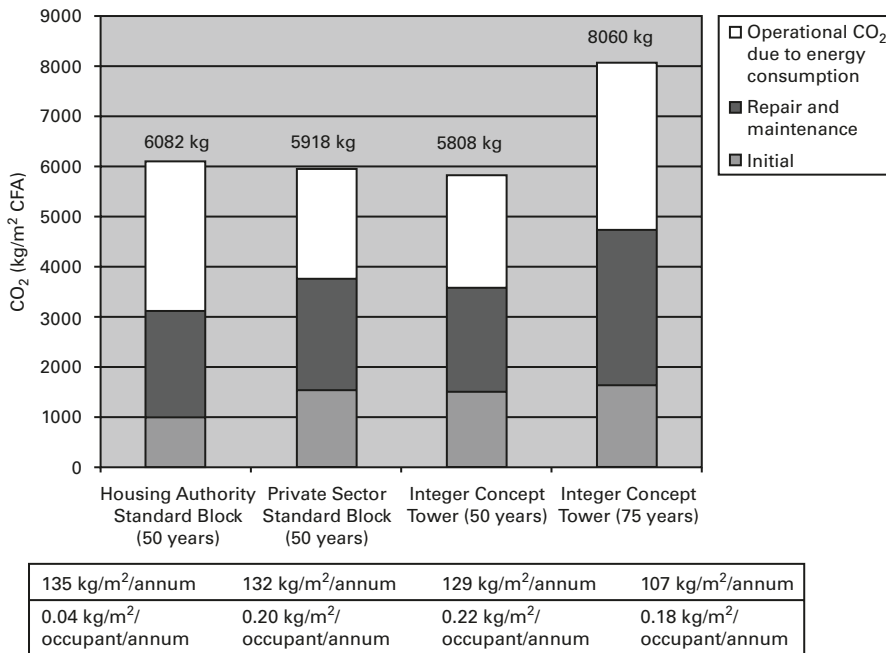| 135 kg/m^2/annum	132 kg/m^2/annum	129 kg/m^2/annum	107 kg/m^2/annum
0.04 kg/m^2/ occupant/annum	0.20 kg/m^2/ occupant/annum	0.22 kg/m^2/ occupant/annum	0.18 kg/m^2/ occupant/annum

Table 20.3
Quantities of CO$_2$ at various life-cycle stages.

It appears that the best-performing building type for the waste indicator is the Integer Concept Tower, over both the 50- and 75-year life. It has been assumed that all the metals for all the buildings will be recycled and because there is a considerably greater tonnage of metals (structural steel) in the Integer Concept Tower, this boosts the amount recycled, and thus reduces the amount of waste going to landfill. In addition, the effect of amortizing the building by an additional 50% considerably reduces the rate per annum.

CO_2 values were unable to be reliably calculated for the demolition process, as the energy consumption and fuel mix attributable to the transport of waste material to disposal sites were found to be extremely variable for the examples investigated (Table 20.3). However, CO_2 emissions resulting from the demolition process are likely to be of a similar order as those for energy; that is, very much smaller when compared with the initial and overall life-cycle totals.

Here again the figures presented in Table 20.3 show the Integer Concept Tower is the overall best-performing building but the most striking aspect of the above results is the high level of operational CO_2 emissions.

Table 20.4
Cost figures for various life-cycle stages.

$421 m^2/annum	$505 m^2/annum	$526 m^2/annum	$398 m^2/annum
$0.13 m^2/ occupant/annum	$0.78 m^2/ occupant/annum	$0.89 m^2/ occupant/annum	$0.67 m^2/ occupant/annum