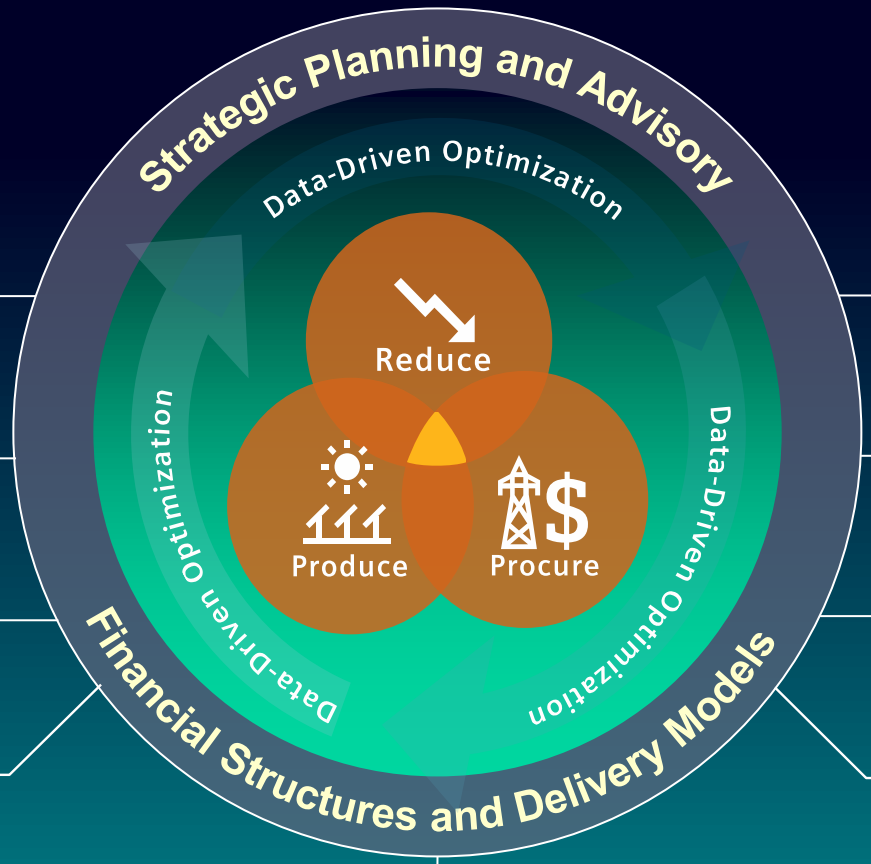
Sustainability and Energy Management

Integrating Supply, Demand and Sustainability

Energy Supply

- Energy generation
- Storage solutions
- Energy mgmt. and grid control (Microgrid)
- Clean energy sourcing and alternative fuels



Demand Side Efficiency

- Energy audit and monitoring
- Turnkey energy efficiency solutions
- Process and Asset performance management
- Strategic Energy Planning

- Electrification
- e-charging
- Digitalization and Digital Twin

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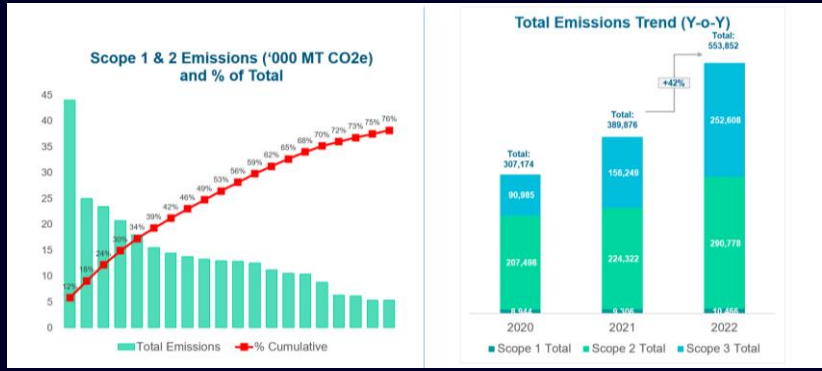
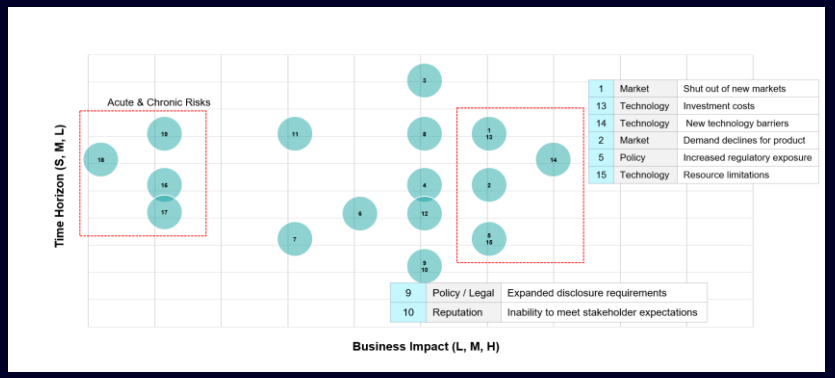
Efficiency & Sustainability Consulting
Example Work Products

