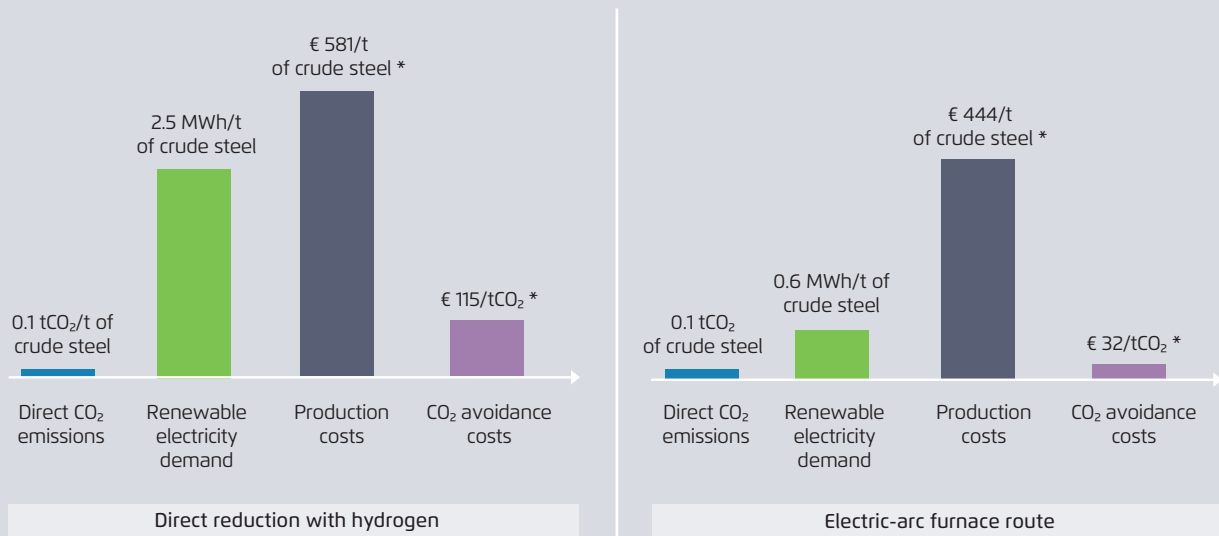


# Comparison of the primary steel route with direct reduction using green hydrogen and the secondary steel route (electric-arc route) for 2050

Figure B.8



Agora Energiewende, 2019, based on data from the Wuppertal Institut and Material Economics, 2019

\* Average of a cost range

Assumptions: The CO<sub>2</sub> avoidance costs are calculated relative to the reference process (blast-furnace route with production costs of 391 euros per tonne of crude steel and the specific emissions of 1.71 tCO<sub>2</sub> per tonne of crude steel). As with Material Economics, 2019, we assumed a price of 259 euros per tonne. Alongside the actual production costs, the costs contain an additional 13 euros per tonne of crude steel for reheating in the rolling process, as no by-product gases from the blast-furnace route are available.