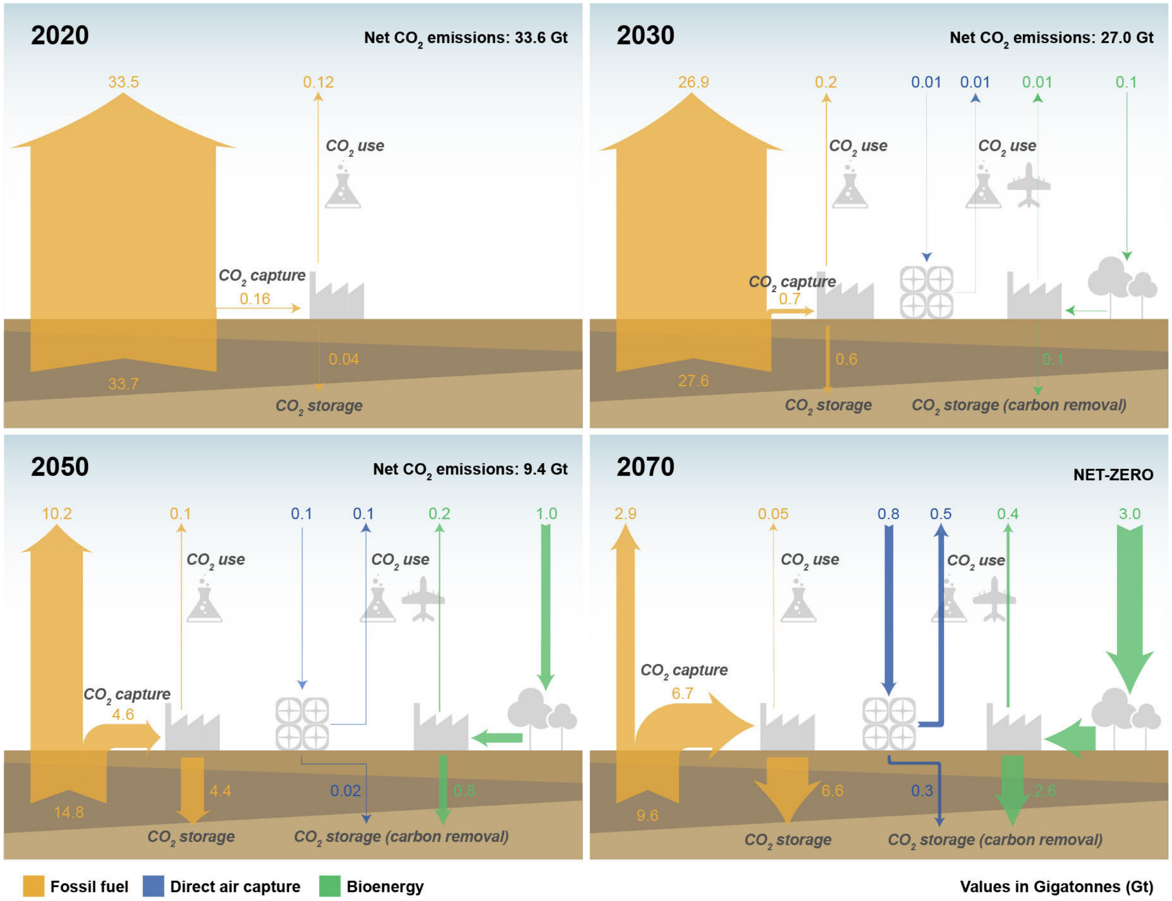
Figure 2.2 CO_2 emissions, capture and removal in the Sustainable Development Scenario



Notes: Due to rounding, some totals may not correspond with the sum. CO_2 emitted and captured from industrial processes is included with fossil fuels, a small share of which are associated with bioenergy-based processes. Bioenergy and fossil fuel flows are shown separately for simplicity, though in practice they can be applied in combination, for example in cofiring a power plant. Some emissions from CO_2 use for chemicals lead to storage, but the majority are re-released to the atmosphere. Non-energy CO_2 uses, including some that lead to storage such as use for building materials, are beyond the scope of the modelling and are not shown.

CCUS plays a critical role in achieving a balance of CO_2 emissions and removal by 2070 in the Sustainable Development Scenario.

The role of CCUS over time

The contribution of CCUS to reducing global energy sector CO_2 emissions in the Sustainable Development Scenario evolves over the projection period, with three distinct periods (Figure 2.3). In the first phase to around 2030, the focus is on capturing emissions from existing power plants and factories. In the power and industry sectors, over 85% of all CO_2 emissions captured in this decade are from plants retrofitted with CO_2 capture equipment: coal-fired power units (and, to a lesser extent, gas-fired power units); chemical plants (mainly fertilisers), cement factories, and iron- and steelworks. Some low-cost CO_2 capture opportunities in hydrogen and