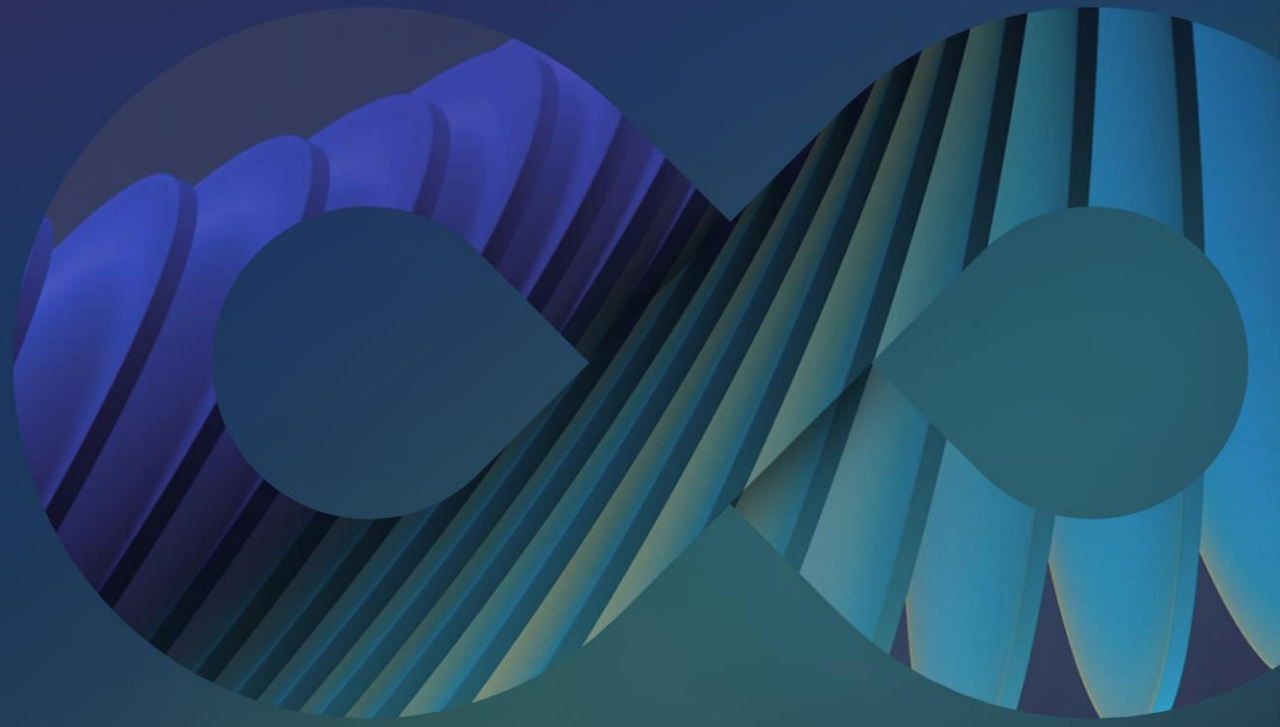
Siemens

Envisioning a Net Zero Value Chain

June 2024



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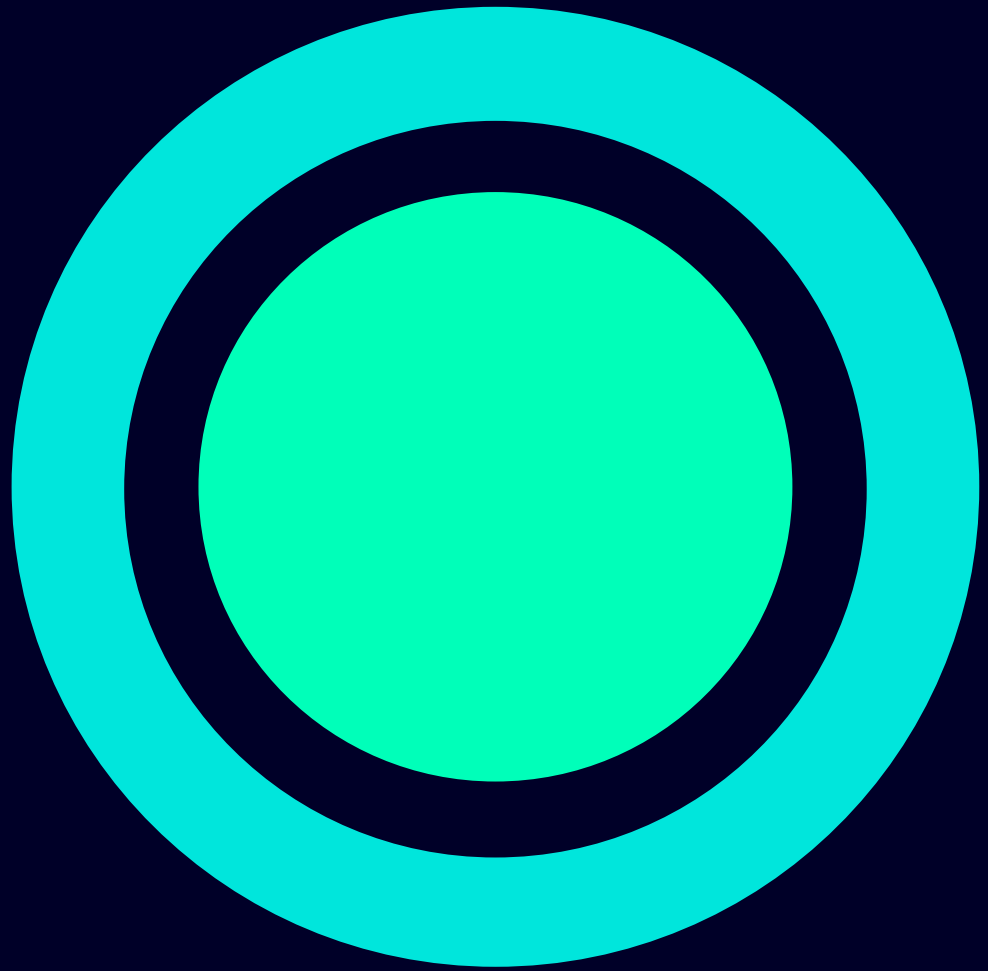

