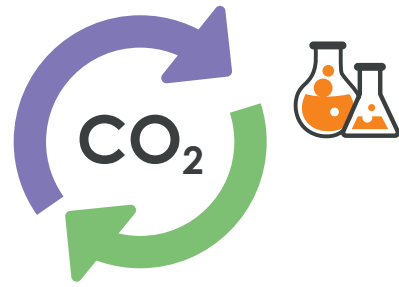


CASE WATCH 14 : INDUSTRIAL CO₂ CAPTURE AND UTILISATION

Transform CO₂ rich streams into raw materials for the chemical industry.

Reduce CO₂ emissions by capturing and utilising them as chemical building blocks.



CLOSING CO₂ LOOPS

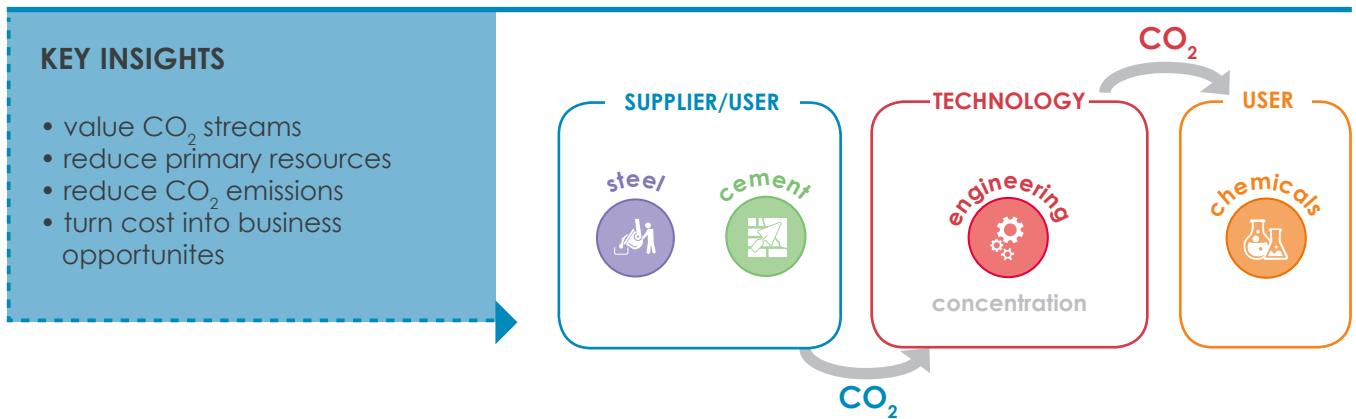


Figure 1: Synergy scheme ¹

CROSS-SECTOR COLLABORATION

Process industries have a high potential to supply CO₂ to the chemicals industry.

Industries have a growing demand for valorising carbon emissions.

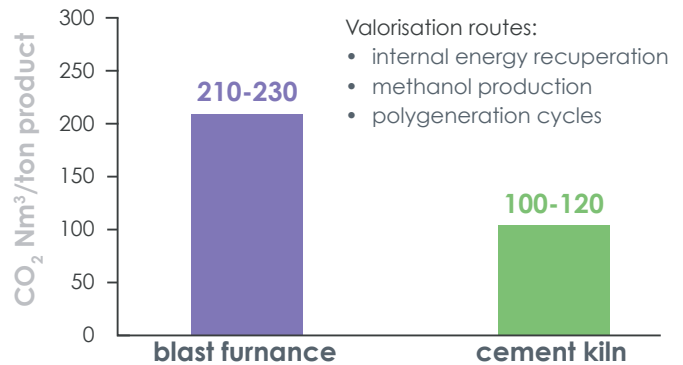


Figure 2: Cross-sector potential ^{1,2,3}

SUSTAINABILITY IMPACT

Wins for industry

- > for suppliers: 15-35 €/ton CO₂ emissions reduction^{4,5}
- > for chemicals: 50-300 €/ton product (virtual market place)³

Environmental gains

- > CO₂ emissions reduction: 20-70% CO₂ mitigated²

Wins for society

- > public health benefits due to emissions reduction
- > new skills development¹

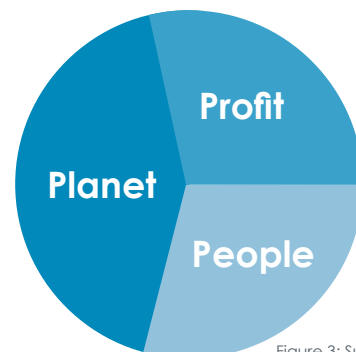


Figure 3: Sustainability ¹

REFERENCES

1. H2020: EPOS project. 2015 – 19.
<https://www.spire2030.eu/epos>
2. W. Uribe-Soto, P. Jean-François, J. Commenge, and F. Laurent, "A review of thermochemical processes and technologies to use steelworks off-gases," *Renew. Sustain. Energy Rev.*, vol. 74, pp. 809–823, 2017.
3. Institute for Sustainable Process Technology, "CORESYM: Carbon monoxide re-use through industrial symbiosis - Metabolic," Dec. 2017.
4. Naims, H. "Economics of carbon dioxide capture and utilization—a supply and demand perspective," *Environmental Science and Pollution Research International*, 2016 23(22), 22226–22241.
5. Carbon Next project. "Deliverable 3.1 Availability and price analysis," 2018. [Online]. Available: http://carbonnext.eu/Deliverables/_/D3.1%20CO2%20and%20CO%20availability%20and%20price%20analysis.pdf. [Accessed: 18-Feb-2019].