

ELEC0080-1 Energy Networks, Part 1

Sector Coupling Questions

1. What is the estimated renewable potential of solar PV, on/offshore wind (expressed in GW) in Belgium? What is the estimated peak electricity load value? Is it possible to supply the entire Belgian electricity demand with only variable energy resources like solar and wind? Motivate your answer with a couple of key figures and orders of magnitude.
2. Briefly explain how the two main types of carbon capture technologies work. What are their main drawbacks? Could they play a role in the Belgian context? If so, why?
3. Briefly explain how the (two) main power-to-gas technologies work. What role could they play in the future Belgian energy system?