

Carbon Cycle Economy – made by RAG - Austria

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Club of Rome
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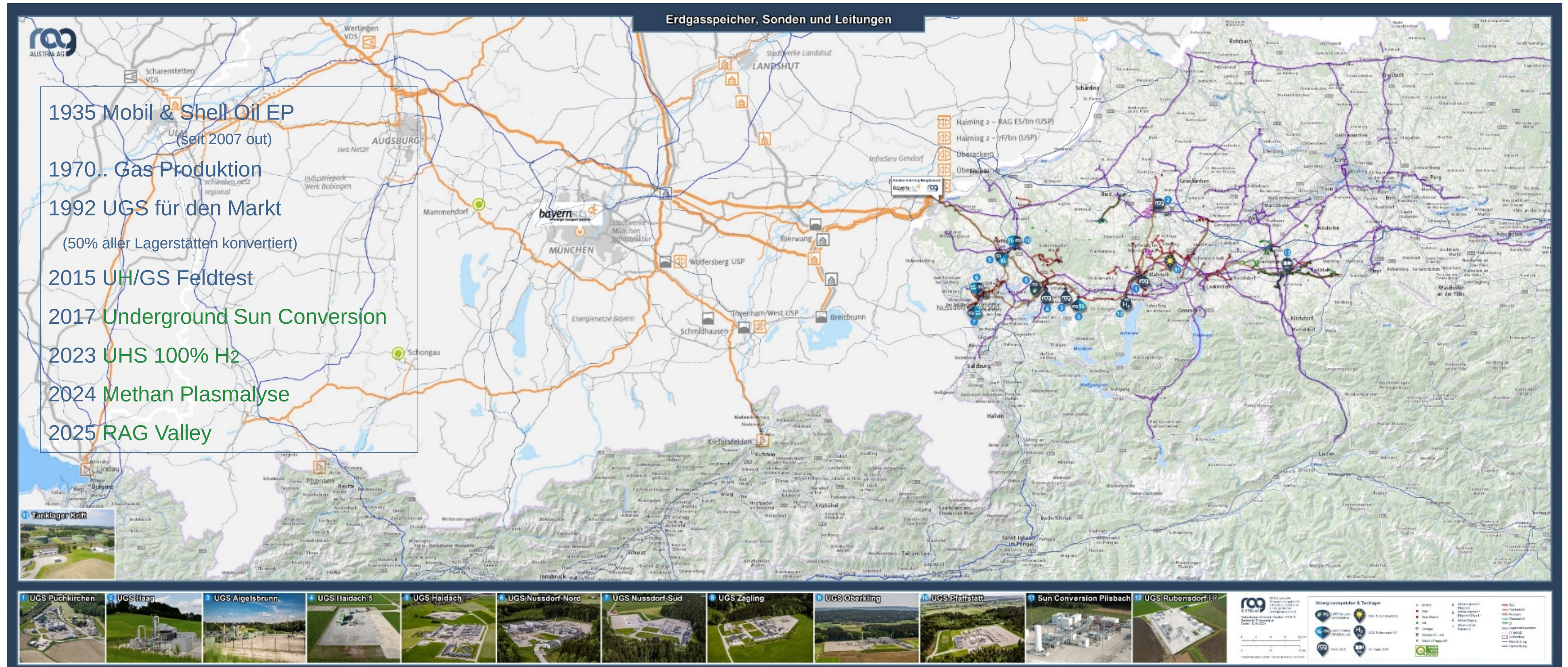


RAG Austria AG



Gasspeicherbetrieb RAG Austria AG: zentrale Bedeutung für die Versorgungssicherheit in Mittel-Europa
~6,4 Mrd. m³ mit 2,8 Mio. m³/h Entnahmeleistung Erdgas -> (~75 TWh, 33 GW Energie)

