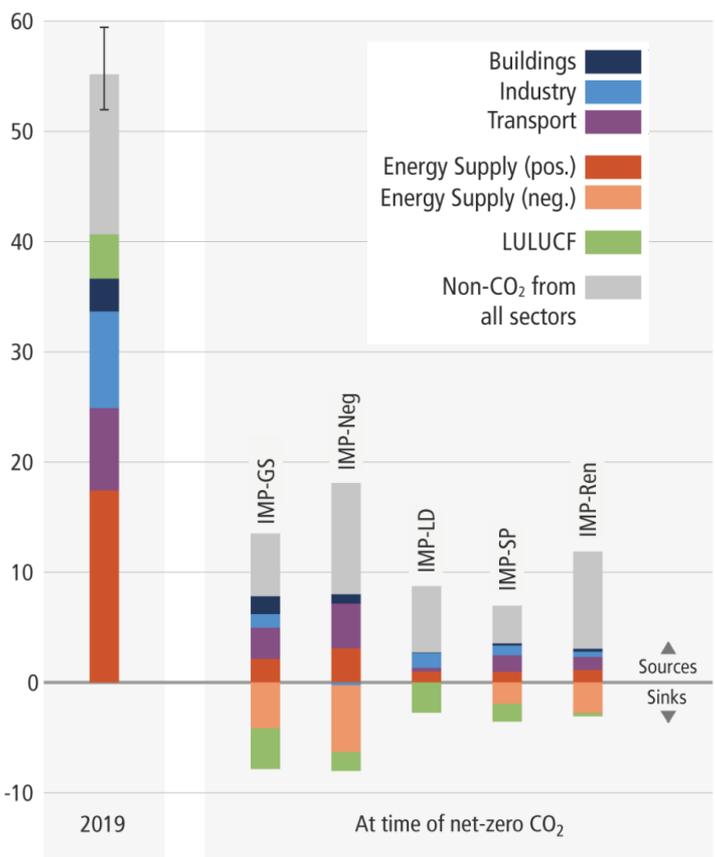
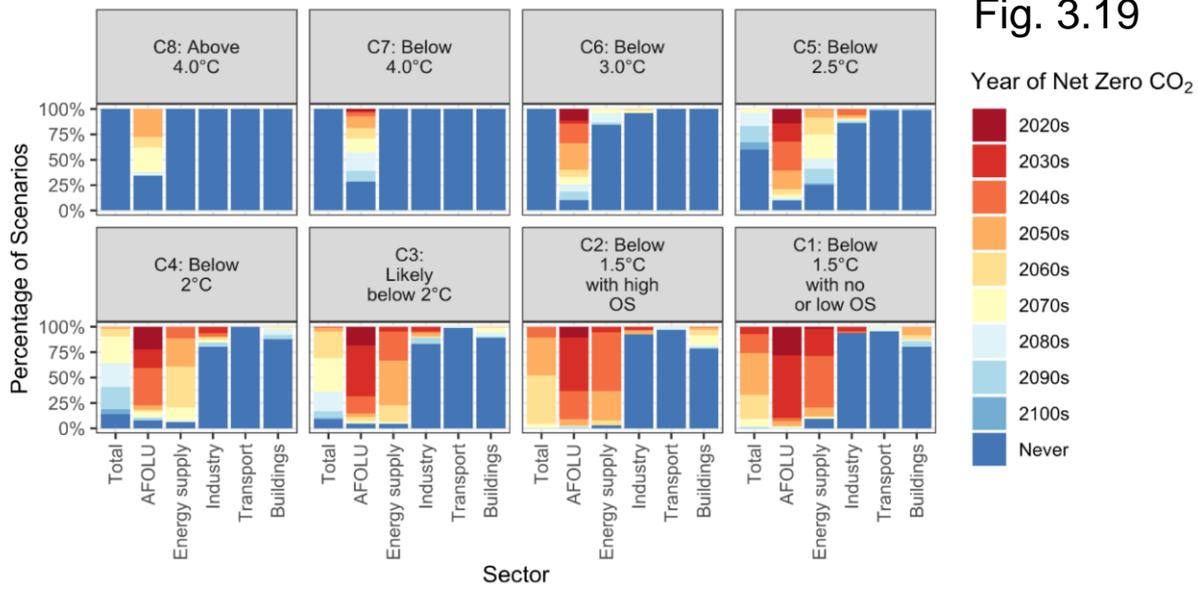


