



Net Zero Energy Buildings Strategies, Technologies, and Challenges in Scaling Up

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Buildings

40%

of all energy is
used by buildings.

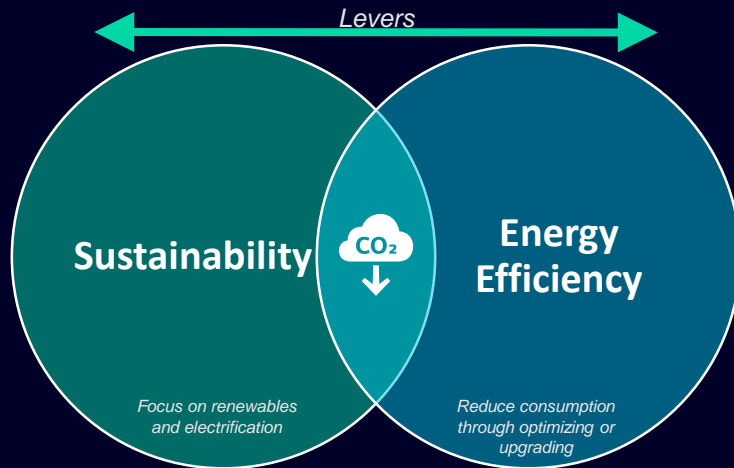
33%

of greenhouse gas emissions

Source: Alliance To Save Energy (ASE)

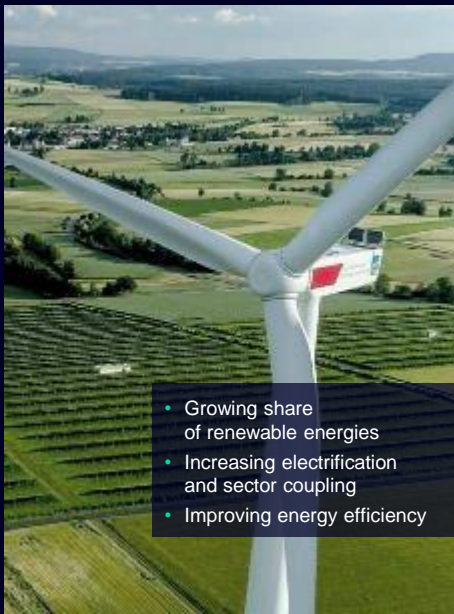
Energy Transition Goal

Limit global warming to well below 2.0, preferably to 1.5 °C



Global Energy Transition

Decarbonization. Digitalization. Decentralization.



- Growing share of renewable energies
- Increasing electrification and sector coupling
- Improving energy efficiency

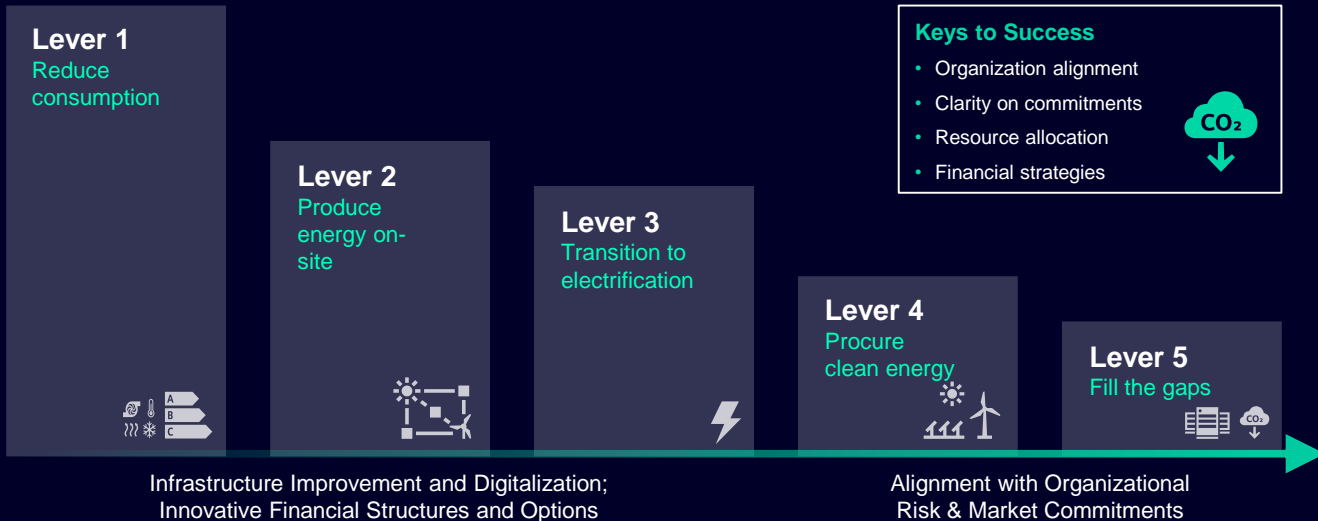


- Connected systems and automated processes
- Smart data as a basis for decision-making
- New business models



- Flexibilization of the energy market
- From consumer to prosumer
- New market players

Decarbonization Roadmap Levers



Digitalization

Creating a bridge between real and virtual worlds



In the built-environment, this means connecting:

