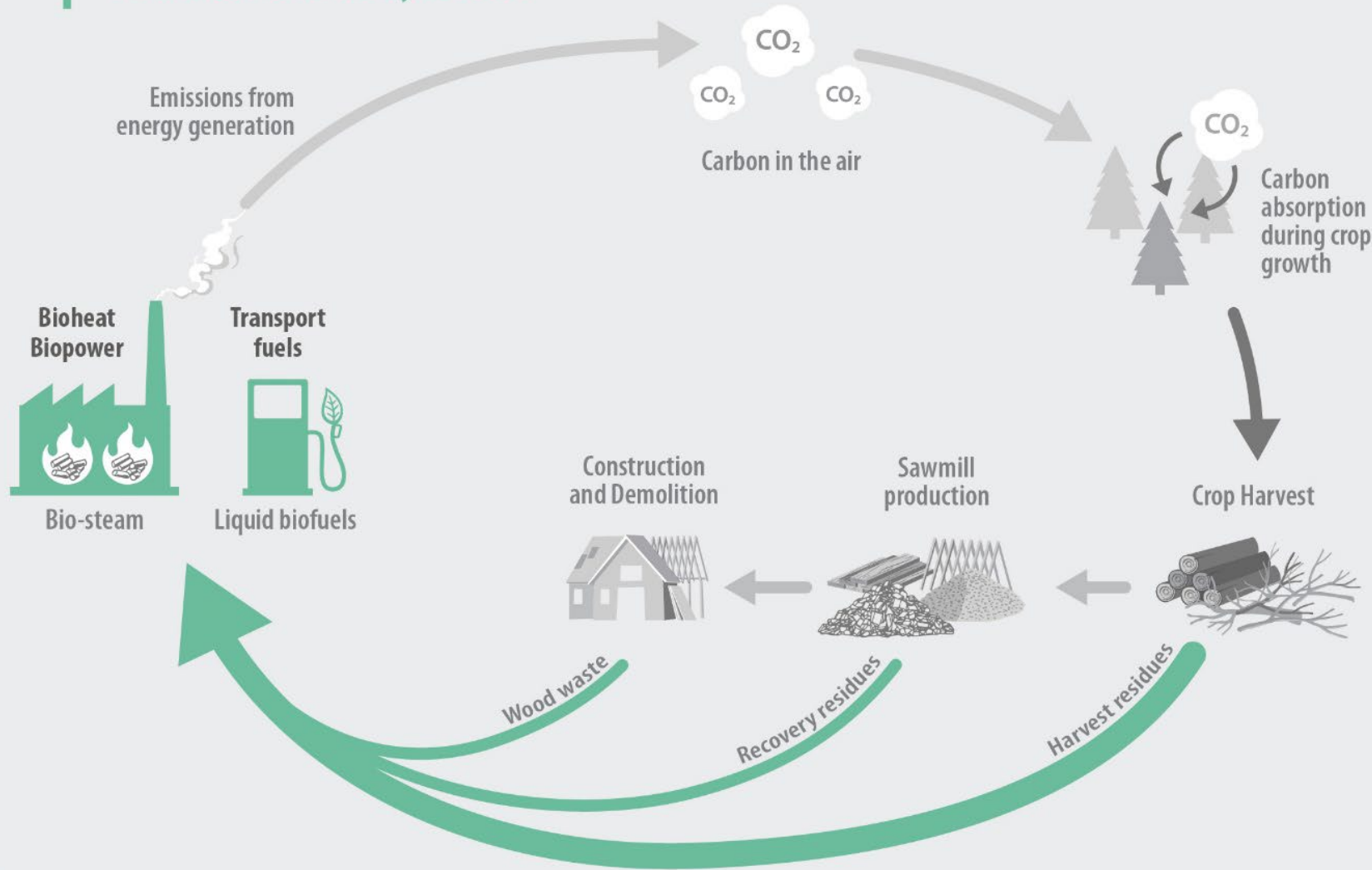


Biomass for bioenergy

How does the carbon cycle work?

