DEEP DECARBONISATION OF INDUSTRY VIA INHERENTLY CIRCULAR CCUS PROCESSES

Abstract

The progressive decarbonisation of the economy requires the research and development of new technologies for the safe and efficient use of renewable sources, together with the use and conversion of conventional low-carbon fuels. The energy transition occurs via distributed renewable resources towards increasingly sustainable industrial processes.
The main industries with high-energy consumption and high carbon emissions are steel, iron and cement industries. These production processes have already reached very high levels of efficiency in the use of resources. According to the latest works of International Energy Agency (1), improvements in the energy and material efficiency in heavy industry can deliver considerable emissions reductions in the near-term. However, if we want to deliver deep emission reductions in the hard-to-abate sectors in the longer period CCUS technology is a key component of the toolbox of technology options.

The main objective of this presentation is the presentation of CCUS process resources for closing the carbon cycle in energy and carbon intensive industries. In particular, an inherently circular process based on solid CO_2 sorbent (2–5) will be presented in steel and cement industry.

References

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