Energy & Carbon Analytics



ESG Program Advisory

Climate Risk Assessments



Clean Energy Strategies

Component	Size
Roof Mount Solar	1,200 KW
Production (Yr 1)	1,513,543 kWh
Current Energy Use	2,056,195 kWh
Energy Offset	75%
Carbon Offset	680 Mt

Key Considerations

- What are the priorities?
  - Cost savings
  - Resiliency
  - Emissions reductions
- What is the cost of electricity?
- Is the site owned or leased?
- Planned facility changes?
- Is there available space onsite?
- What is the condition of the roof?
- Is Power Purchase Agreement (PPA) financing and option?

Energy & Decarb. Assessments

Key Findings

Largest opportunities identified are in the areas of chiller plant improvements, process and heat recovery:

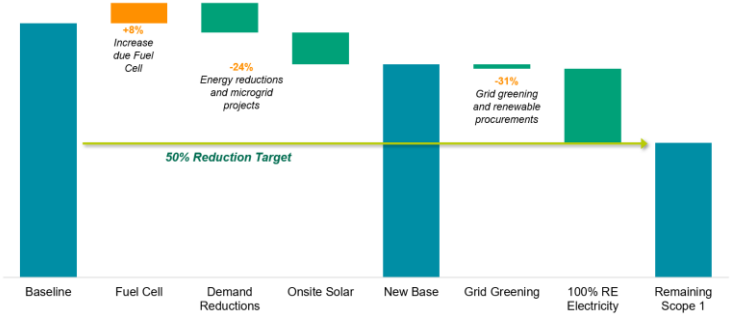
- Compressed air system commissioning and control
- Automation and VFDs on HVAC and process fans and pumps
- Process optimization and manufacturing excellence

Following represents the impact of our findings, based on estimated costs and savings, for budgetary purposes only:

Project Cost	Savings	Payback	CO2 Reduction
~$1,000,000	~$280,000	3.6 years	~1,500 MT

Siemens identified both capital improvement measures and building automation, which are described but not included in the opportunity overview above

Decarb. Glidepaths



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Decarbonization Trends

Key Drivers for Action

External Factors

Market Pressure
- Customer expectations
- Investor / lender
- Talent acquisition / retention

Regulatory / Policy
- GHG / energy mandates
- Funding and incentives
- Disclosure requirements

Internal Factors

Internal Cultural
- Leadership commitments
- Corporate responsibility

Commercial
- Manage financial risk
- Ops. efficiency / resiliency
- Low carbon economy oppty.

Challenges

Financial

- CAPEX Investment
- Higher OPEX
- Limited funding access
- Risk tolerances

Technical

- Decentralized approach
- Process integration
- Lack of expertise
- Early adoption risk

Organizational

- Resistance to change
- Programs / partnerships
- Targets w/o strategy
- Lack of cooperation
- Supply chain mgmnt.

Opportunities

Flexible finance structures, grants, tax credits and other incentives (e.g., IRA).

Reduce operational costs and improve efficiency, productivity and resiliency.

Align to customer and stakeholder expectations.

Access new markets by innovating “greener” product and services.

Attract and retain tenants and talented teams.