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Climate change has **impacted** our home

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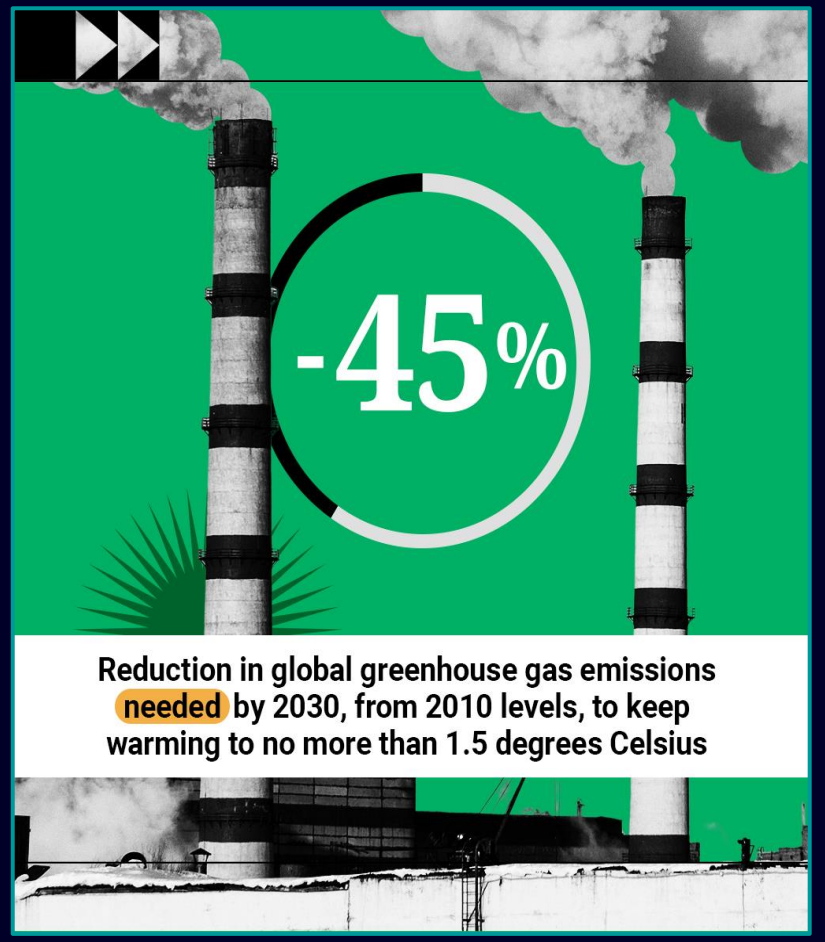
We need to **accelerate** towards Net Zero



