

HEFAISTOS Project: Template factsheet

Inspirations:

<https://www.epa.gov/npdes/industrial-stormwater-fact-sheet-series>

https://www.europarl.europa.eu/erpl-app-public/factsheets/pdf/en/FTU_2.4.5.pdf

https://setis.ec.europa.eu/system/files/2021-02/jrc120570_decarbonisation_of_cement_fact_sheet_2.pdf

[Technology Data for Industrial Process Heat](#)

Writing guidelines

- Straight to the point
- Each fact sheet should support itself independently from the handbook and report, and independently from each other so some boxes can be the same (i.e. regulation ones).
- 6-9 pages
- Main messages clearly visible

<h2>Name of the technology</h2>	<ul style="list-style-type: none"> • Energy vector • Investment risk • Technology maturity • Decarbonation potential
<h2>Process description</h2>	
<p>A clear explanation of the steps involved in the industrial process, including inputs, outputs, type, and key transformations. Don't hesitate to bring here some schemas.</p> <ul style="list-style-type: none"> • Basic working principle. • What are the necessary infrastructures? • What are the synergies with other technologies? • Technical description: <ul style="list-style-type: none"> ○ TRL ○ Heat Generation Capacity (MWth), ○ Typical Load Range (% of nominal), ○ COP / Efficiency (% or COP) ○ Technical Lifetime (years). • If possible: Key components, main applications. When is it getting to TRL 9? What are the process conditions? Water use (m3/MWth if applicable), Hazardous materials used, Safety issues, Environmental impacts (beyond GHG), Land use (m2/MW). 	
<h2>Barriers</h2>	<h2>Enablers</h2>
<p>High capital intensity / long asset lifetimes</p> <ul style="list-style-type: none"> ➤ E.g. existing plants still far from depreciation, making retrofits or replacements costly. <p>Lack of regulatory incentives</p> <ul style="list-style-type: none"> ➤ Weak or inconsistent carbon pricing, absence of green procurement policies. <p>Technological immaturity or uncertainty</p> <ul style="list-style-type: none"> ➤ Low TRL (Technology Readiness Level) of decarbonization solutions for this sector. <p>Limited infrastructure</p> <ul style="list-style-type: none"> ➤ Lack of access to renewable electricity, hydrogen networks, CO₂ transport/storage, etc. <p>Skills gap</p> <ul style="list-style-type: none"> ➤ Lack of trained workforce for emerging technologies. <p>Market structure and competitiveness concerns</p> <ul style="list-style-type: none"> ➤ Exposure to international competition from regions with looser climate constraints. <p>Supply chain bottlenecks or raw material constraints</p> <ul style="list-style-type: none"> ➤ E.g. scarcity of critical minerals, dependence on fossil feedstocks. 	<p>Policy and regulation support</p> <ul style="list-style-type: none"> ➤ Carbon pricing, subsidies, carbon border adjustment mechanisms (CBAM), mandates. <p>Industry initiatives and collaboration</p> <ul style="list-style-type: none"> ➤ Sectoral alliances, innovation hubs, cross-sector partnerships. <p>Availability of mature low-carbon technologies</p> <ul style="list-style-type: none"> ➤ E.g. electrification, energy efficiency measures, renewable integration. <p>Access to green finance / investment incentives</p> <ul style="list-style-type: none"> ➤ Green bonds, ESG-linked loans, tax credits. <p>Public acceptance and consumer demand for greener products</p> <p>Opportunities for co-benefits</p> <ul style="list-style-type: none"> ➤ Improved energy efficiency, digitalization, cost savings, reduced local pollution. <p>(Make distinction, if possible, between federal and EU level)</p>

Applicable sectors	Economic Aspects and investment risks
<i>Where this technology could be used, in which sector and/or process and why (high heat demand, hard to abate sector, easier to implement for technical reasons) When it will be applicable in the sector?)</i>	<i>Information about the economic significance of the process, including production volumes, costs, and market trends.</i>
Regulation maturity and fit	Reference projects
<i>Directives and RFNBOs. Omnibus directive? Clean industrial act.</i>	<i>Plant Name, Country / Location, Year Commissioned, Main Performance Data (capacity, efficiency, temperature, etc.)</i>
Key conclusion of the scenarios	
<i>Results from TIMES, sensitivity analysis. If possible, link with grid stability.</i>	
Sources and References and Data Confidence Level	