

Großskalige industrielle Elektrolyse-Anlagen

Projektansätze für die Wasserstoffwirtschaft von morgen

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We are building an integrated energy technology company

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Low- or zero-emission
power generation



Transport and storage
of energy



Reducing CO₂ footprint and energy
consumption in industrial processes



Why Hydrogen?

Up to 50% of final energy consumption could be electrified

+600%

Expected growth in global Hydrogen consumption

95%

Production of hydrogen from steam methane reforming and coal gasification¹

<1.5

USct/kWh lowest solar prices ever

>90%

Consumption of hydrogen in industries (e.g., ammonia production and petrol refineries)¹

>10 GW

Global hydrogen project pipeline

70 Mt

Global hydrogen demand 2018¹

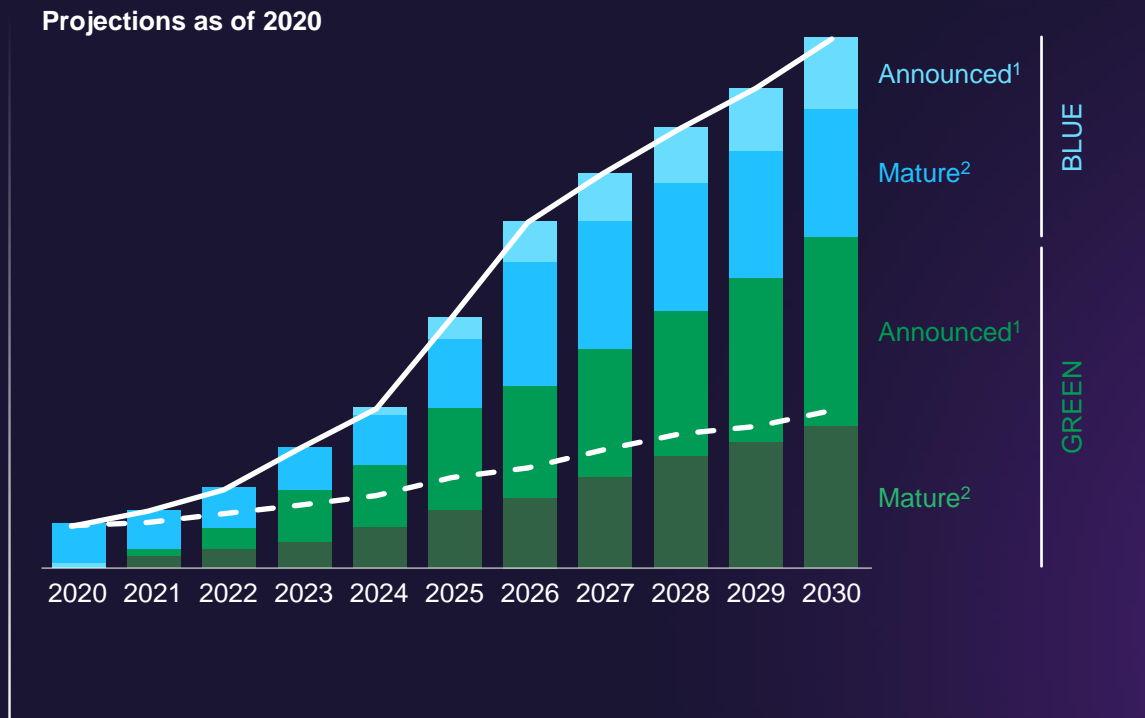


¹ IEA – WEO19

Strong growth in green hydrogen production drives cost competitiveness

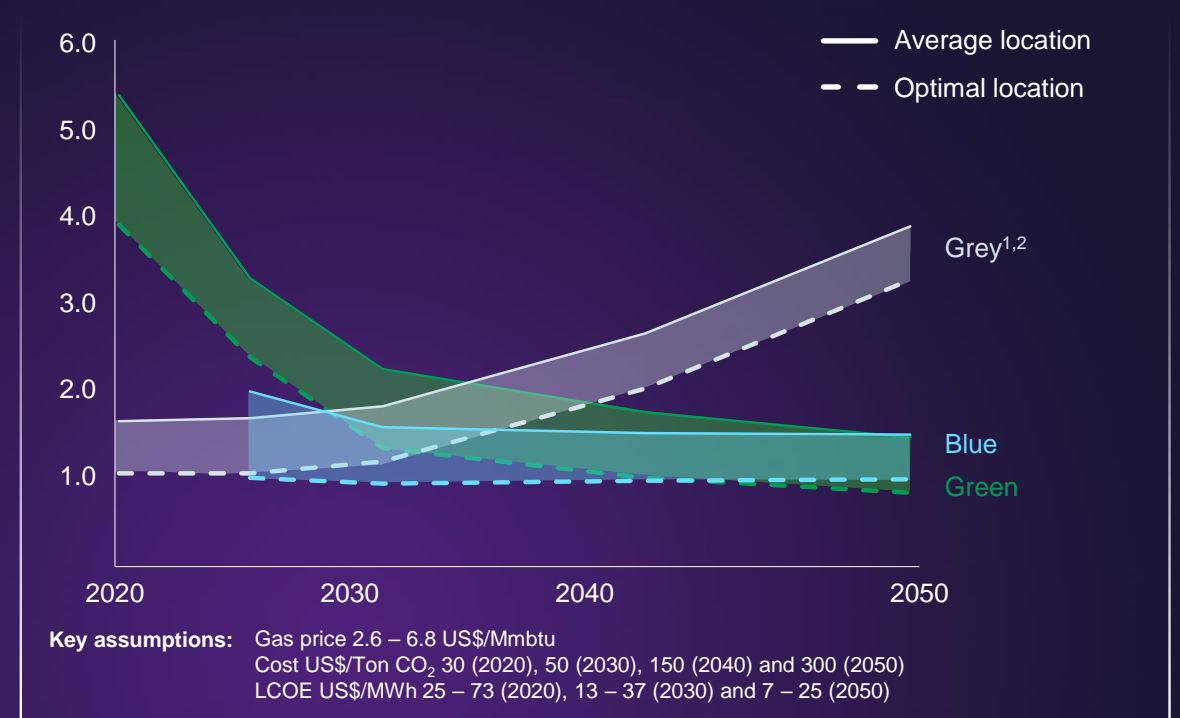
Announced clean hydrogen capacity through 2030

Production capacity
Mt p.a.



Hydrogen production pathways, including carbon costs

Production cost of hydrogen
US\$/kg



Source: Hydrogen Council, McKinsey “Hydrogen insights report 2021” | 1 Includes projects at preliminary studies or at press announcement stage | 2 Includes projects that are at the feasibility study or front-end engineering and design stage or where a final investment decision (FID) has been taken, under construction, commissioned or operational

