

Industry Analysis

The image depicts a modern industrial environment, possibly a factory or warehouse, with a dark, blue-tinted aesthetic. Overlaid on the scene are various white wireframe graphics. In the foreground, there are several rectangular blocks or containers. In the middle ground, a robotic arm is visible, along with a large screen displaying a diagram. To the right, there are tall, vertical structures resembling chimneys or towers. The background shows a complex network of pipes and structural elements. The overall composition suggests a focus on industrial automation, data analysis, and infrastructure.

Key challenges in 2022



- The war in Ukraine impacted overall economic conditions in the first quarter of calendar 2022. Energy prices – already soaring in the latter half of 2021 – skyrocketed in the first half of calendar 2022




- Regulatory restrictions on several sectors and companies along with a recession. China's GDP growth is expected to slow significantly in calendar 2022, to 3.0%, after it rebounded in calendar 2021 with 8.1%



- China's zero-COVID strategy became even more strict with the emergence of highly infectious variants, resulting in more major lockdowns which burdened economic activity and global supply chains in the second half of calendar 2021


2023 outlook by global geography

Europe



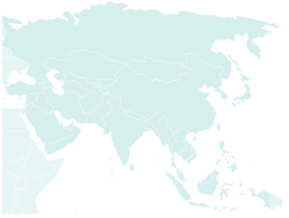
- European industrial demand **could lose strength**. Rising rates and sustained inflation mean consensus earnings may need to be **cut by 10-15%**. Defensive sectors including **grid, energy** and mining-equipment manufacturers could **outperform**

North America



- North American industrials' **demand strength will lose momentum** as economic and inflationary concerns cloud the outlook. Supply-chain eases, yet favorable pricing will temper with slowing demand. Sectors including energy and Aerospace could outperform