Several opportunities to achieve net-zero: IPCC AR6

e. Sectoral GHG emissions at the time of net-zero
CO₂ emissions (compared to modelled 2019 emissions) Fig. SPM.5



The timing for achieving net-zero by sector



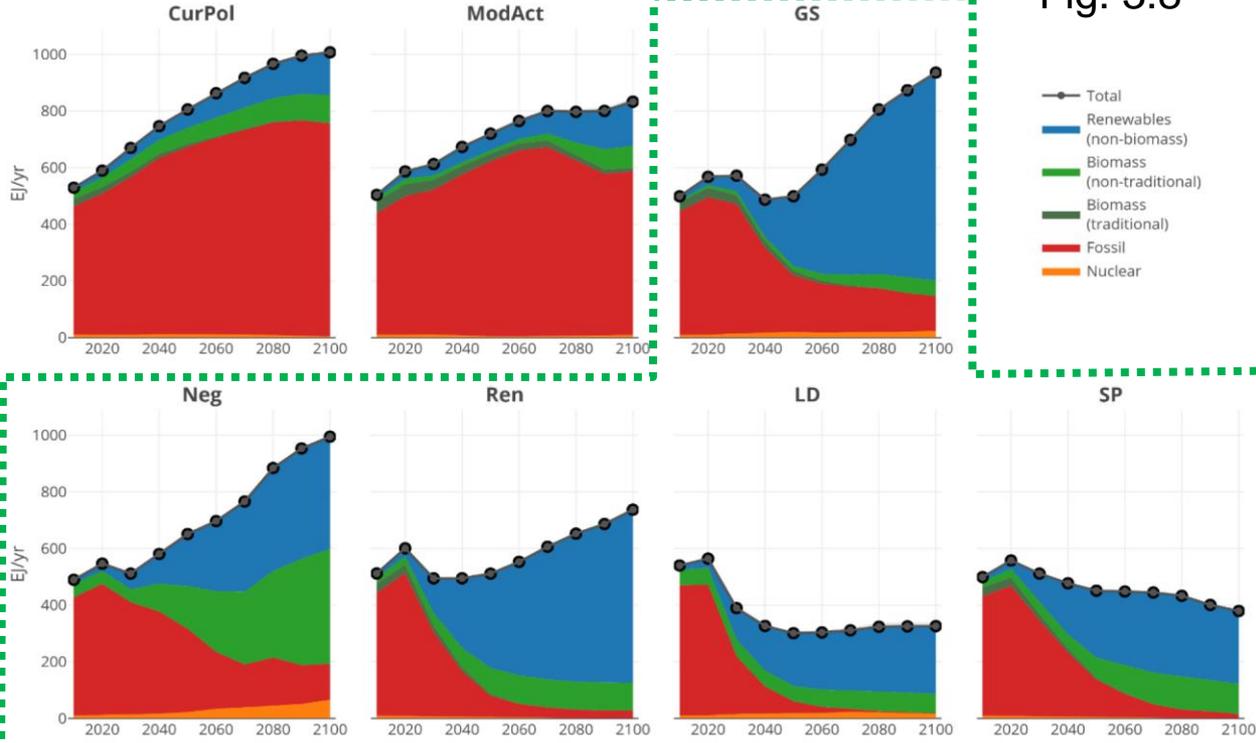
“The deployment of CDR to counterbalance hard-to-abate residual emissions is unavoidable if net zero CO₂ or GHG emissions are to be achieved.” (SPM C.11)

- ✓ There can be several kinds of net-zero scenarios. In most of the net-zero scenarios, thanks to carbon dioxide removal (CDR), emissions from some sectors will remain even for the net-zero.
- ✓ In the industrial, transport, and building sectors, no net-zero CO₂ within each sector will be achieved by the end of 21st century even for the 1.5 °C.

Several transition opportunities to achieve net-zero

Global primary energy supply (IPCC AR6)

Fig. 3.8



- ✓ We need to avoid “green wash.”
- ✓ But there are several opportunities of transition pathways toward net-zero.
- ✓ There can be different conditions across sectors and regions.
- ✓ The consistent and quantitative transition roadmaps will support the acceleration to the effective measures toward net-zero.

The pathways having consistency with the long-term goals of the Paris Agreement.

The transition roadmap developed in Japan: iron and steel

- High energy efficiency in existing BF
- Ferro cokes etc.

