



Electrification, flexibility & capture of unavoidable emissions

Towards lowest cost industrial decarbonisation

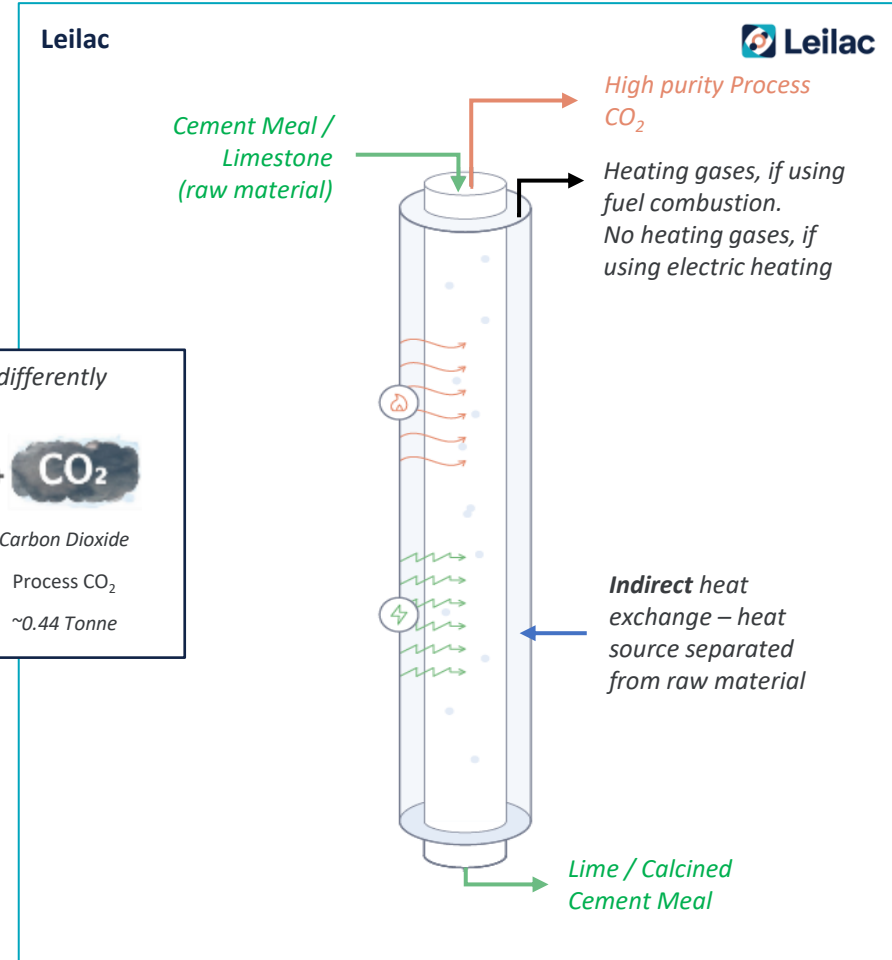
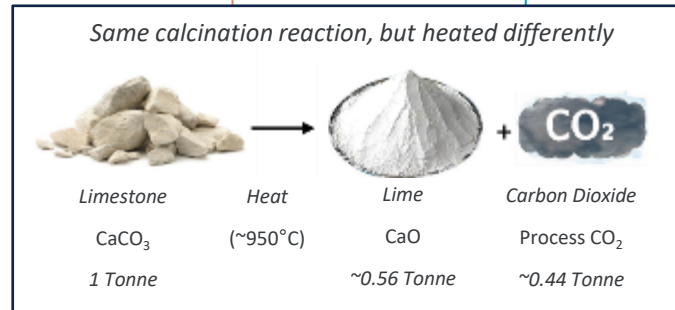
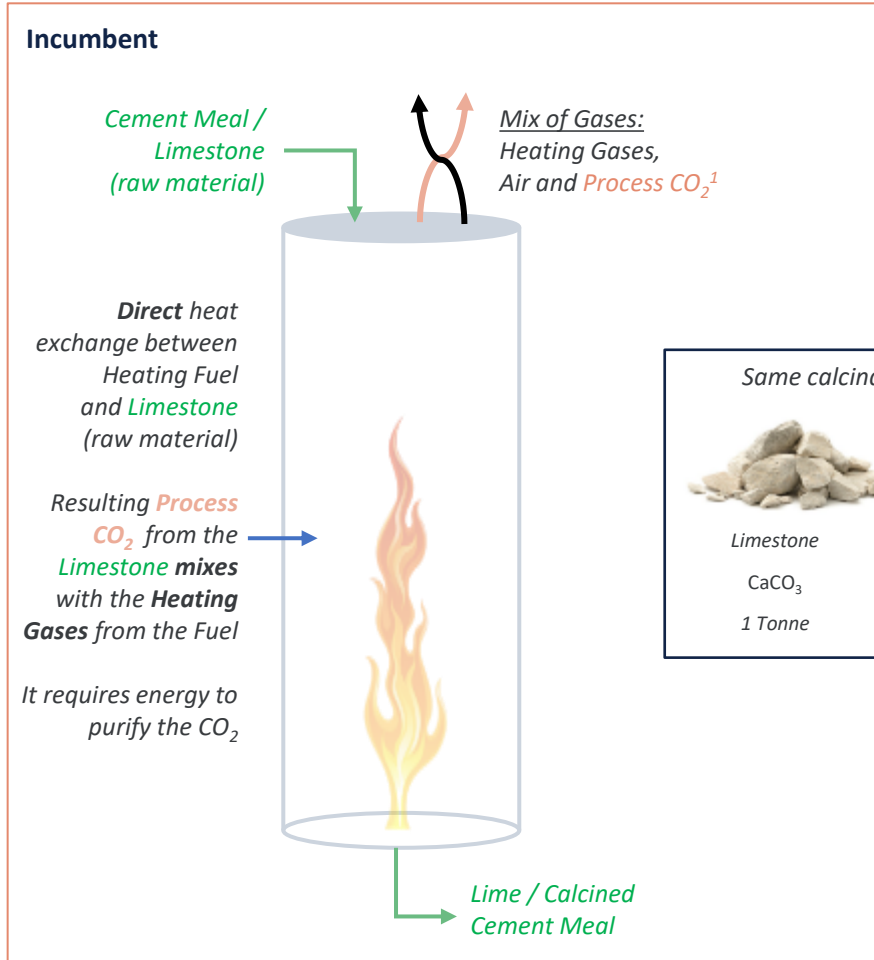
November 2025