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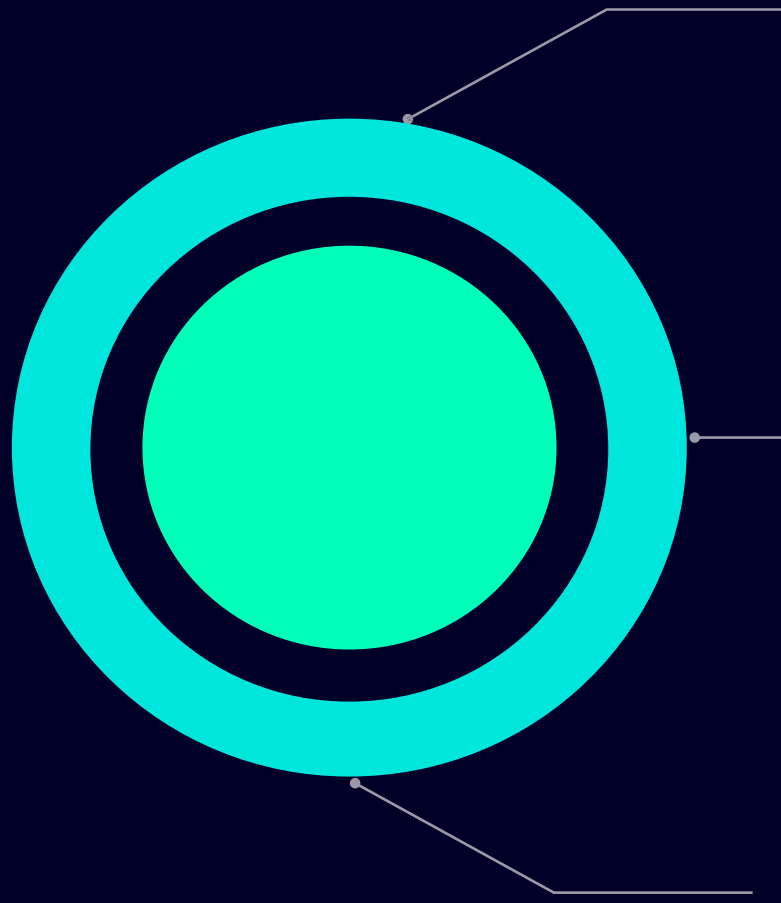
Four key levers to achieve a net zero value chain



Scope 1 & 2

Decarbonize Own Operations

Decarbonize power supply

Reduce energy consumption for production and buildings

Electrify energy consumption for processes, utility and vehicle fleet

Scope 3 Upstream

Decarbonize supply chain

Manage Supplier selection

Optimize Logistics

Assess and Track Carbon Footprint

Scope 3 downstream

Help Customers Decarbonize

Offer Low Carbon Products, Collaborate for end-of-life

Scope 1, 2, 3

Decarbonize Products

Provide transparency and adapt product design

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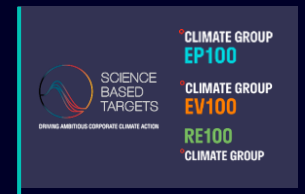
Siemens sustainability track record
More than 20 years of leadership ...

2003
UN Global Compact

2015
Carbon-neutral pledge

2018
Charter of Trust



2021
SBTi commitment

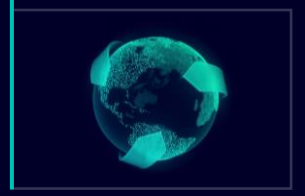
2023
Siemens Campus Zug operates at net zero

2008
Environmental Portfolio

2016
Business to Society®

2020
Eco Efficiency @Siemens

2021
Siemens DEGREE launch



2022
Step-up CO_2 ambitions

Carbon emissions
-55% by 2025
-90% by 2030

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We accelerate our **DEGREE** program

Decarbonization
support the 1.5°C target to fight against global warming

Ethics
foster a culture of trust, adhere to ethical standards and handle data with care

Governance
apply state-of-the-art systems for effective and responsible business conduct

Resource Efficiency
achieve circularity and dematerialization

Equity
foster diversity, inclusion, and community development to create a sense of belonging

Employability
enable our people to stay resilient and relevant in a permanently changing environment

