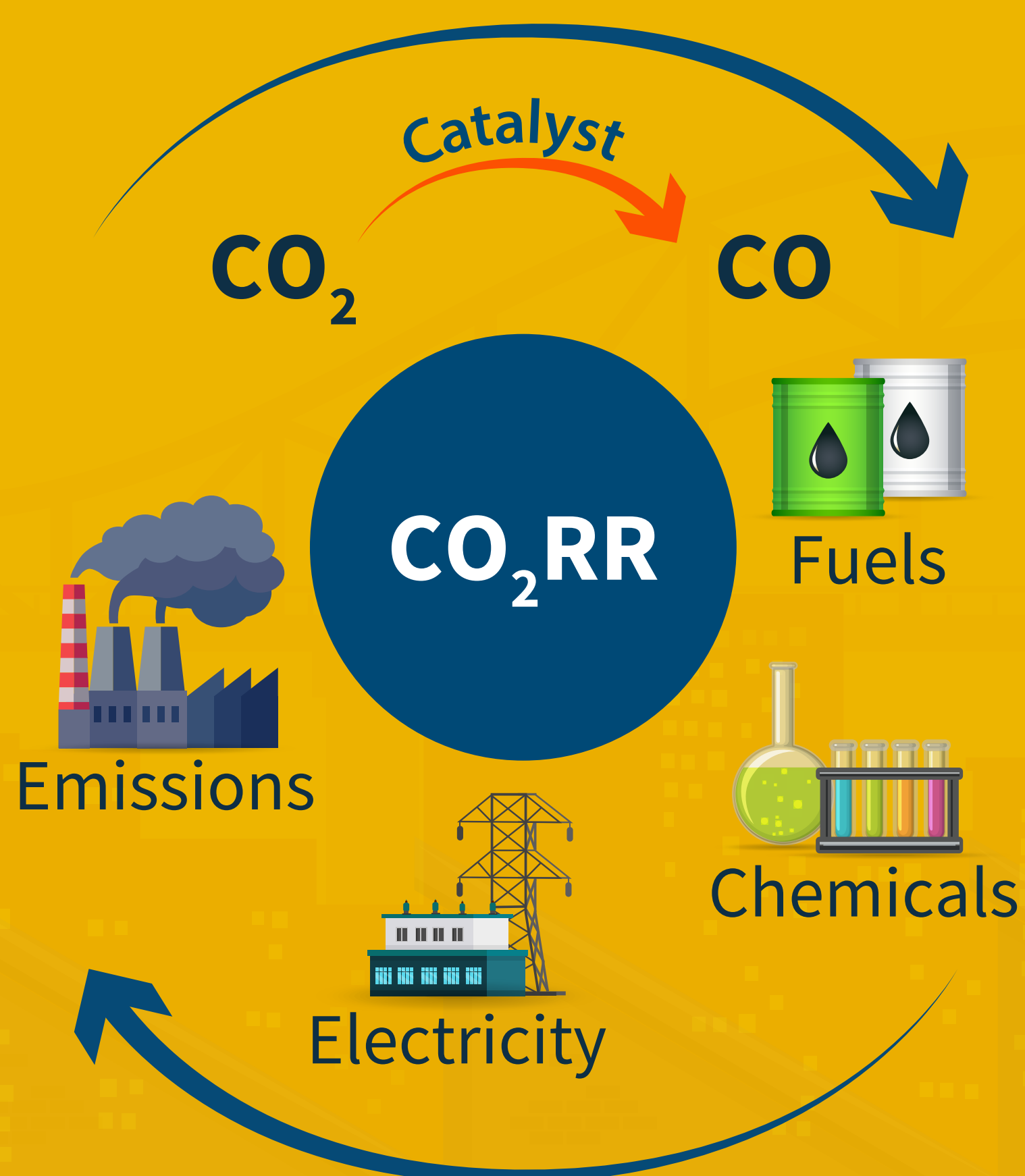


Novel Quasi-Square-Shaped Cadmium Hydroxide Nanocatalyst to Improve Electrochemical Reduction of Carbon Dioxide to Carbon Monoxide