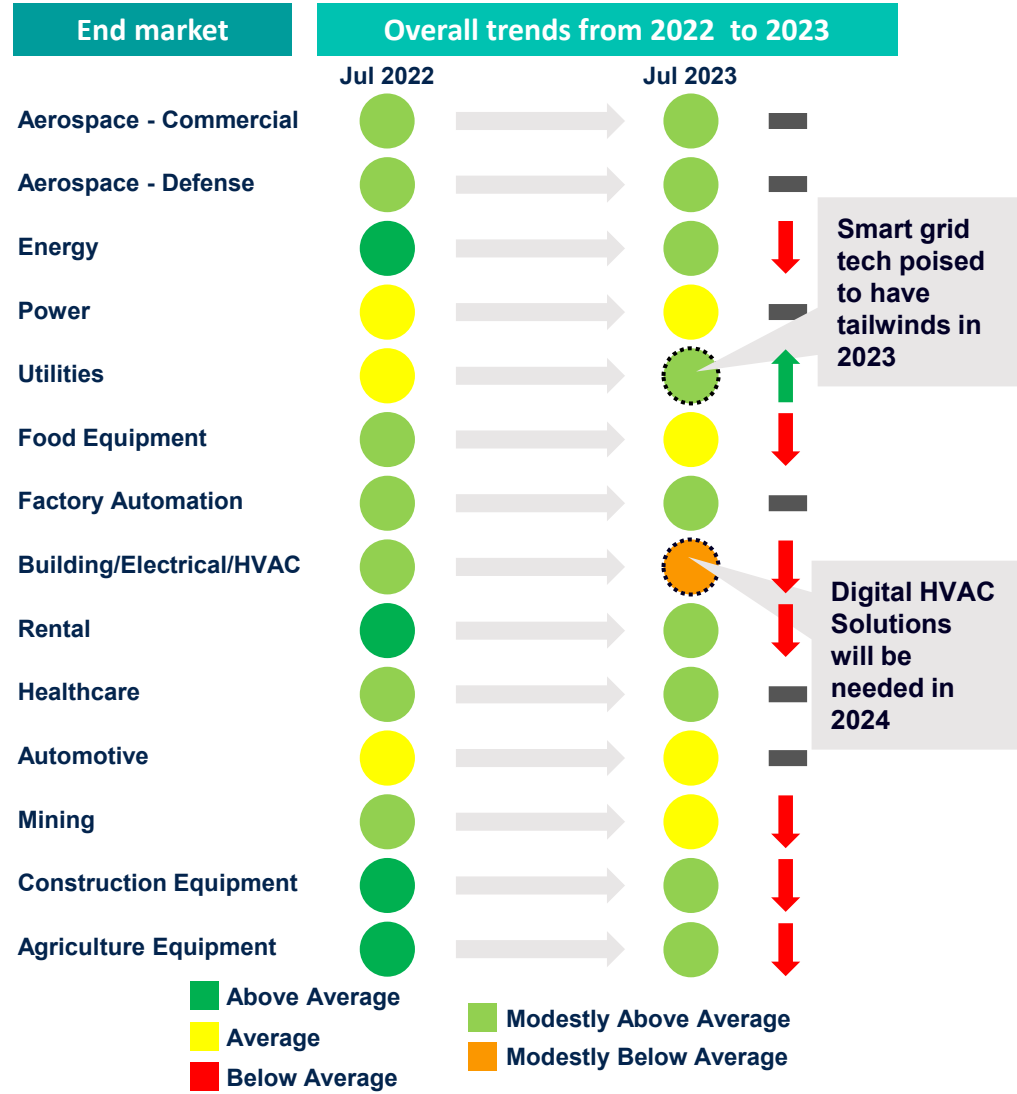
Asia



- As the industry works off an order backlog and China eases Covid restrictions, demand for chipmaking equipment may fall while auto-sector investment has room for a delayed rebound

Source: (Bloomberg, 2023), (Capital Markets Day (Siemens, 2022))

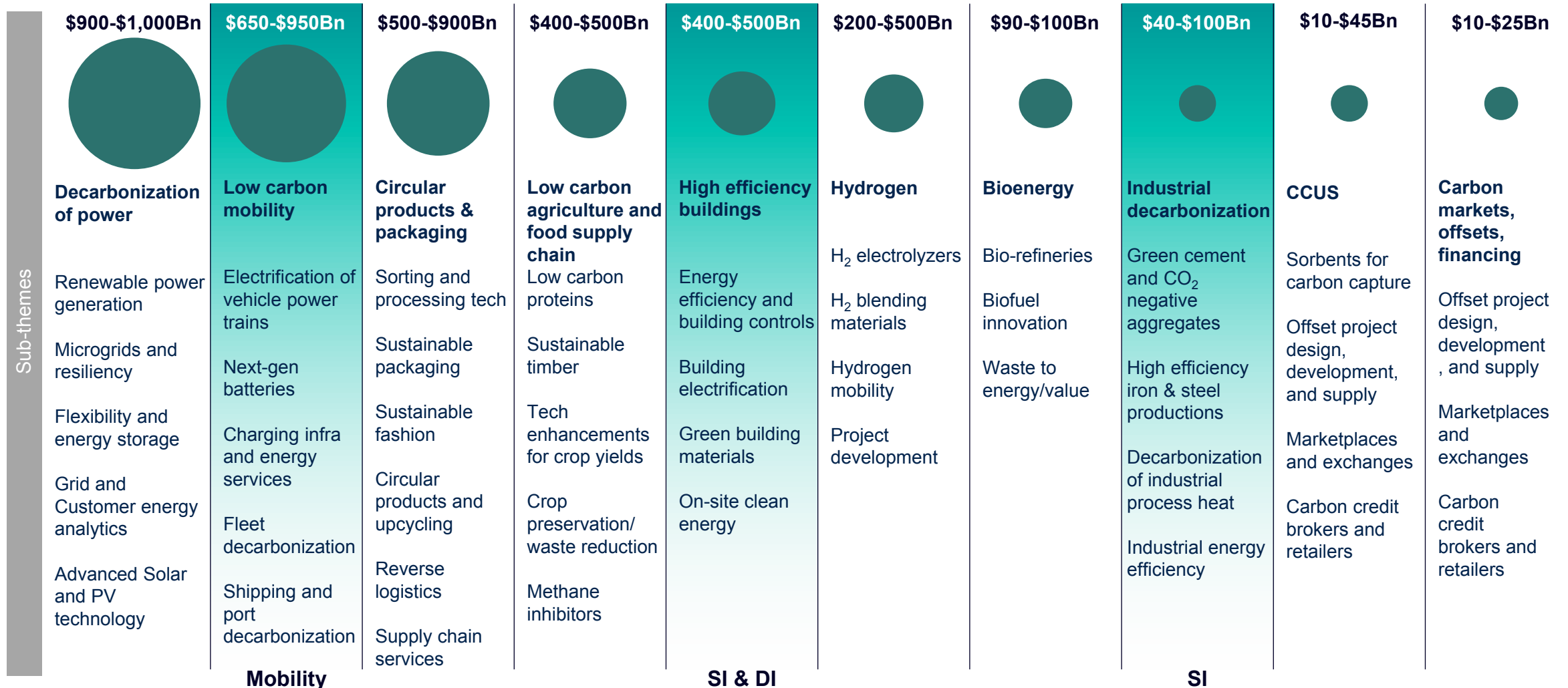
Trends effecting critical end markets...