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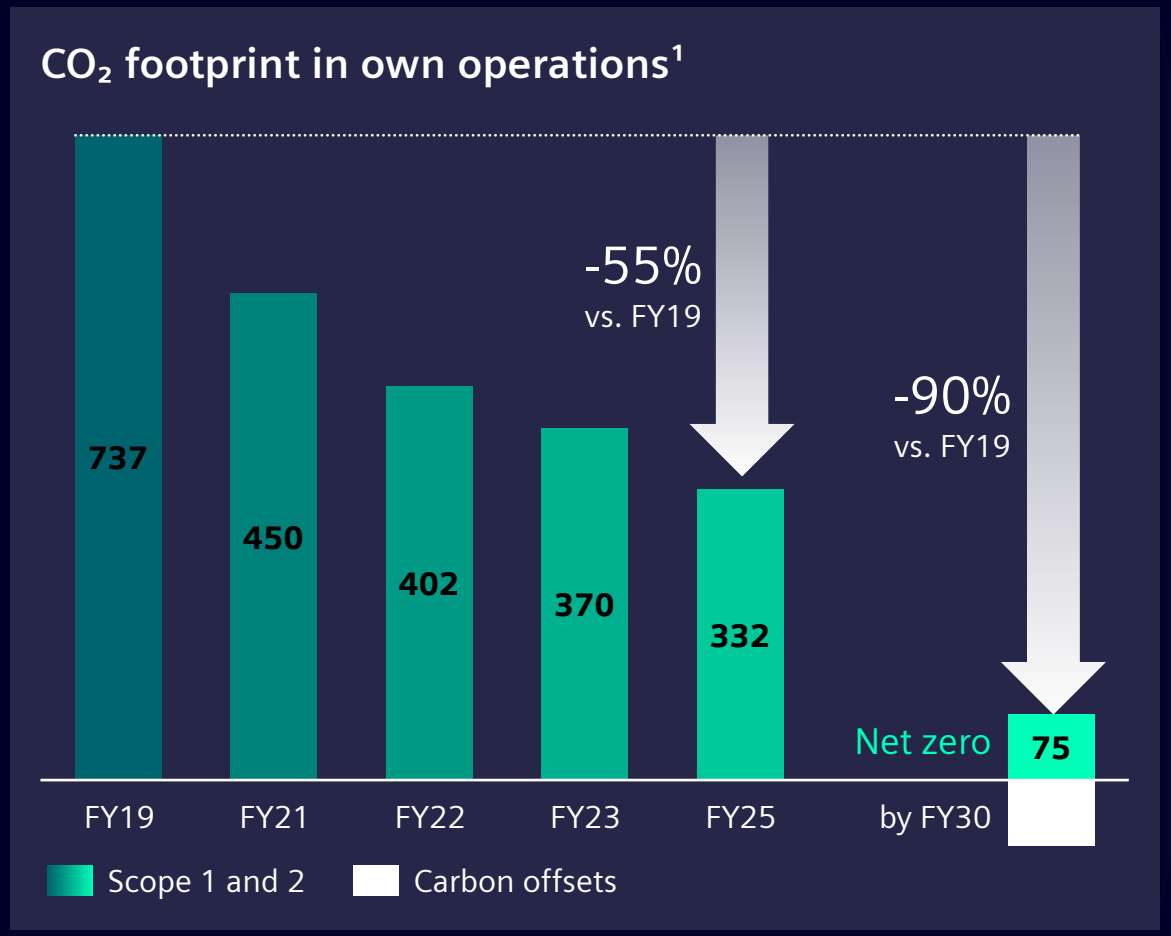
Siemens has accelerated CO_2e emission reductions in own operations with target net zero



We accelerate the emission reduction pathway (w/o SHS)

- ✓ FY25 reduction target of -55% and -90% by FY30
- ✓ CO_2 footprint reduced by 50% from FY19 to FY23
- ✓ Already 11% electric cars at Siemens (up from 4% in FY22)
- ✓ Already 80% of electricity from renewable sources
- ✓ Invest of ~€650m in operational decarbonization between FY22–FY30
  (for fleet electrification, buildings, and production emissions)

DEGREE ambition

Our Siemens commitments (w/ SHS)

- ✓ Validated 1.5 °C-aligned SBTi (2021)
- ✓ 100% electrical vehicles, 100% renewable energy, and 100% net zero buildings by 2030
- ✓ 2015 Carbon-neutral commitment by 2030

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CLIMATE GROUP EP100
CLIMATE GROUP EV100
RE100 CLIMATE GROUP

1 Siemens without SHS, in 1,000 metric tons of CO_2e

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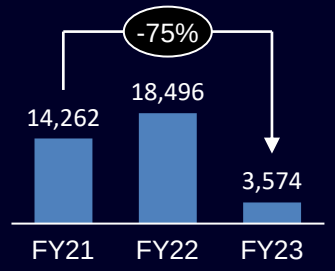
Key Initiatives and Impact in India

CO_2 (Tons)



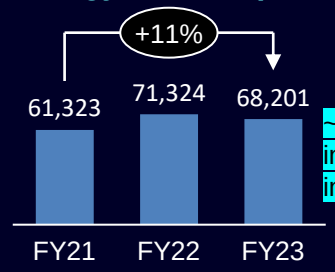
Solar PV Project for Goa –
Phase 1 1.08 MWp complete
Phase 2 – 1 MWp (Mar'24)
Phase 3 & 4 – 0.562 MWp (TBD)

Kalwa – JV Solar & AIS Rooftop

Green Energy Procurement –
18473 MWh in FY23

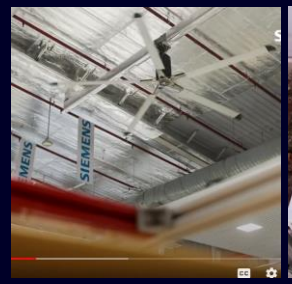
10 e-buses for employee transport at Kalwa with our Charging infrastructure

Energy Consumption (GJ)