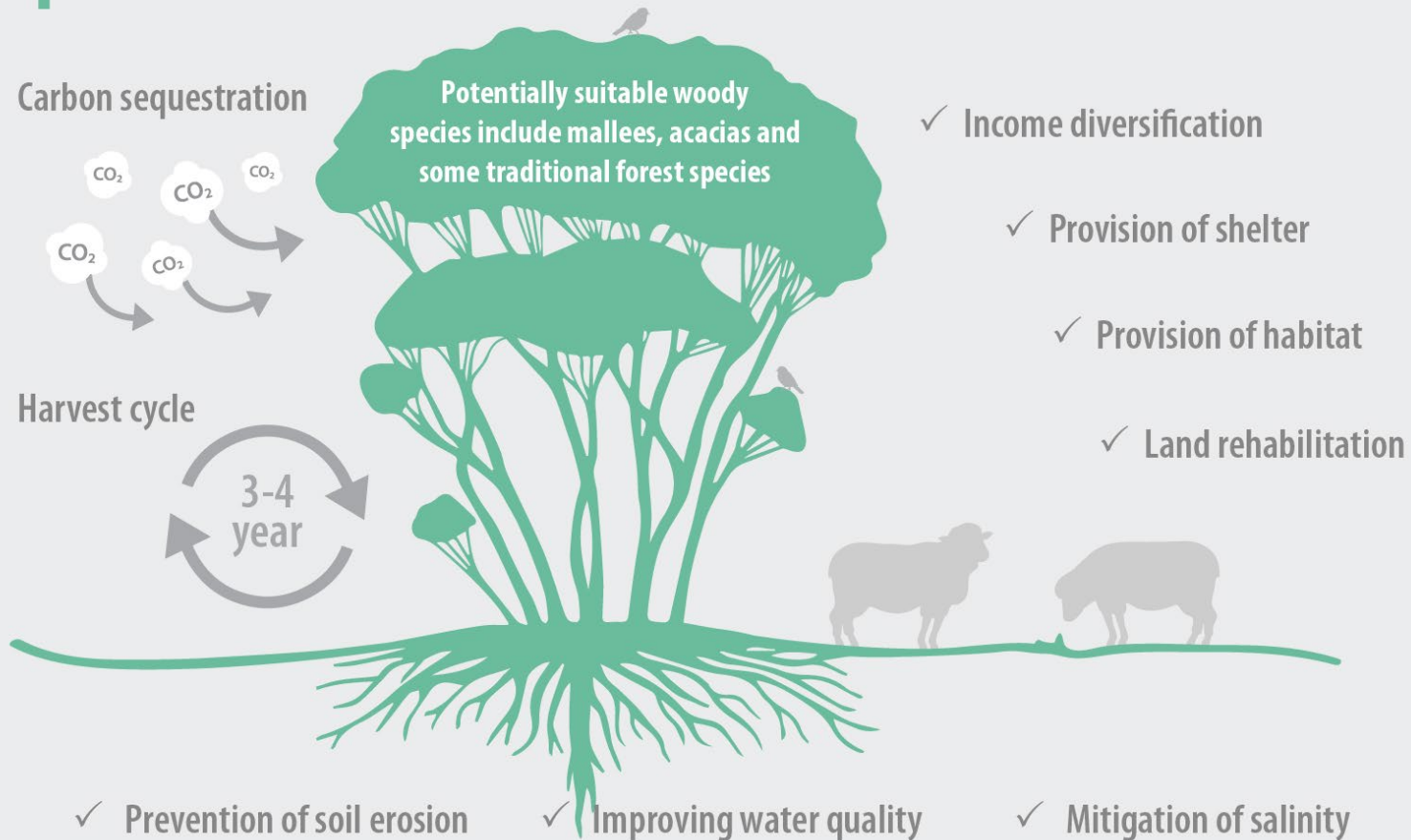


- Bioenergy plays a key role in all IPCC scenarios designed to limit global warming.
- The share of primary energy provided by bioenergy is predicted to increase from a median value of 10.3% in 2020 to 26.4% by 2050.