Sustainable industry.
Sustainable planet.



Leilac's Indirect Heating Technology

A New and Improved Cement & Lime Calcination Process Designed to Lower Cost, Lower Carbon & Add Flexibility





Process improvements with Leilac:



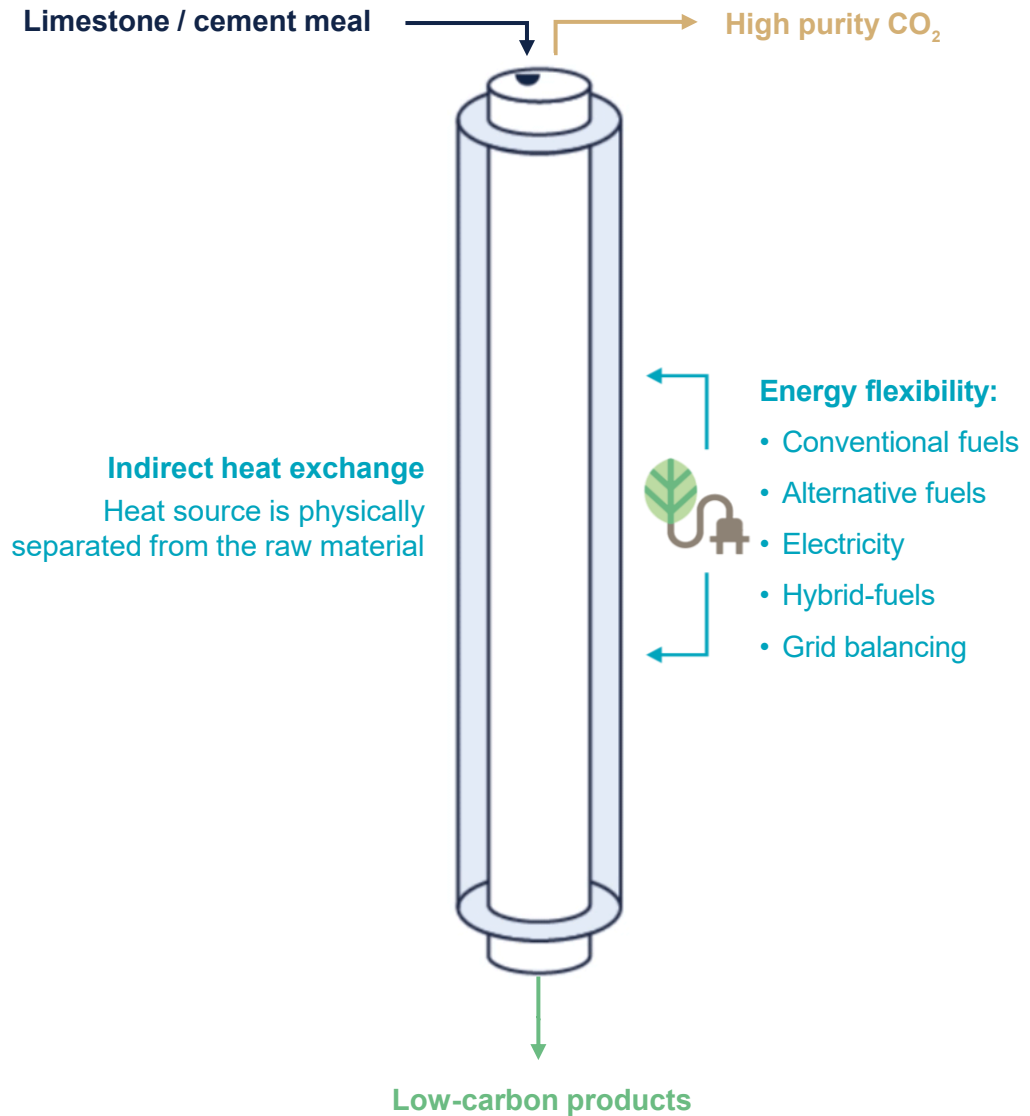
1. Energy Flexibility

The heat source is separated from the reaction, enabling energy flexibility & electrification



2. Pure process CO₂

Unavoidable process CO₂ emissions remain pure, enabling simple capture





Carbon Capture

Keeping unavoidable CO₂ pure

How

- Unavoidable process CO₂ remains separate from flue gases & air
- Process emissions -> High purity CO₂ stream (proven at 98% at Leilac-1)



Benefits

- No chemicals, solvents, or waste streams
- No additional energy-intensive process to separate gases from gases
- Process can use lowest cost energy source



Targeted Outcome

- **Lowest cost capture of CO₂ (to avoid emissions liability or enable CO₂ sales)**





Fuel Switching

Enabling full alternative fuel use

How

- Leilac designed to enable use of low-cost but hard-to-burn alternative fuels
- By separating the production process from the heating source, the fuel type can change



Benefits

- Energy agnostic, allowing full use of low-cost fuels for core product processing
- Fuel costs reduced
- Fossil fuel CO₂ emissions reduced & avoided



Targeted Outcome

- **Reduced OPEX** for existing production

An illustration of the Leilac-2 demonstration at Heidelberg Materials' cement plant in Ennigerloh, Germany