Decarbonization TAM

Clean energy well positions many of Siemens' core businesses to react to the addressable market

Decarbonization sits the center of a ~\$5 Trillion TAM

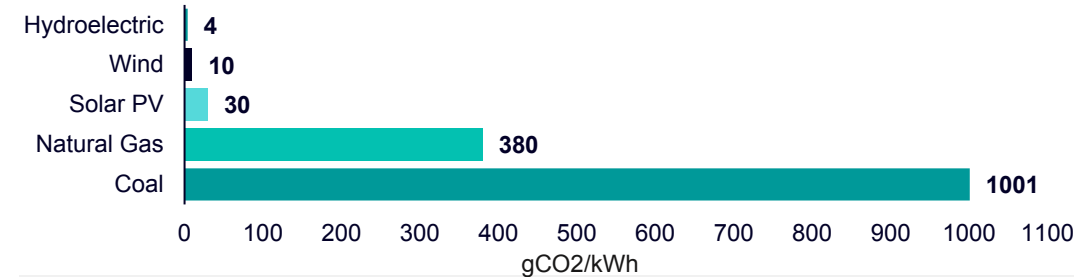


Source: (McKinsey & Company (2), 2022)

A beneficiary of the push for cleaner energy with lingering concerns on profitability

Wind is a viable option for decarbonization...

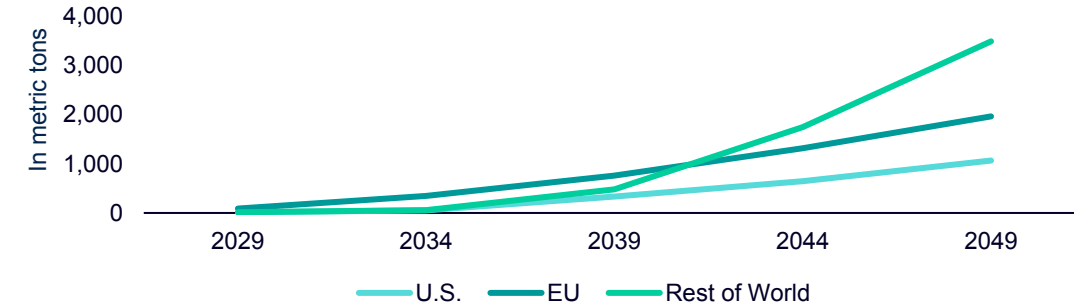
Electricity sources by emissions



- The push for **decarbonization** is continuing to play a pivotal role in both the acceptance and adaption of wind power systems
- An estimated **1.7 billion tons of steel** are needed to build enough wind turbines to reach net zero by 2050

