

Answers

- 1 b. i) 0.38, ii) boiler 1402.2 kJ/kg, reheater 431.18 kJ/kg,, exergetic efficiency = 0.81
c. i) 12.7 kJ/kg of steam through the boiler.
ii) Carbon capture plant, 215.4 kJ/kg (per kg of steam through boiler)
ii) HP turbine, 179.19 kJ/kg; LP turbine: 132.86 kJ/kg; mixer, 5.605 kJ/kg, Throttle, 82.29 kJ/kg. All answers are per kg of steam through the boiler.
iii) 0.314.
2. b. i) 887 °C ii) 441 °C
c. i) 565 kg CO₂ eq per dish per year.
ii) -0.0073 kg CO₂ equivalent per kWh
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