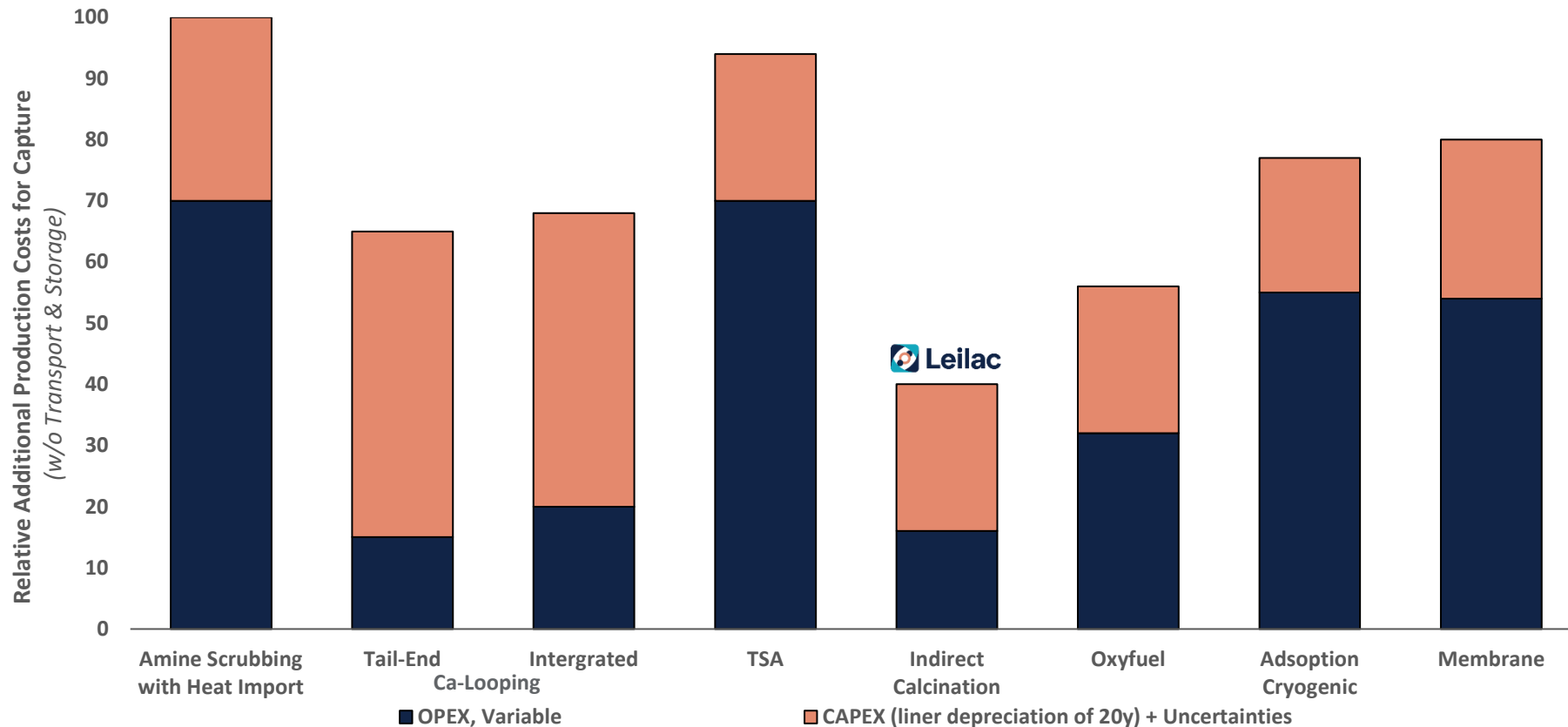
Carbon Capture Technology Comparison

Different Capture Technologies – Different Cost Structures

- Leilac's technology is expected to have the lowest cost of capture versus other carbon capture technologies per VDZ, a well-respected and well-known international technical and science service provider for the cement industry



Cost of Capture Comparison



Source: VDZ at the 2025 International Forum on Carbon Emission Reduction of Building Materials Industry. Beijing, July 2025



Hybrid fuels

Enabling lowest-cost electrification

How

- Hybrid-fuel technology for dynamic switching between fuels
- Enables switching to the lowest cost fuel in response to daily and seasonal volatility



Benefits

- Unlock access to periods of low and negatively priced electricity
- Fuel costs optimised & emissions avoided
- Future-proof operations



Targeted Outcome

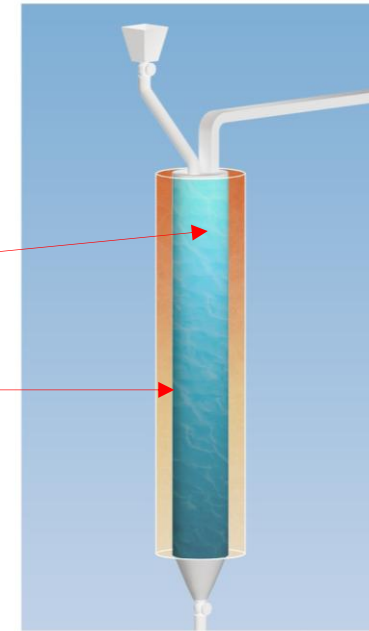
- Optimised energy OPEX for existing production