...but is still facing turbulence

Global wind turbine waste forecast

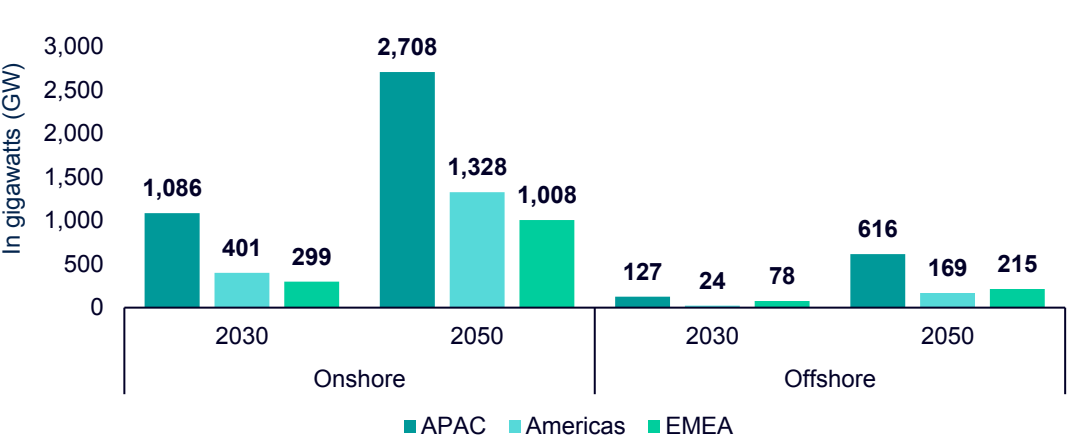


- Although wind turbine producers will benefit from the push for cleaner energy, 2022 was an unfavorable year due to **supply chain issues, material inflation, and unfavorably priced contracts**

Source: (Ferris, 2021), (GWEC, 2022, Statista), (Wood Mackenzie, 2022)

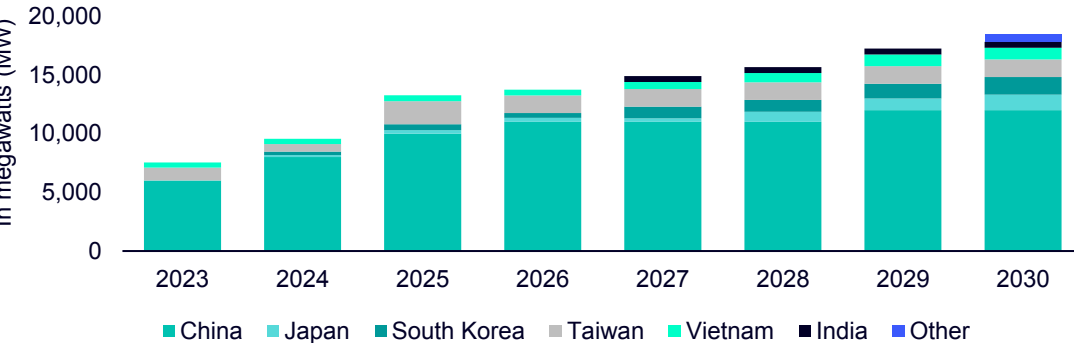
...which will increase its presence onshore and offshore

Installed wind power capacities forecast



...with Asia being primed for offshore opportunities

Offshore wind installations in Asia by 2030

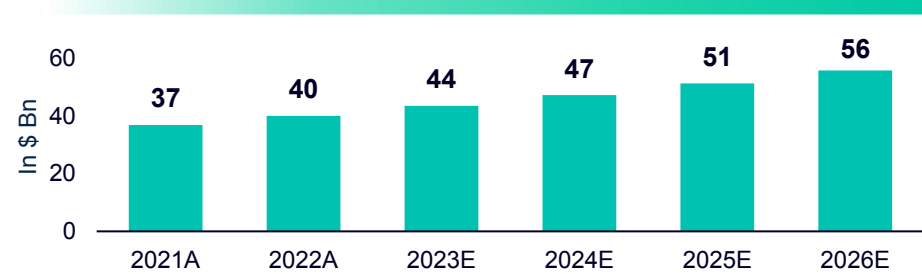


- Asia is expected to account for nearly **100 GW** in offshore wind capacity by 2030 and account for **over 60%** of offshore wind capacity by 2050

Solar energy is a direct play into the grid...