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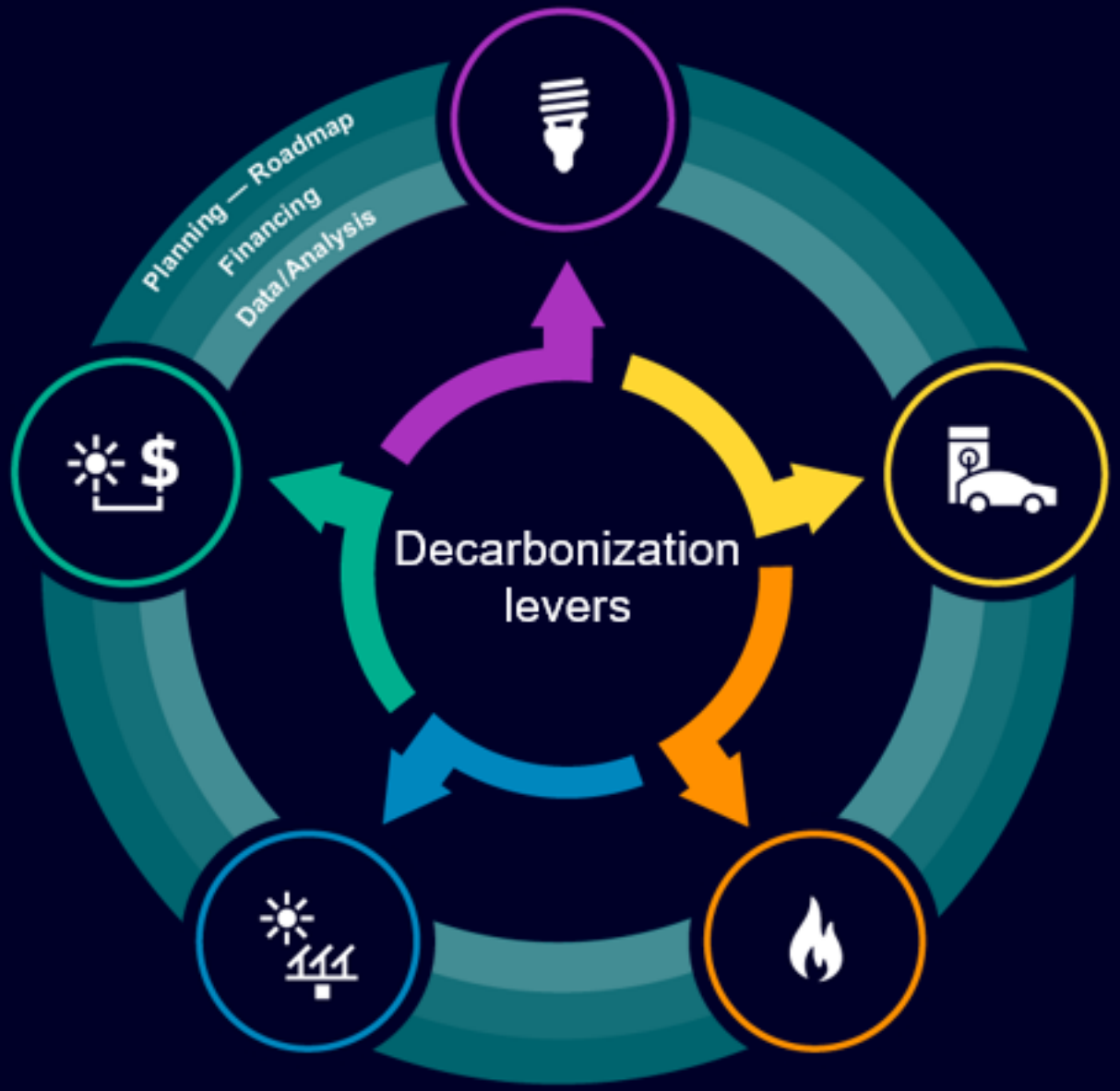
Decarbonization Levers to Drive ESG, Manage Costs, and Build Resiliency

Siemens helps to define clear, actionable strategies.

Core Decarbonization Levers:

- Reduce consumption
- Vehicle electrification
- Manage thermal loads
- Energy generation and storage
- Clean energy sourcing



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Opportunity Identification Across the Decarbonization Levers

Reduce Consumption

Onsite & virtual energy / decarb. Audits.

Scopes 1 & 2

Vehicle Electrification

EV charger planning & implementation.

Scopes 1 & 3

Energy Generation & Storage

Market, policy and site evaluations for applicability.

Scopes 1 & 2

Manage Thermal Loads

Assess electrification and fuel conversion.