Enabling hybrid fuels with the 'i-Leilac' technology

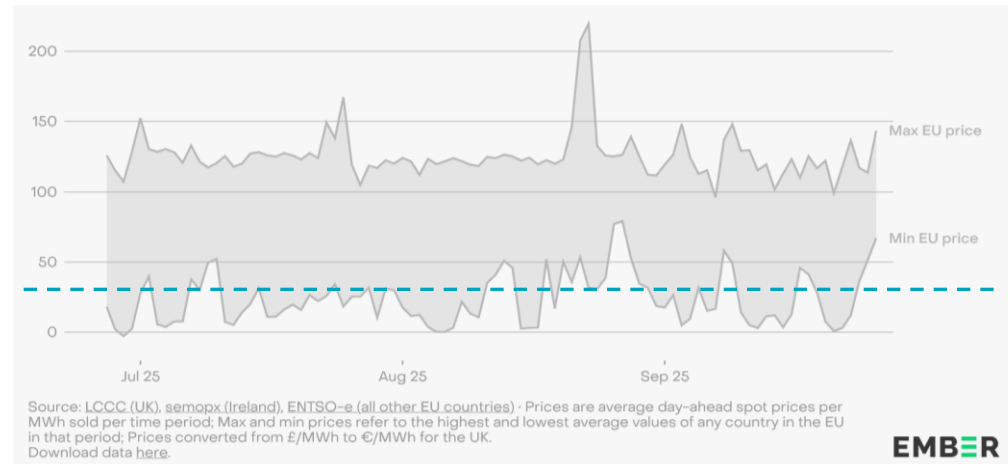
Two responsive energy inputs:

1. Electric heating is controlled by the current passing through the calciner tube.
2. Combustion heat from burners using conventional or alternative fuels.

Leilac's hybrid heating design



Energy price volatility & periods of low / negative pricing offers opportunity for a hybrid electric heating solution





Grid balancing

Unlocking new revenue

How

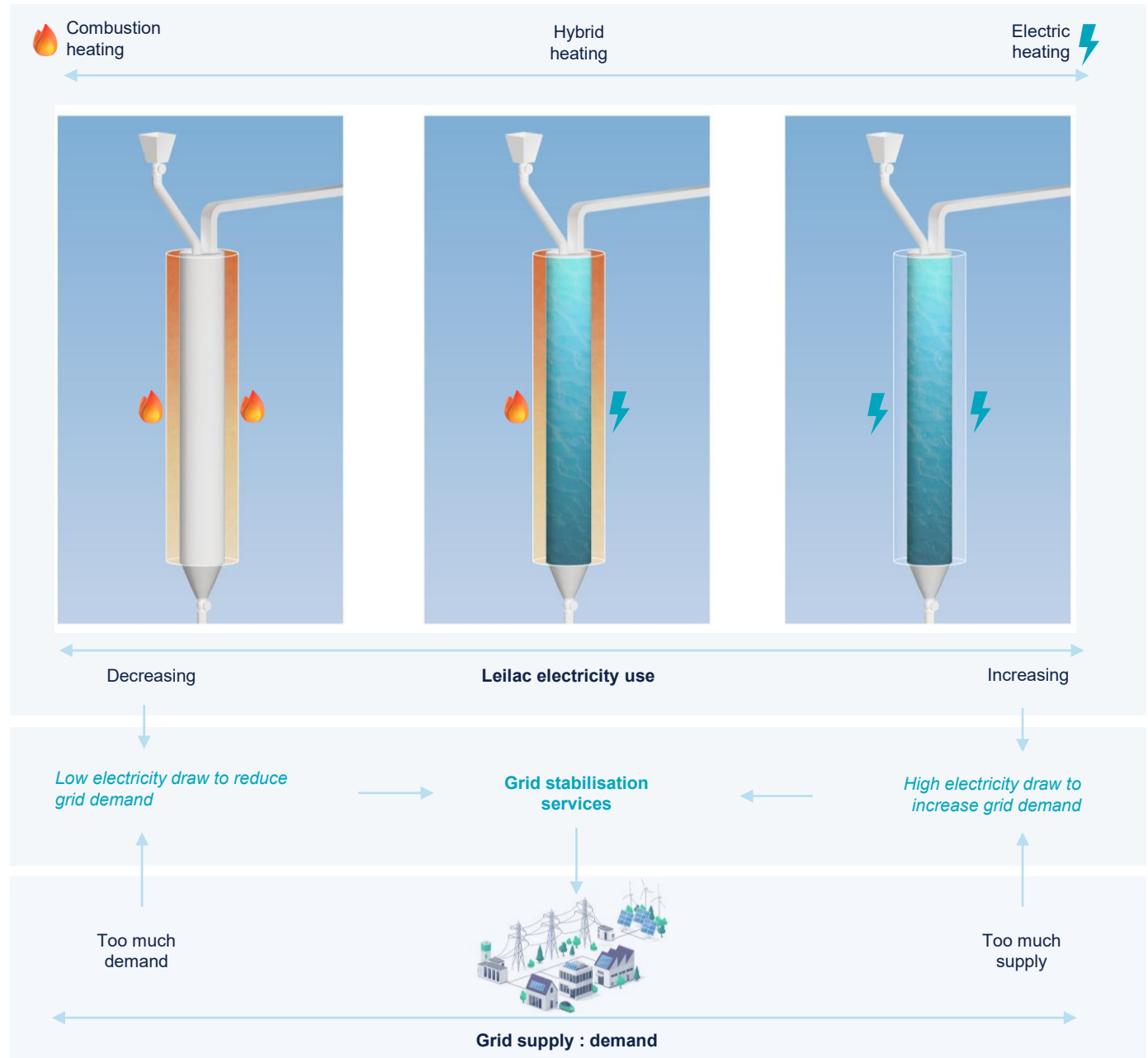
- Hybrid heating enables dynamic demand response services for the grid
- Electricity use could be increased or decreased on demand, without interrupting production