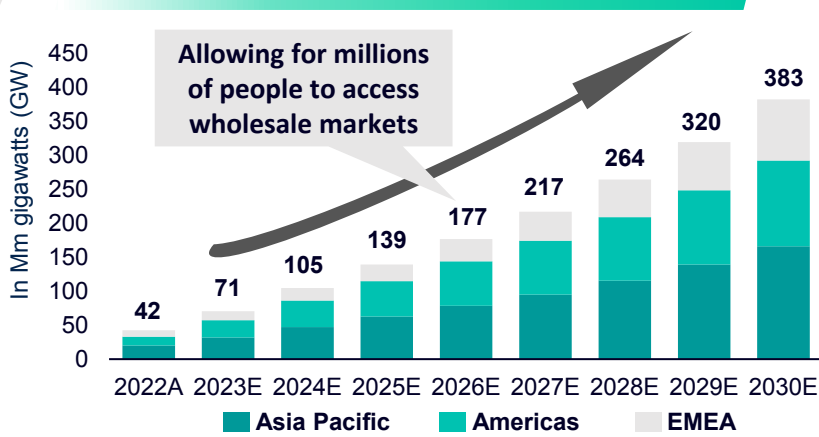
- The current grid system is archaic and serves no direct benefit to the consumer beyond consumption
- With developing renewable energy systems, consumers are now able to tie their residential systems into a **Smart Grid** through “**Net-Metering**”

The smart grid market size is growing steadily through 2026



...necessitating leaps in battery storage technology

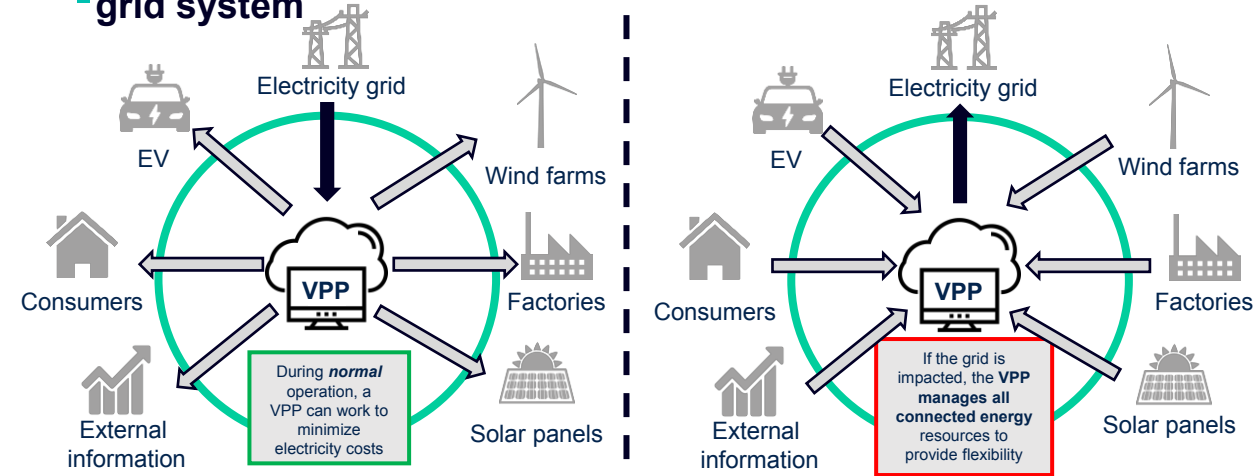
Battery storage capacity outlook by geography



Federal policy supporting renewables

1 Inflation Reduction Act (IRA)	3 GDP	2 Chinese Subsidies
U.S.	Europe	China
Low-carbon tech	Clean energy transition	Clean tech investment incentives
Federal tax credits of \$369Bn	Credits under negotiation	\$275Bn of government subsidies
Rapid access to funding	Response to the IRA and Chinese subsidies	Manufacturing of net-zero tech is dominated by China
Open trade for resilient supply chains	More govt. support	

Virtual Power Plants gives access to all players of the energy grid system



Source: (NextMSC, 2020, Statista), (Business Wire, 2021, Statista), (Barclays, 2023), (Bloomberg NEF, 2023), (Wood Mackenzie (1), 2023)

Electric vehicle infrastructure is on the rise globally



Global EV supply equipment market size