Sum D: 251 TWh Gasspeicher
Sum A: 97 TWh Gasspeicher

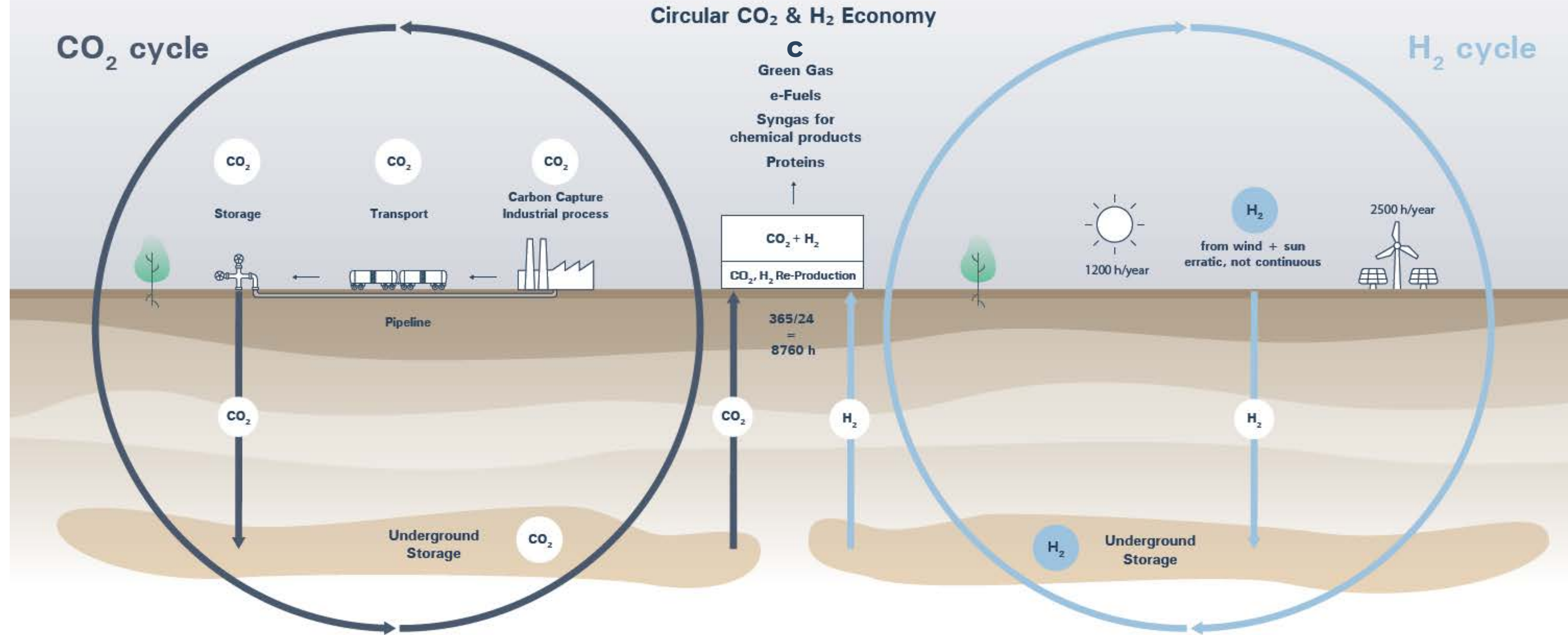


Projekte zur H₂/CO₂ Speicherung/Umwandlung im Untergrund

Projekt	Langtitel	Zeitraum	Konsortium
	Underground Sun Storage	07/2013 – 06/2017	
	Underground Sun Storage 2030	03/2021 – 08/2025	
	Underground Sun Conversion	03/2017 – 02/2021	
	Underground Sun Conversion – Flexible Storage	12/2020 – 05/2023	
	Carbon-Cycle Economy Demonstration	07/2021 – 06/2025	
	European Underground Hydrogen Storage Reference System	01/2024 – 09/2029	
	Hydrogen Storage in European Subsurface	01/2021 – 12/2022	
	Hydrogen Underground Storage in Porous Reservoirs	10/2021 – 01/2023	
	Speicherung von Wasserstoff in Porenspeichern	12/2021 – 10/2024	
SERVARE	Seasonal storage in an optimal regulatory framework	10/2022 – 09/2023	
Seasonal Storage 4EG	Saisonale Energiespeicherung für Energiegemeinschaften	01/2024 – 04/2025	
 HI2	Hydrogen Industrial Inland Valley	01/2025 – 12/2031	More than 40 partners in OÖ, Stmk & Ktn