Scope 1

Clean Energy Sourcing

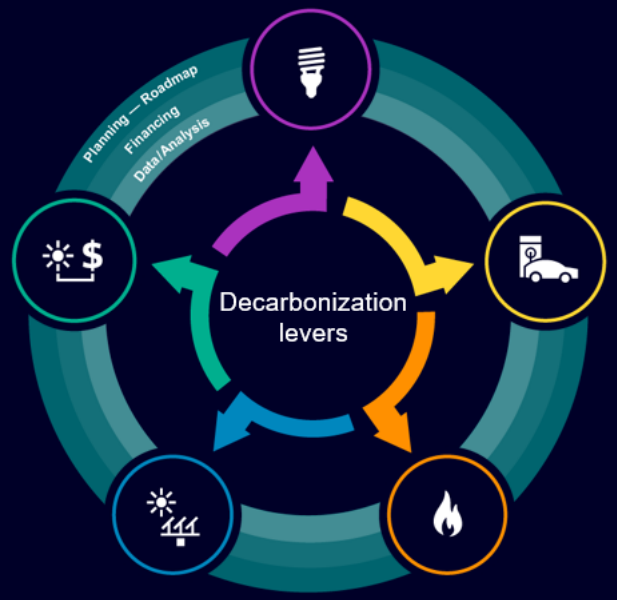
Develop clean energy sourcing strategies.

Scopes 1 & 2

Address Value Chain

Engagement strategy for up & down-stream emissions sources.

Scope 3



Planning Considerations

- Are the objectives clearly defined?
- Do we have competing objectives?
- Can we adequately measure performance?
- Do we know what actions to prioritize?
- Is the organization poised for change?
- Are risks understood and managed?
- Are funding / financing strategies aligned to the goals?

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Decarbonization Strategy | Journey Map

Strategy Setting and Baselining

ESG Strategy

- Stakeholder Alignment
- SBTi Target Development
- ESG Target Development
- Glidepath Modelling
- Technology Roadmaps
- Materiality Assessments

Baselining

- Utility Bill Review
- Peer Analysis
- Internal Benchmarking
- Energy Audits
- Energy and Carbon Analytics
- Biodiversity Risk Screening
- Water Risk screening

Strategy to Action "Bridge"

Digitalization / Data Capture

Implementation Partners

Funding & Financing

Strategy Implementation

Early Actions → Mid-term Investments → Long-term *Strategies*

Sourcing Strategies
- REC Purchases
- Utility Green Tariffs
- Power Purchase Agreements

Energy Efficiency
- Lighting/HVAC Controls
- Chilled Water System
- Equipment Upgrades
- Heat Recovery
- Equipment Replacement

Transport Electrification
- Employee/Customer EV Charging
- Microgrid Enabled Smart Charging
- Fleet Electrification

Distributed Energy
- On-site Solar PV
- Microgrid control/storage

Thermal Load Conversion
- HVAC Electrification
- Process Electrification
- Low-Carbon Fuel Conversion

Decarbonization Strategy & Glidepath Development

Proven Decarbonization Planning Process

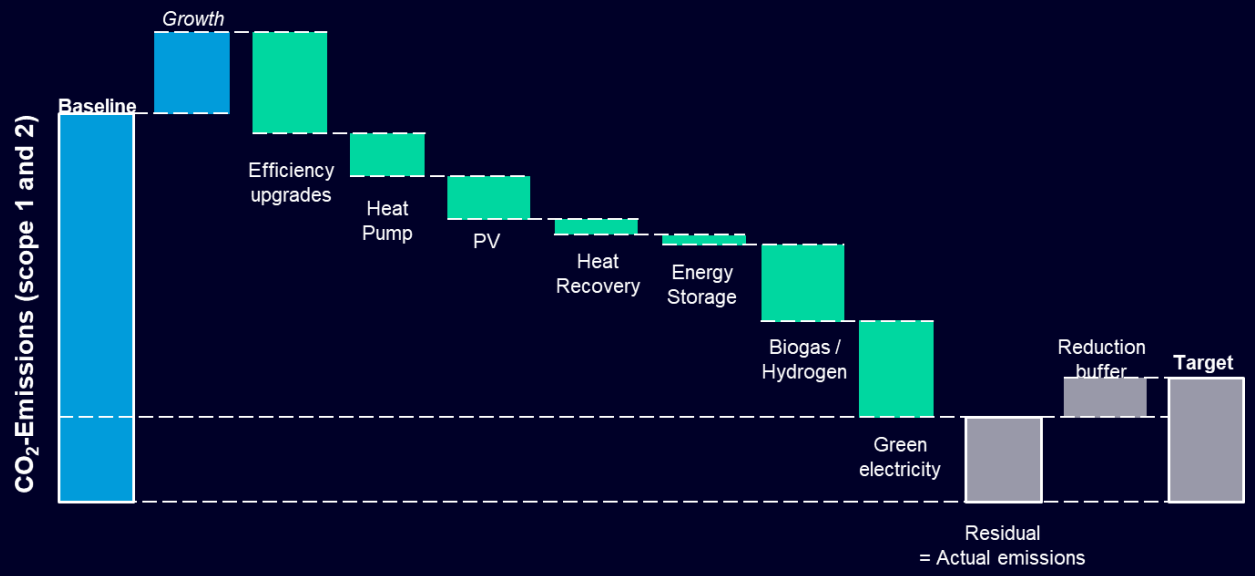
ESG Target and priority alignment, Baseline & benchmarking