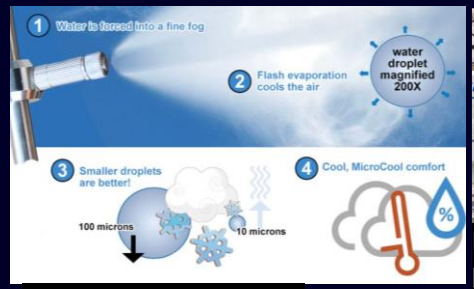
~37% increase in TO

Thermal Storage



HVLS Fans

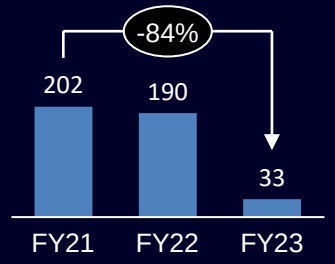
Optimized AC System

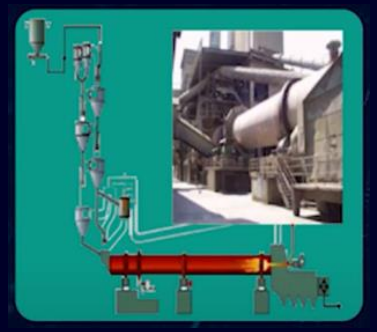


Adiabatic Mist System

Replacement of hydraulic m/c & pneumatic screw drivers with electrical ones

Landfill to Waste





Co-processing of landfill waste in Cement Kilns

Other Initiatives

Re-usable packings with suppliers

Crumpled recycled papers instead of plastic bubble packs

Bio-degradable plastics

Supplier Workshops

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Decarbonize products

80% of a product's environmental impact is determined at the design stage

Eco-design with sustainability impact analysis
Evaluate environmental impact of design decisions early in development

Digital twin of product
Push the boundaries of what is achievable while using fewer prototypes supporting sustainable design and performance engineering

Product carbon footprint and cost prediction
Identify the most important levers for the carbon and cost savings

Source: Ellen MacArthur Foundation

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Siemens Pioneering Product Sustainability

Scope 1, 2, 3: Products

Siemens EcoTech Label to assess a product's environment performance

- **Sustainable materials**
- **Optimal use**
- **Value recovery & circularity**

Maximizes transparency

Mandatory requirements and 13 criteria in 3 dimensions

Link: www.siemens.com/SiemensEcoTech

Sustainable products

Functional integration in SENTRON electronic circuit protection device (ECPD)

- Functional integration of up to **10** different products
- **60 / 90%** less plastics /metal
- **~60%** less power losses

Mar. 2024

Green steel for MV switchgear

"Siemens leads the way with sustainable steel"

- **~40%** CO_2 product footprint reduction via low-carbon steel
- Based on low-CO2-intensity power & recycled steel

Dec. 2023

Lower footprint plastic circuit breakers, collab with BASF

- Plastic of circuit breaker based on biomethane from agricultural waste /plants
- **270t** annual CO_2 savings

Jun. 2024

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Decarbonize supply chain

90% **of CO_2 emissions originate in the supply chain**

Supplier selection management
Source, connect and collaborate with suppliers with an integrated and model-driven approach using a digital thread

Logistics management
Leverage a digital twin of logistics to optimize all parameters that are critical for decarbonizing the transportation of goods from suppliers to factories

Supplier product carbon footprint management
Create transparency on emissions across the supply chain to reliably track and manage product carbon footprint

Source: WEForum

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Siemens has taken steps toward a net zero supply chain (scope 3 upstream)

Net zero supply chain by 2050 and 20% emissions reduction by 2030

Impact through global supplier footprint

~67,700
Suppliers

~€37bn
goods and services purchased

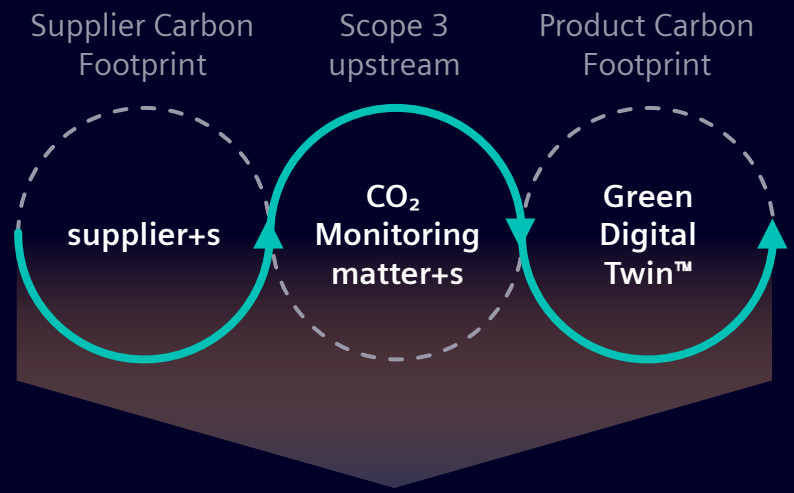
~140
countries

Scope 3 upstream development in FY23[1]