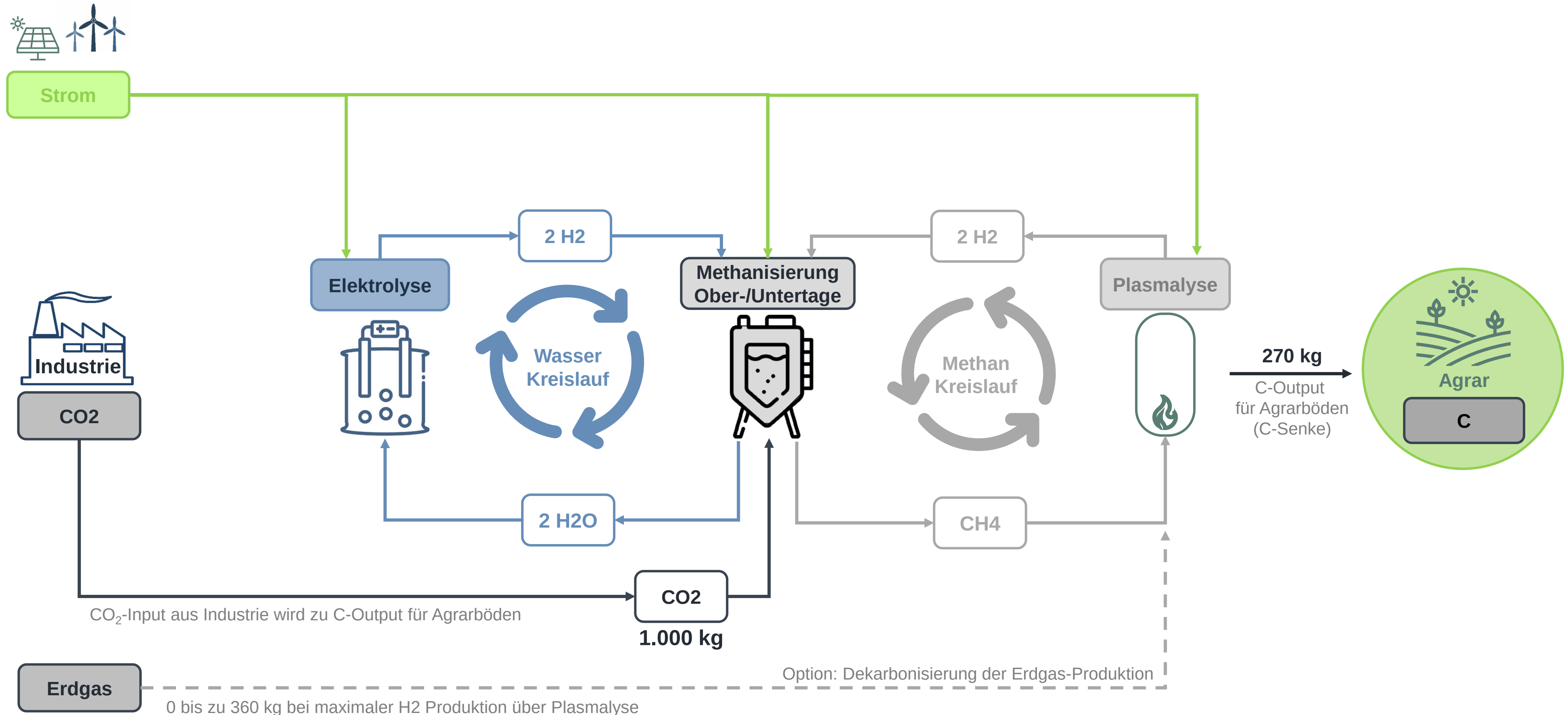
RAG Austria AG – Enabler of the energy future