Identify, evaluate and prioritize decarbonization actions

Establish scenario-based strategies & executive summary

Implementation plan & ongoing support

Representative Decarbonization Glidepath Model



Siemens Decarbonization Planning Approach

Advisory services focused on strategic alignment and goal setting

Assess the current condition: Energy and carbon baseline, “ESG readiness”, stakeholder priorities, and

Prioritize operations and actions for decarbonization

Onsite or virtual decarbonization assessments to define and evaluate energy efficiency, electrification, and fuel switching opportunities

Develop clean energy sourcing strategies and evaluate sites for onsite solar based on market and policy screening

Formalize the strategy based on identified opportunities and priorities

Implementation and funding planning along with ongoing reporting, communications, and strategy updates.

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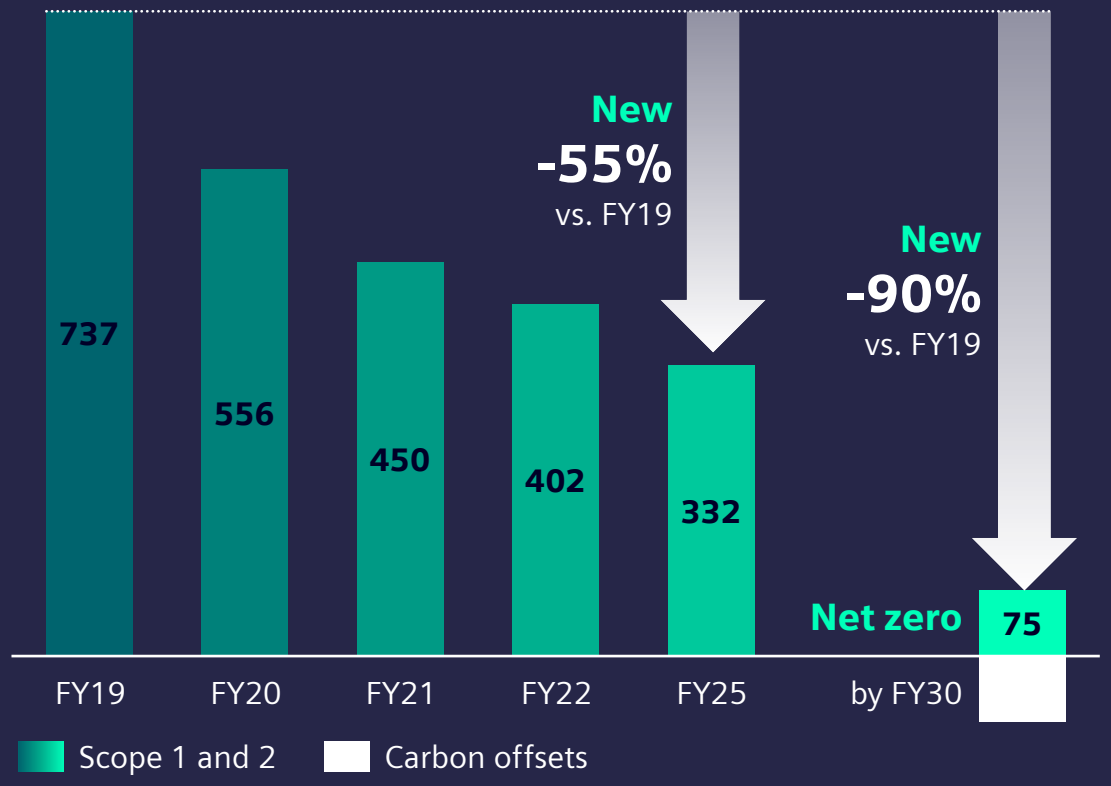
Siemens Net Zero Commitment