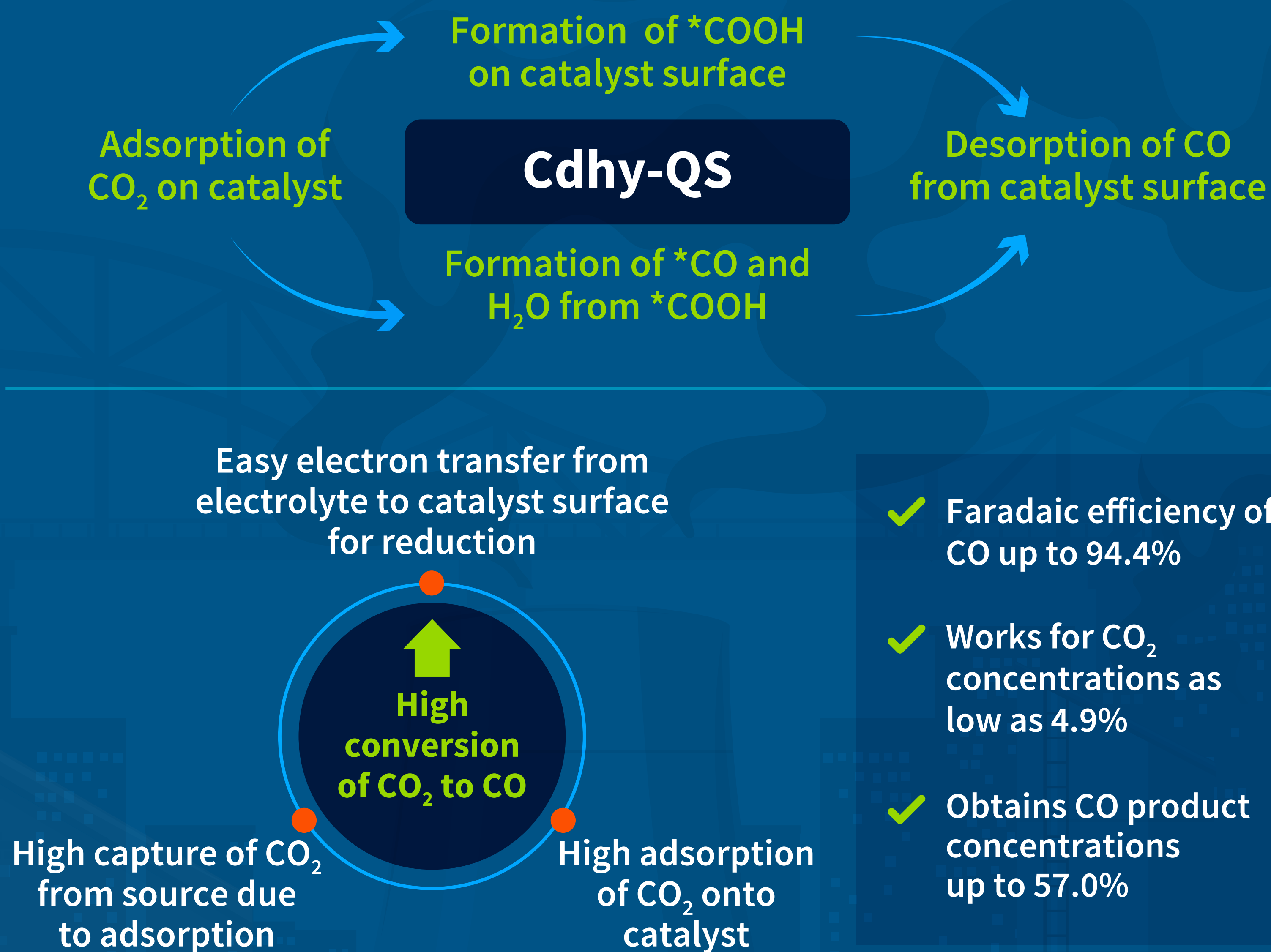
Electrochemical reduction of carbon dioxide (CO_2) using renewable electricity can reduce CO_2 emission, producing carbon monoxide (CO) for commercialisation as a feedstock for chemicals and fuels



But it has disadvantages:

- ↓ Low capture rate of CO_2 at source
- ↓ Poor catalytic activity and selectivity
- ↓ Low conversion to CO

The efficient reduction of CO_2 to CO is proposed by combining a novel quasi-square-shaped cadmium hydroxide (Cdhy-QS) nanocatalyst with an adsorption-electrolysis device



- ✓ Faradaic efficiency of CO up to 94.4%
- ✓ Works for CO_2 concentrations as low as 4.9%
- ✓ Obtains CO product concentrations up to 57.0%

The combined action of Cdhy-QS nanocatalyst and an adsorption-electrolysis device system can generate high concentrations of CO at low CO_2 concentrations