CCiS: Carbon Capture and **intermediate** Storage

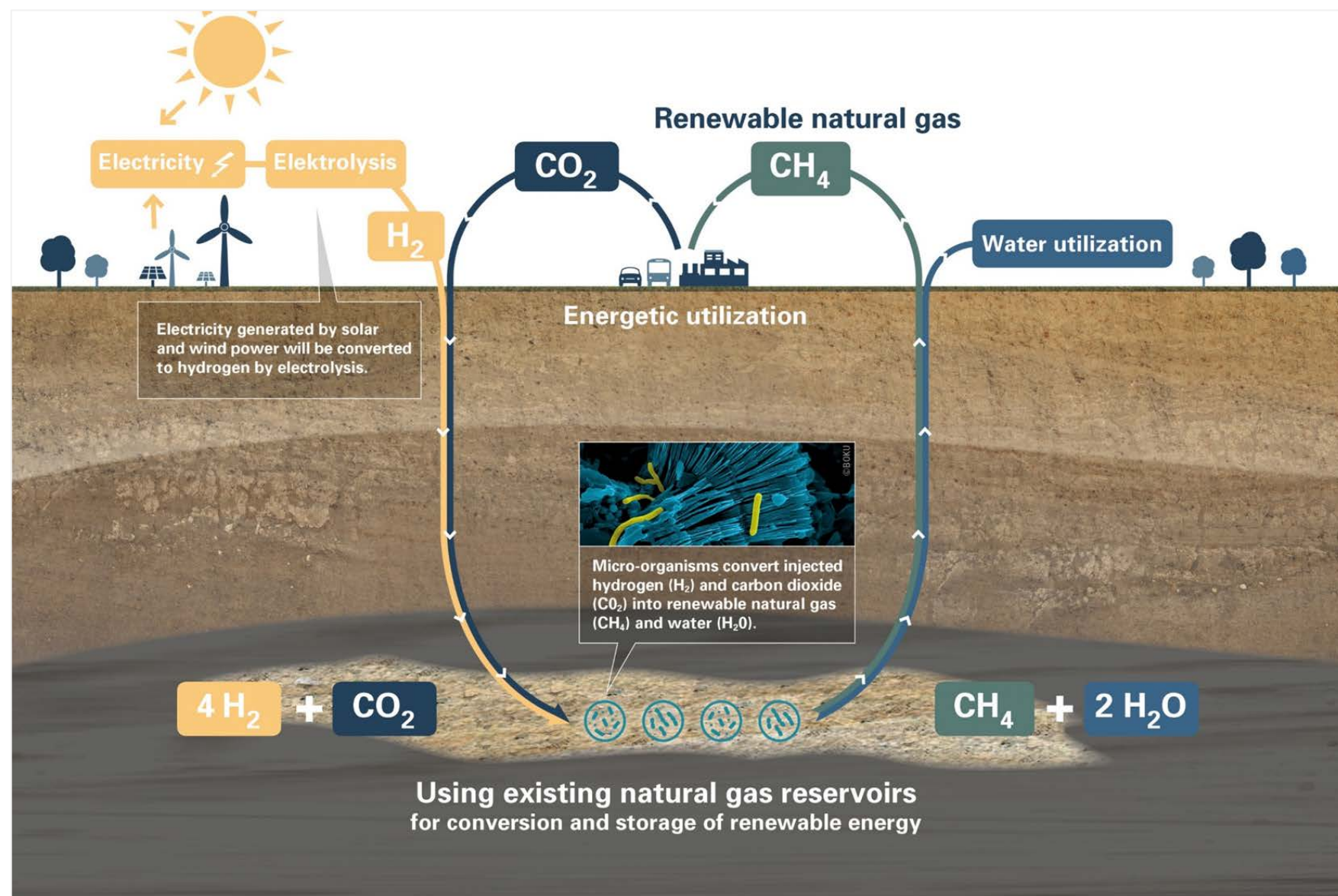


Safe **intermediate** storage of CO₂ & H₂ in known subsurface structures for later usage, i.e. no longtime sequestration

Langfristige Perspektive: „Dekarbonisierung“ von CO₂ durch Sabatier-Prozess, **UNDERGROUND SUN.CONVERSION**, Plasmalyse und Elektrolyse