~1%
decrease of scope 3 upstream emissions compared to FY20 baseline

~33%
increase in purchasing volume at the same time

Collaboration and technology as enabler to reach targets



~4,324
suppliers reported their CO_2 reduction efforts leading to

~9%
average reduction of CO_2 footprint of suppliers actively engaged

1 Siemens without SHS

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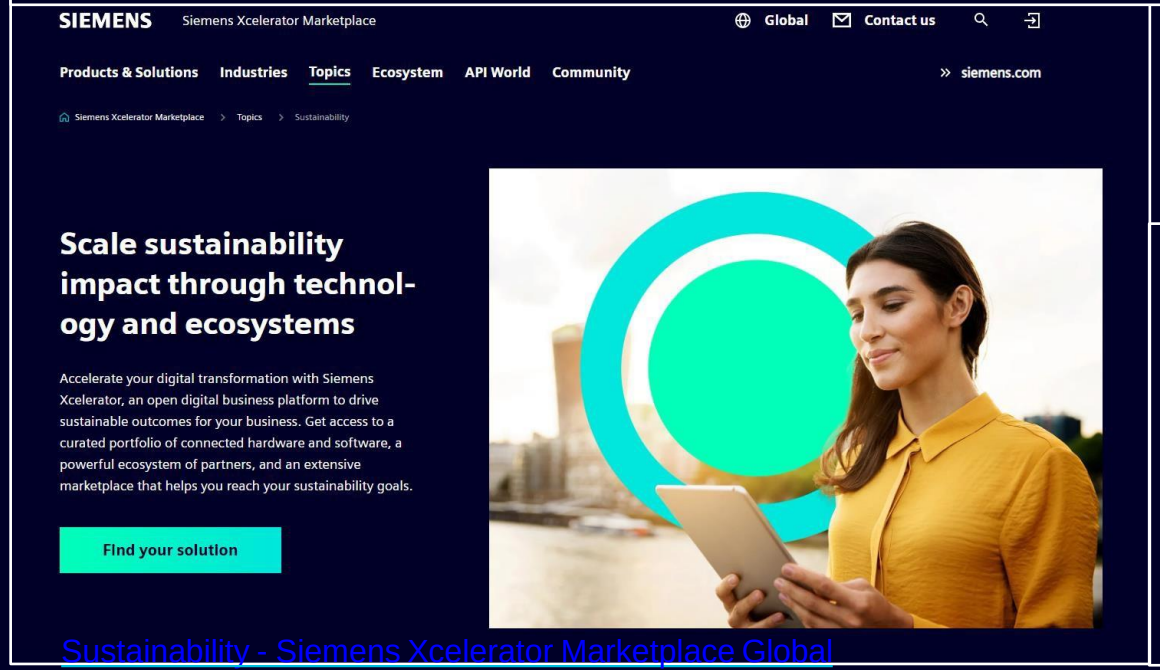
Accelerating Customer's Sustainability journey

~190 million tons of emissions were avoided by our customers using Siemens offerings.

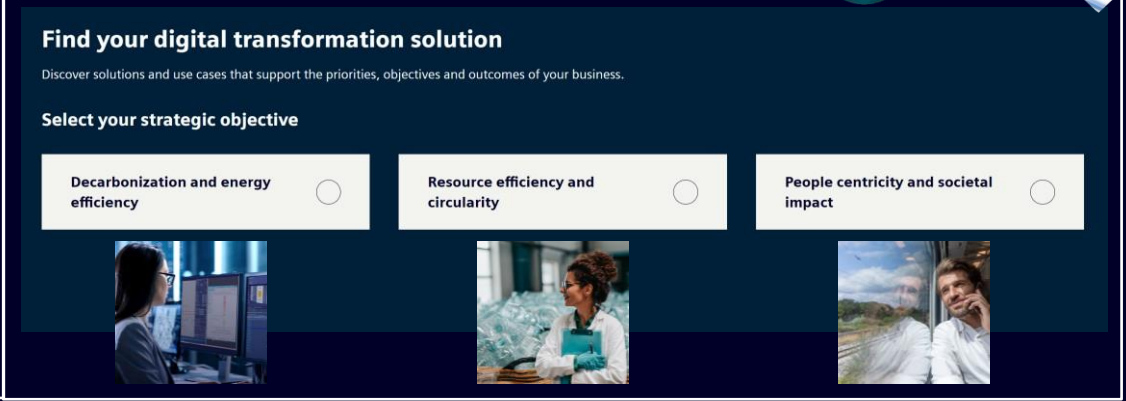
>90% of Siemens' business enables customers to achieve a positive sustainability impact.

>250 offerings to achieve sustainability impact are part of the Siemens Xcelerator marketplace.