Benefits

- New revenues for plants for the provision of grid balancing services
- More stable & resilient energy grids

Targeted Outcome

- New immediate revenues





Leilac Modular Design

Core Process Proven at an Industrially Relevant Scale with Leilac 1 – Replicable Design to be Rolled Out Through Duplication

<p>6 Plants Commissioned*</p>	<p>>12,000 Cumulative Operating Hours*</p>	<p> On Spec Cement & Lime</p>	<p> Proven Electrification*</p>	<p> Proven CO₂ Purity</p>
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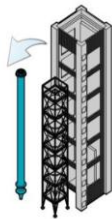
Rollout Planned Through Duplication

Leilac-1

Pilot Plant
Lixhe, Belgium,
commissioned in 2019

13-25k tonnes / year
CO₂ design capacity
~5% throughput of host
plant.

Core calciner tube
proven at commercially
relevant scale

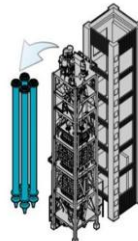


Leilac-2

Demonstration Plant
Ennigerloh, Germany, 2025

80-100k tonnes / year CO₂
design capacity

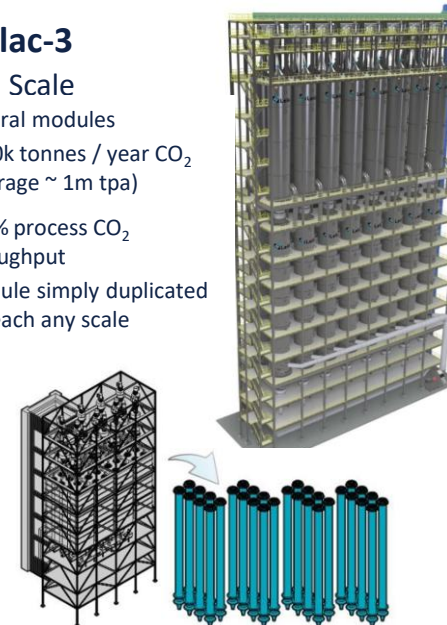
~20% throughput
Multi-tube module
duplicates Leilac-1
Targeting full integration
without plant down time



Leilac-3

Full Scale
Several modules
>500k tonnes / year CO₂
(average ~ 1m tpa)

100% process CO₂
throughput
Module simply duplicated
to reach any scale



*Includes plants using the same technology developed by parent company Calix.



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