

Solutions

2.1 B Define the functional unit before comparing products. The same delivered service, such as carrying one litre of water a hundred times, is fairer than comparing one object with another regardless of lifetime.

2.2 $600 + 5n = 35n$; $600 = 30n$; $n = 20$ uses.

2.3 False. A break-even model is sensitive to cleaning, transport and disposal assumptions. Recyclable does not guarantee that an item is actually collected and recycled.

2.4 life-cycle assessment. life-cycle assessment means Assessment across production, use and disposal.

3.1 Equality $n = 30$; strictly less from 31 uses. Durability, disposal, cleaning and transport assumptions may change the comparison; energy alone is not every sustainability criterion.