Sustainability - Siemens Xcelerator Marketplace Global

Siemens Xcelerator
Sustainability Topic



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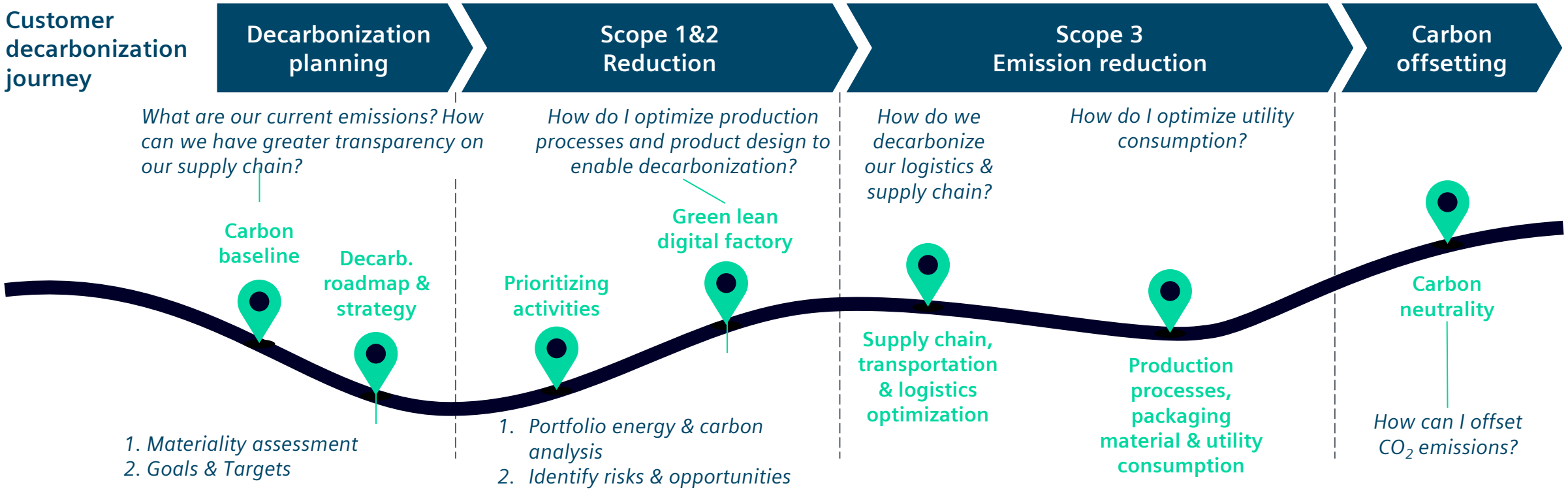
We can help you solve numerous sustainability related challenges along your decarbonization journey



Decarbonization Governance

Regulatory and legislative compliance	Organization excellence	Carbon accounting and monitoring	Reporting and certification
What is the impact of the EU taxonomy for us?	*What setup & processes are needed to realize my targets?*	*How do we implement technical solutions to track emissions?*	*How can I report to capital markets via TCFD?*

Note: exemplary customer questions TCFD: Task Force on Climate-related Financial Disclosures Source: Siemens

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Decarbonization requires system-level transformation

Decarbonize power supply

- Green Energy purchasing (1)
- On-site renewable integration (2)
- Digital Energy Twin Grid simulation and planning (3)

Electrify energy consumption

- Electrification of processes and heat (4)
- EV-charging infrastructure (5)

Reduce energy consumption

- Digital Twin of production (6)
- Building energy efficiency (7)
- Production energy efficiency (8)
- Industrial Internet of Things (9)

Decarbonize supply chain

- Supplier selection management (10)
- Logistics management (11)
- Supplier product carbon footprint management (12)

Decarbonize products

- Eco-design (13)
- Digital Twin of product (14)
- Product carbon footprint (15)

Services and Consulting

- Strategy and governance
- Decarbonization roadmap & services
- Flexible financing

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Real Digital

Technology drives decarbonization

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Transforming the everyday – to create a better tomorrow

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ILLUSTRATIVE EXAMPLES

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Case Study: We estimated carbon footprint and developed a Net Zero strategy for a leading pharma player in India

Regional scope	India
Industry	Pharmaceuticals
Project focus	Decarbonization strategy

Context

- **Pharma player** with target of **net-zero carbon by 2050, given customer push** and **regulatory requirements**

Approach

- **Scope 1 / 2:** Identified measures to decarbonize emissions for 2 large pharma facilities (API / PFI / FD) via **technical assessment** of select assets viz. HVAC, Boilers, AHUs, Air Compressors and other major utilities
  - **Developed investment case** including detailed engineering with BOQ summary for shortlisted measures
- **Scope 3 Estimation:** Conducted assessment to quantify (via bottom-up estimation) Scope 3 emissions as per GHG protocol
  - Assessed 11 Scope 3 categories, including 18,000+ raw materials, 350+ suppliers across 7 manufacturing plants
  - **Recommended Scope 3 emission reduction** strategies across Scope 3 categories including supply chain, waste generated, transport / distribution, travel
- **Determined product carbon footprint** for 5 products (with 70+ variants), via bottom-up allocation of Scope 1 / Scope 2 emissions at a facility / block level, for steam / coal / electricity
- **Defined Net-Zero Roadmap**, with detailed initiatives / actions