Technology expertise in Electrolysis

Our electrolyzer portfolio scales up by factor 10 every 4 – 5 years

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0.1 MW

1 MW

10 MW

100 MW

1,000 MW

2011

Silyzer 100
Lab-scale demo

2015

Silyzer 200



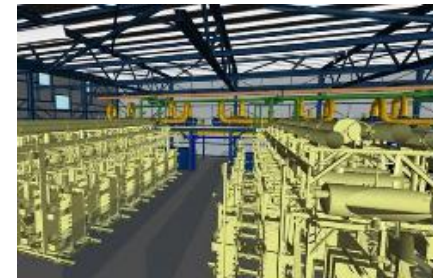
2018

Silyzer 300



2023+

Silyzer 300 plant

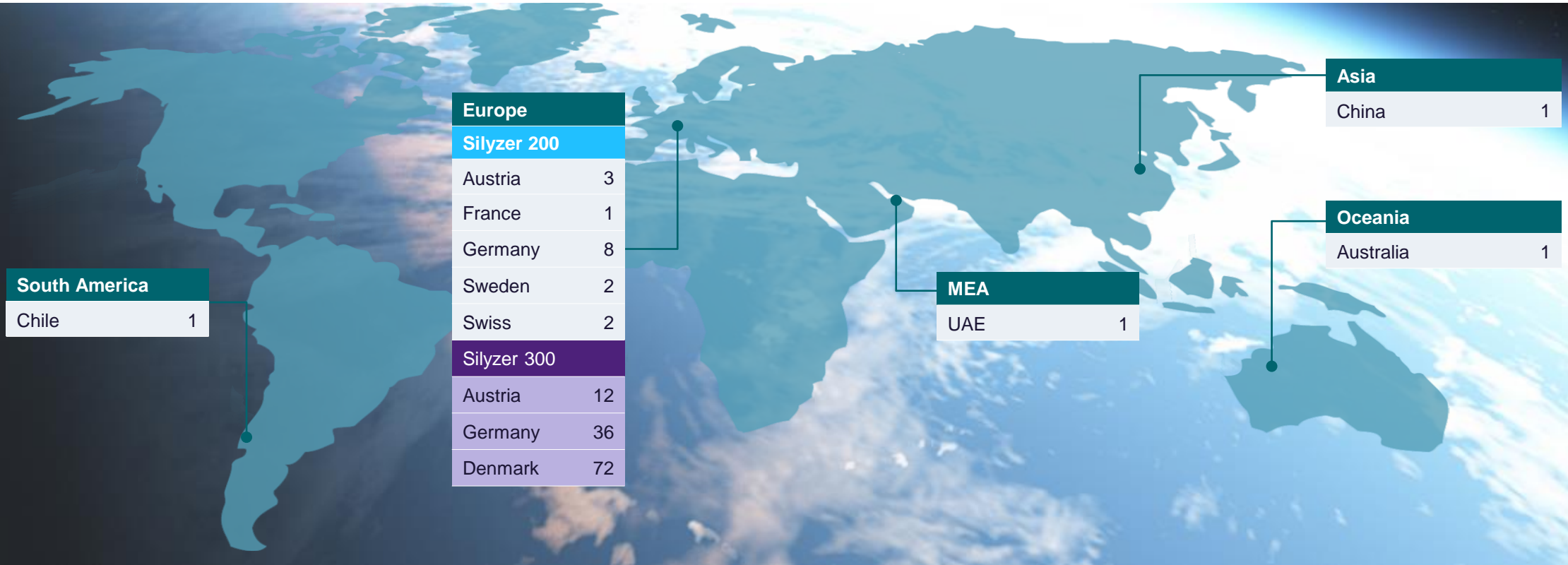


Next step

Co-Development with partners in specific verticals



Siemens Energy Electrolysers – Fleet experience on five continents



>20 Silyzer 200 systems
are under contract

>120 Silyzer 300 modules
are commercialized

>250.000 Operation hours
on >1MW systems

Projects in implementation based on Silyzer 300 platform

Scale-up is already happening

6 MW plant

8.5 MW plant

17.5 MW plant

55 MW plant

200 MW plant



H2Future Linz

- Green hydrogen for the steel making process
- Our partners: VERBUND, voestalpine, Austrian Power Grid (APG), TNO, K1-MET

Wunsiedel

- Green hydrogen for industry, grid services and mobility
- Our partners: Siemens AG, WUNH2, SWW Wunsiedel GmbH

Oberhausen

- Green hydrogen for Air Liquide pipeline infrastructure
- Our partner: Air Liquide

e-Methanol Kassø

- Green hydrogen for CO2-neutral shipping at large-scale
- Our partner: European Energy

Project close to FID

- Renewable electricity
- Joint development with our partner

Ready to deliver large-scale electrolysis systems + capacity increase in Germany is locked and loaded



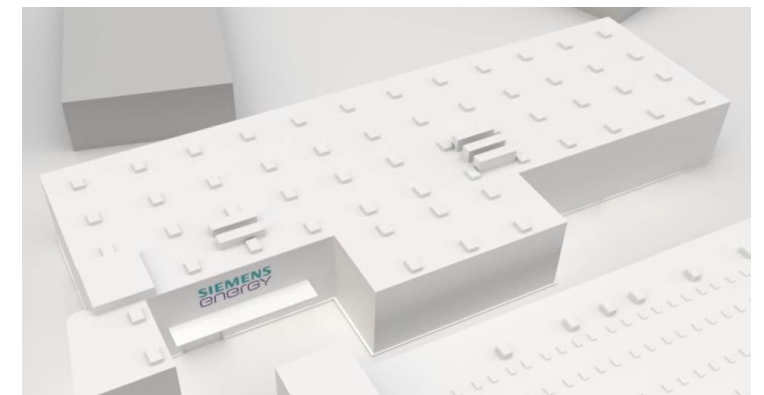
- Implementation of **modern robots**
- **Fully automated** production line
- **Industry 4.0 Digitalization** implemented



- **Inhouse design** allows for internal and external local packaging
- **Packaging** scaled with qualified third parties **worldwide**



- Factories in Germany as **blueprint** for other regions
- **Capacity growth plan locked-in** and layouts finalized



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