

HyCARB

Hydrogen and green electrons for carbon-based chemistry

Start	2026
Subsidy	€ 35.313.861
Private contribution	€ 10.352.685
Leadership	Martijn de Graaff (TNO), Marta Costa Figueiredo (TU/e), Bert Weckhuysen (UU)

16 Research organizations
(9 universities, 5 HBOs and 2 research institutes)



22 Clean-tech industries



7 Industrial end users



Research Tasks

1

Thermochemical CO₂ conversion

- From CO₂ & H₂ to syngas & SAF
- From CO₂ & H₂ to methanol via MTO, DME and olefins
- Structure-composition-performance relationships

2

Electrochemical CO₂ conversion

- HT/LT electrolysis to syngas
- LT electrolysis to ethylene
- LT electrolysis to oxalate & formaldehyde

3

Electric heating

- Resistive heating
- Impedance and inductive heating
- Plasma heating

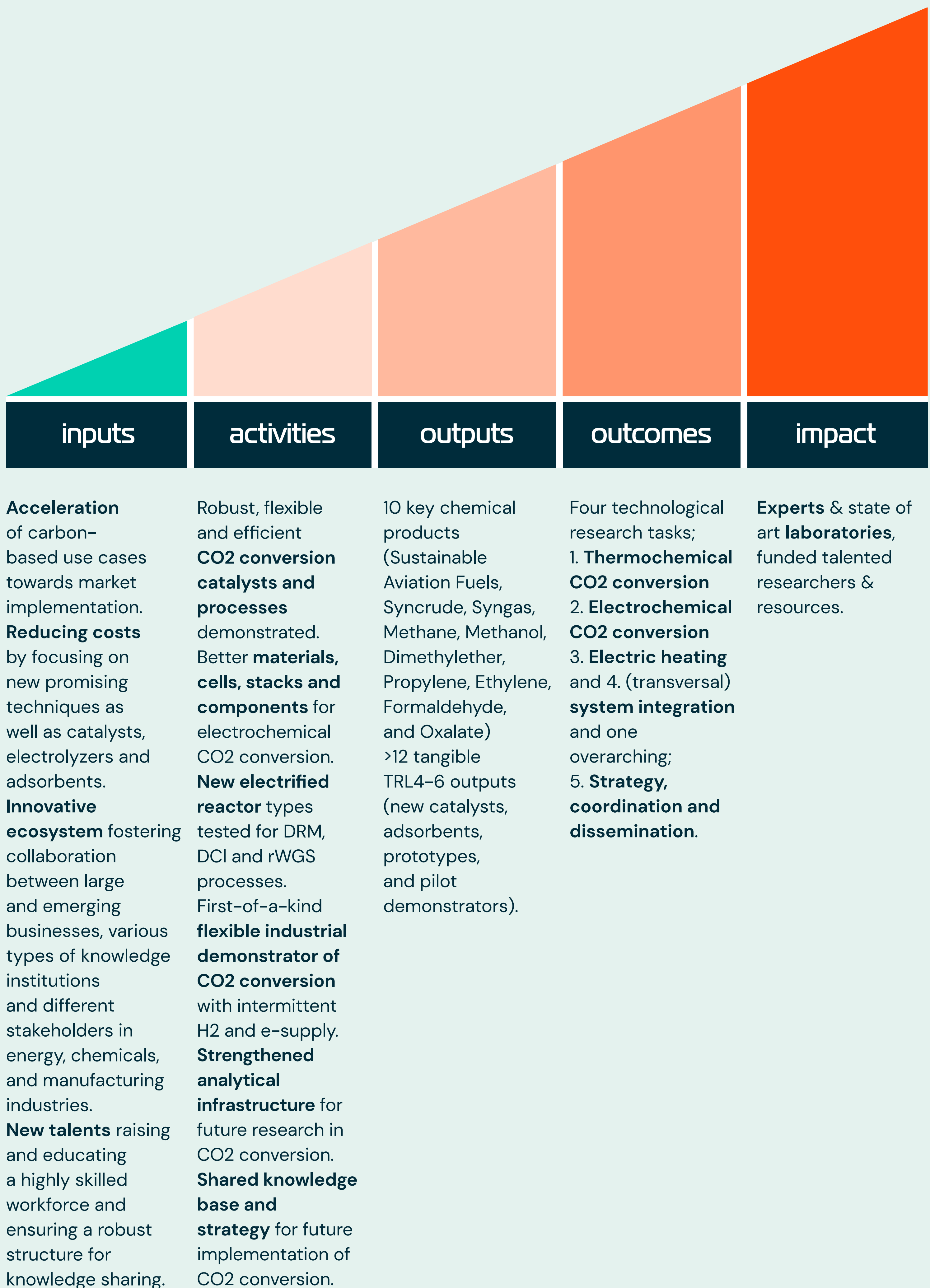
4

System integration

- Modular model tool
- Containerized pilot for intermittency
- CO₂ storage for intermittency

5

Coordination, strategy and dissemination



GroenvermogenNL ambitions

Acceleration	☒
Scaling up	☐
Reducing costs	☒
Innovative ecosystem	☒
New talents	☒

2026	2027	2028	2029	2030 and beyond
• Signing consortium agreement				