Expected impact

- **Defined baseline** on **Scope 1 / 2 / 3 emissions** across facilities and **Product Carbon Footprint** for select products
- **Product Carbon footprint (PCF)** for **5 key products (~70+ product variants)**
- **Defined carbon reduction initiatives** and implementation roadmap, with detailed investment cases and engineering analysis to enable Net-Zero within 10 years

Source: Siemens Advanta Consulting

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#Electrification | #Utility_transparency | #Energy_Efficiency

Leading uber-premium Hotel chain across India

Driving Energy Efficiency and Digitalization across 18 properties

- Demand Flow ® Chilled Water System Optimization
- Hot water optimization
- Air Handling Unit optimization
- Cloud based Energy & Asset Management

Customer Benefits*

Energy Savings per year
10.5 million units

Financial Savings per year
₹128 Million

Emissions Reduced per year
9057 Tons CO2

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#Energy_efficiency #Utility_transparency #Grid_management

Leading Tyre manufacturing giant in Southern India

Decarbonization-as-a-Service business model

- Demand Flow ® Chilled Water System Optimization
- Cloud based Energy & Asset Management
- Solar PV
- Opex business model

Customer Benefits*

Energy Savings per year
5.2 million units

Financial Savings per year
₹37 Million

Emissions Reduced per year
3685 Tons CO2

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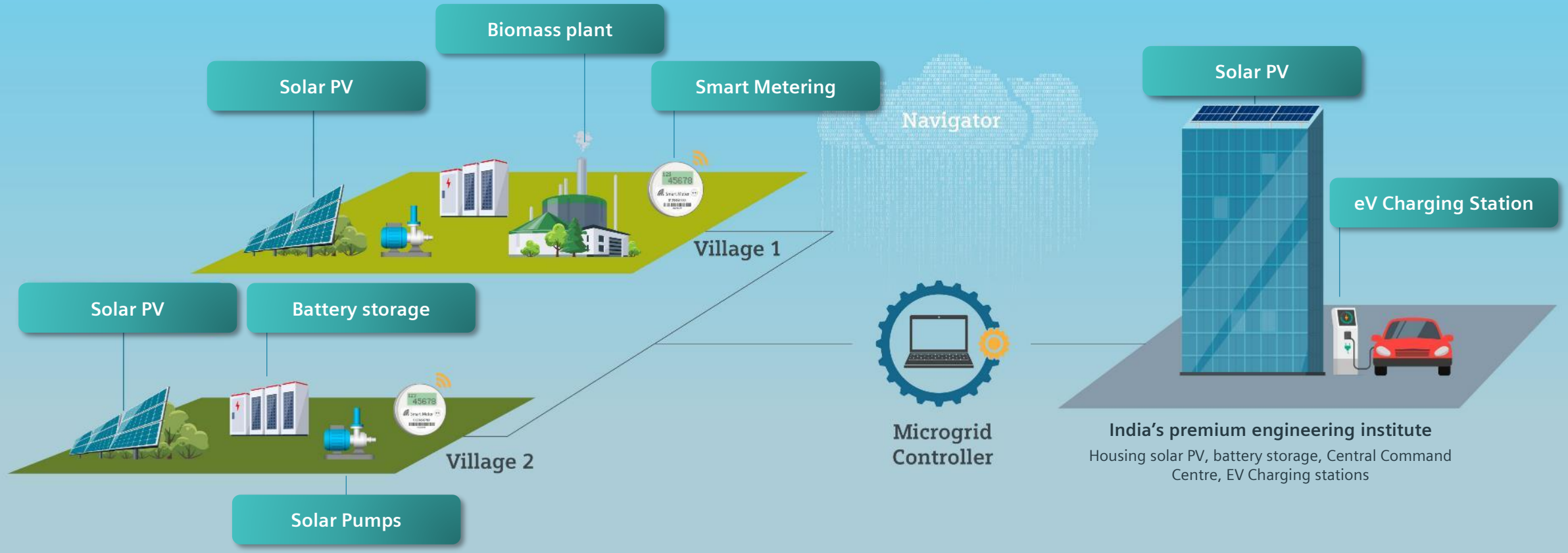
#Electrification #Grid_management

Siemens implementing pilot Smart Campus project at India's premium engineering institute



Solar PV	Battery Storage	Hybrid Inverter	Smart Metering	eV Charging Station (2x)	Biomass Plant	Solar Pumps
Microgrid controller	Net metering	Street lighting	Grid tie Inverters	Command & Control Centre	Central monitoring	Low voltage panels

YOUR CONTACTS

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