Woody Biomass Crops in Marginal Land

Biomass crops for energy

Potential benefits



Predicted productivity

For 3–4 year rotation cycles:

Fast growers: 70 t / ha

Mallees: 45 t /ha



Carbon impacts – VE project

- Supply of biomass needs to Redbank from short-rotation woody crops on marginal land

For 4-year rotation cycles; 40-yr period

Carbon sequestration in plantations (Yrs 1–3): 3.2 MtCO₂-e

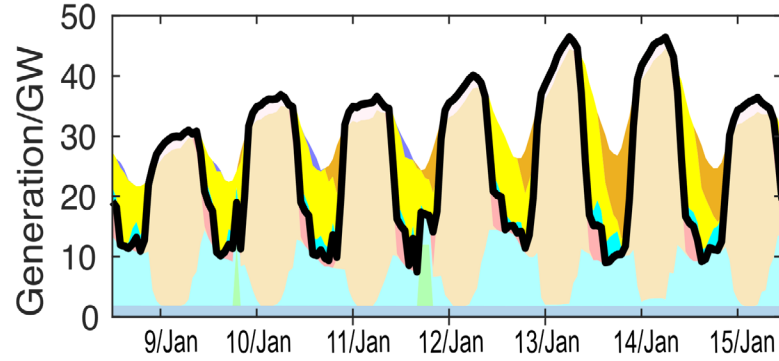
Net Balance

Carbon sequestration in plantations (Yrs 1–3) plus displacement of coal and natural gas (next 7 years) minus emissions due to management =
10 MtCO₂-e for next 7 years

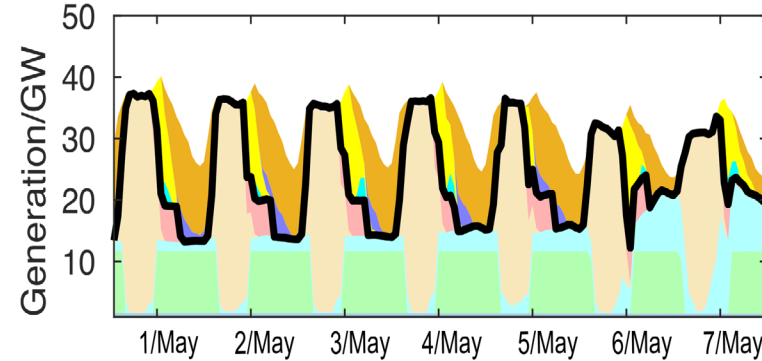


Biomass in a 100% renewable grid

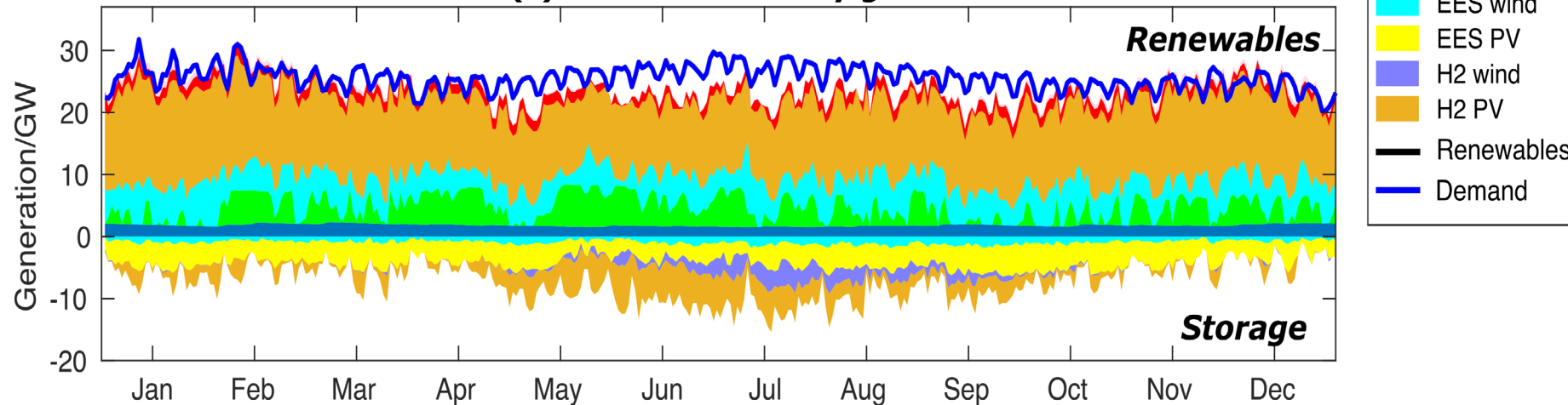
(a) A summer week



(b) A winter week



(c) Annual electricity generation



**Biomass can
replace natural gas
to firm up power**