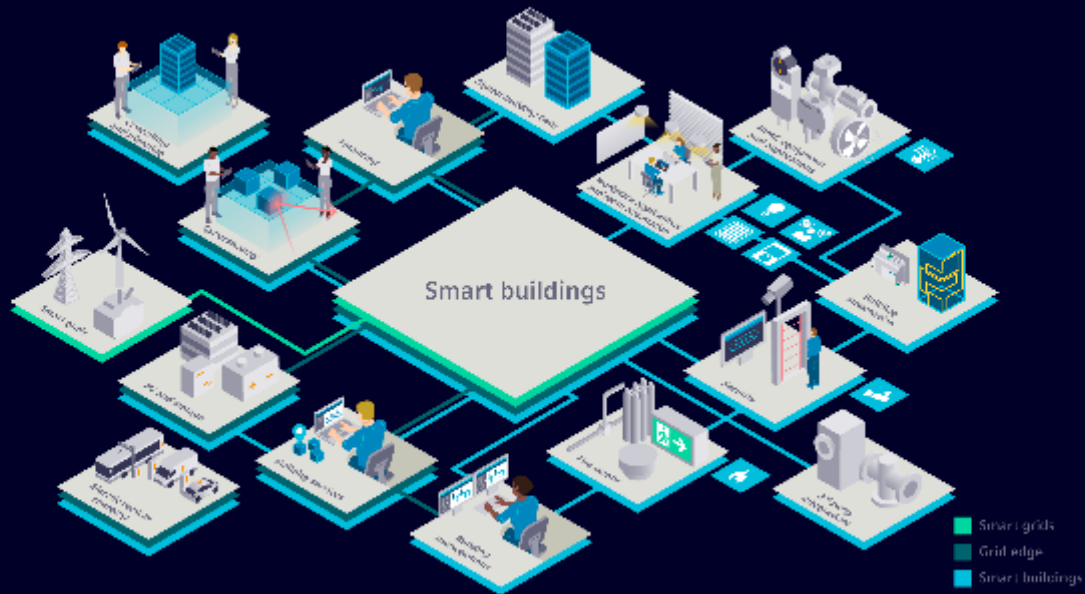
Sensors Devices Software
s s
 to

Monitor, Analyze & Respond

to

Optimize &
Improve Resource
Utilization

Smart buildings transforming the everyday

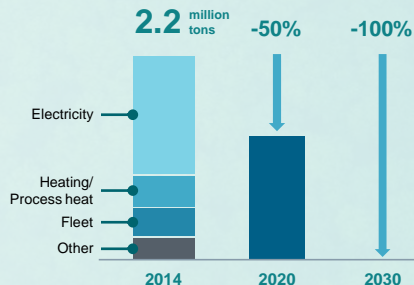


We are walking the walk; committed to becoming carbon neutral by 2030

Four measures for carbon neutrality 2030

Siemens has committed to **become Carbon Neutral by 2030**, setting a net zero carbon target **even before the Paris Agreement**

Siemens CO₂ footprint, in Mt CO₂



100

Million EUR

Siemens Energy Efficiency Program



45

Million EUR

Distributed Energy Systems



100%

Electricity consumption

Green Power Purchasing



200

Charging points

Smart Mobility



We have saved our customers...

Electricity



450M kWh

Total Energy Savings

Cost



202 MAED

Total Cost Savings

Decarbonization



230,000 MT

Carbon Reduction

Equivalent to:

CO₂ emissions from...



96 million

Liters of Gasoline



96,750

Barrels of Oil Consumed

Greenhouse gas emissions equivalent to...



47,368

Passenger Vehicles
Driven



80,645

Tons of Waste Recycled

Carbon sequestered by...



5.7 million

Tree Seedlings Grown
for 10 Years



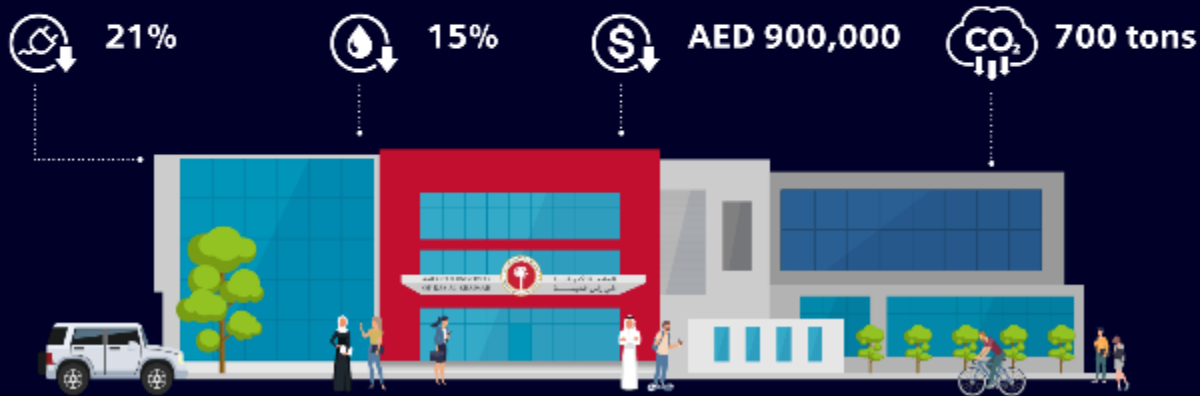
184,426

Acres of U.S. Forests

Airports | District Cooling Plants | Hospitals | Industrial Facilities | Educational Institutions | Malls


Hotels | Residential Buildings | Commercial Offices

Siemens supports the UAE's **American University of Ras Al Khaimah's** energy conservation plan with energy systems retrofit



Partnering for the Future of eMobility in UAE with MoEI and Audi





Accelerate to 2030
**The path to net zero
buildings is digital**