

Reduce, reuse, recycle

Q1. (2020)

03.3	(decrease =) 6.7 (billion)		1	AO2 5.10.2.2
	(% decrease =) $\frac{6.7}{8.0} \times 100$	allow correct use of an incorrect value for decrease in plastic bag use	1	
	= 84 (%)	allow 83.75 / 83.8 (%)	1	
	alternative approach: (% now used =) $\frac{1.3}{8.0} \times 100$ (1)			
	= 16.25 (1)			
	(% decrease =) 84 (%) (1)	allow 83.75 / 83.8 (%)		

Q2. (2021)

04.6	(energy use through recycling = $27.2 \times 8.89 \times 10^9 \times \frac{41}{100}$)			AO2 5.10.2.2
	= 9.914×10^{10}		1	
	(energy use through extraction = $70.4 \times 8.89 \times 10^9 \times \frac{59}{100}$)			
	= 3.693×10^{11}		1	
	(total consumption today = $9.914 \times 10^{10} + 3.693 \times 10^{11}$)			
	= 4.6844×10^{11}	allow correct use of an incorrect energy use determined in MP1 and/or MP2	1	
	(energy use if only recycling used = $27.2 \times 8.89 \times 10^9$)			
	= 2.418×10^{11}		1	
	(energy saving = $4.6844 \times 10^{11} - 2.418 \times 10^{11}$)			
	= 2.27×10^{11} (MJ)	allow an answer correctly calculated to 3 significant figures which uses the values in the question	1	