We are accelerating CO_2 emission reductions in own operations

CO_2 footprint in own operations



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

New	Introduction of new FY25 reduction target of -55%
New	More ambitious FY30 reduction target of -90%
✓	CO_2 footprint reduced by 46% from FY19 to FY22
✓	Already 37 Siemens locations with net zero CO_2 emissions
New	Invest of ~€650m in operational decarbonization between FY22–FY30 (for fleet electrification, buildings, and production emissions)

DEGREE target

We maintain our existing commitments for Siemens (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

Sustainability Manager

Overview

Building X

verdantix
Green Quadrant
Energy Management
Leader
2023

Openness and APIs

Get full transparency of the entire building portfolio for data-driven decision-making across systems and domains. Create customer-owned applications with state-of-the-art cloud architecture with open APIs for your ecosystem.

Analytics Services

Operate, monitor, gain insights, and optimize your buildings in the fields of comfort, safety, security, and sustainability. Grant access based on stakeholders needs.

Connectivity

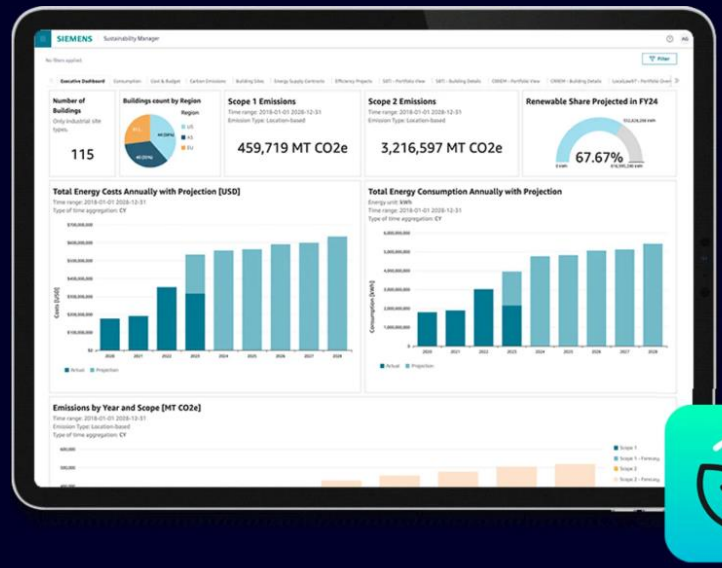
Be part of a growing ecosystem and get access to a global network of service and solution experts to support your transformation process.

Cyber security

Vendor-agnostic connectivity solutions enable smooth integration of third-party software and cloud services according to your requirements, always with security in mind.

Sustainability Manager

Develop transparency and drive enterprise results on net-zero goals, energy budgets, and energy category management in a single App



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Building X

Sustainability Manager

Utilities Data Collection & Assessment

Energy, Carbon, Waste, and Water Analysis

Goal Setting & Net-Zero Planning

Guided Plan Aligned to Most Urgent KPIs & Compliance

Initiative Kick Off & Monitoring

Centralized Tracking with Alerts and Progress Notifications

Reporting and Communication

Automated Report Generation & Data Driven Insights

Incremental Improvement

Identify New Opportunities With Portfolio Data Intelligence

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Energy Usage	**Consumption** Energy/Utilities	**Budget** Energy/Utilities
Carbon Mgmt.	**Net Zero Targets** Glidepath	**Carbon Emissions** Scope 1 & 2
	Certifications Benchmarking	**Grid Mix** Energy Source Type
Admin	**Vendor Management** Contract	**Notifications** Contract Expirations
Capital	**Budget Forecasting** Capital Planning	**Building Sites** Portfolio Overview
Misc.	**Personalized Views** Custom Dashboard	**Onboarding** Data Ingest/Update

Building X
Sustainability Manager

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Contact

Roland Butzke
Account Executive
Enterprise Energy Services

Mobile 617-795-6325

E-mail roland.butzke@siemens.com

Sean Metivier
Head, Energy Efficiency and
Decarbonization Consulting

Mobile : (508) 282.9745
E-mail sean.metivier@siemens.com

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On behalf of the Siemens Team,

Thank you