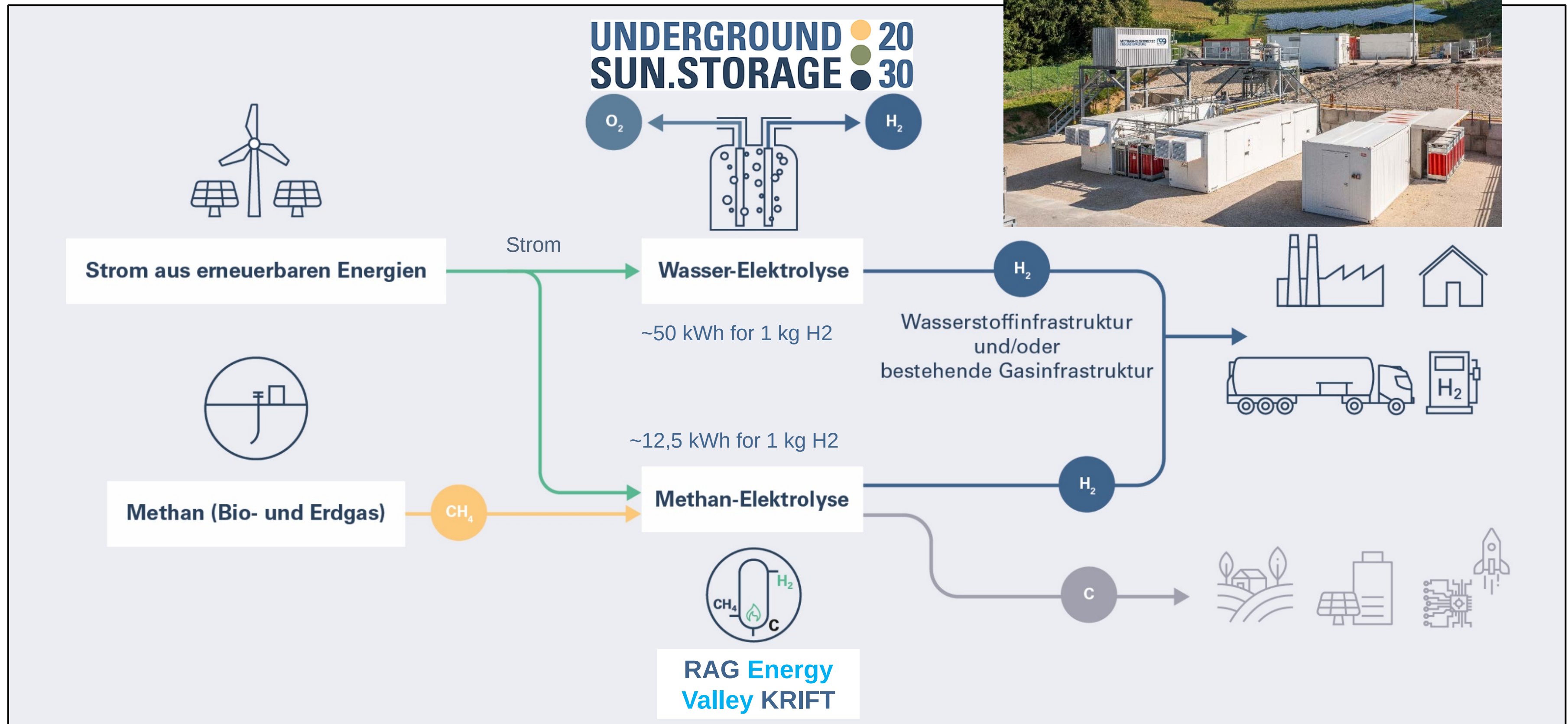
UNDERGROUND SUN.CONVERSION



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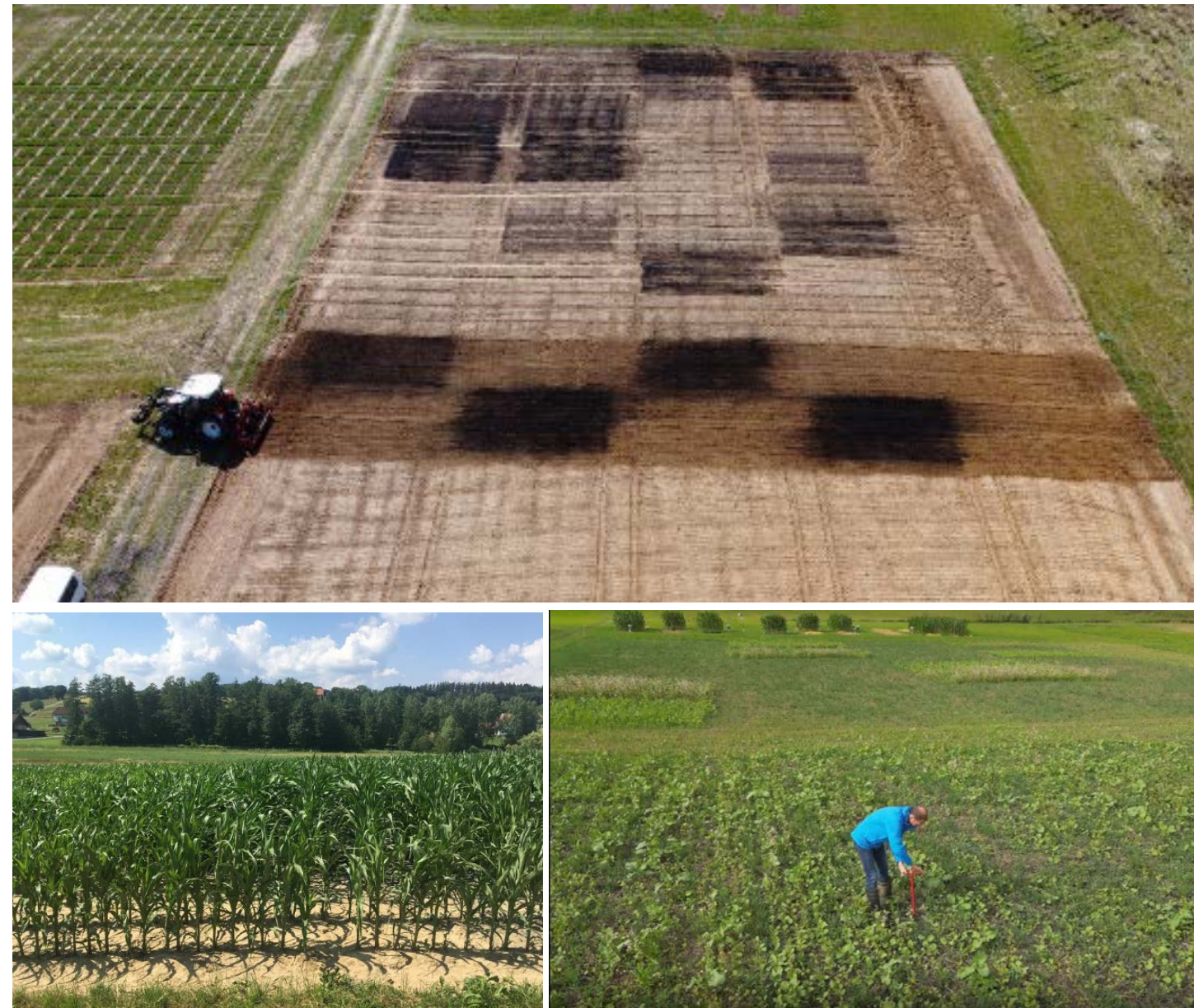
H2 Produktions-Pfade – RAG ist technologieoffen



(a) Green house, BOKU Tulln



(b) Feld Grabenegg (NÖ)



(c) PHENOPlant-Labor, VBC



RAG Valley – Gampern

Demonstration of conversion from
summer electricity to hydrogen supply

PV-production+battery or 30 kV Grid
supply



Conversion of Summer-
Excess Electricity into
„High Pressure Gas“

H₂-production-storage-
compression-purification
Sun Storage 2030



8 km (30-90
bar)
hydrogen-
pipeline to
RAG-UGS
Facility

Combined Heat/Power
INNIO Jenbacher
1 MW-class

Injection H₂ into
gasgrid with 30 or
50 bar pressure

