



Semiconductor
Climate Consortium
FOUNDING MEMBER

Green Growth: Guiding the Future of the Global Semiconductor Industry

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The Energy Trilemma

Sustainability

-45% GHG emissions needed by 2030 to meet 1.5°C trajectory

+9% emissions by 2030 based on Current National Plans of 195 Parties

Source: UNFCCC, OPEC, IEA, Eurostat, European Commission

Affordability

44% world population is energy poor

100% new energy demand from emerging markets

€604Bn EU energy import bill in 2022, vs. **€163Bn** in 2020

Security

83% of world semiconductor manufacturing is concentrated in 4 countries

9.3% EU Population unable to keep home adequately warm in 2022

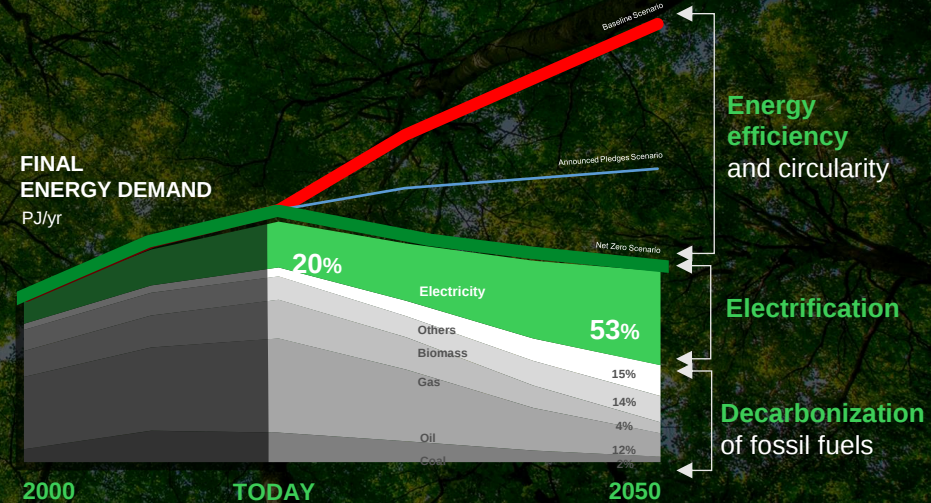
Fast-forward to Net Zero 2050

Bring Energy to 3Bn people + Curb Emissions radically

TODAY → 2050

8BN	World Population	9.8BN
800Mn	People Without Access to Energy	ZERO
3BN	Middle Class Population	7BN

Sources: Net Zero by 2050, International Energy Agency; Announced Pledges Scenario, International Energy Agency; Back to 2050, Schneider Electric Sustainability Research Institute; Oxford University Press



The Semiconductor Industry is set to become a trillion \$ industry

\$1T

The semiconductor industry is on track to reach
\$1Trillion in global revenue by 2030

500 Fabs

Existing globally

103 Fabs

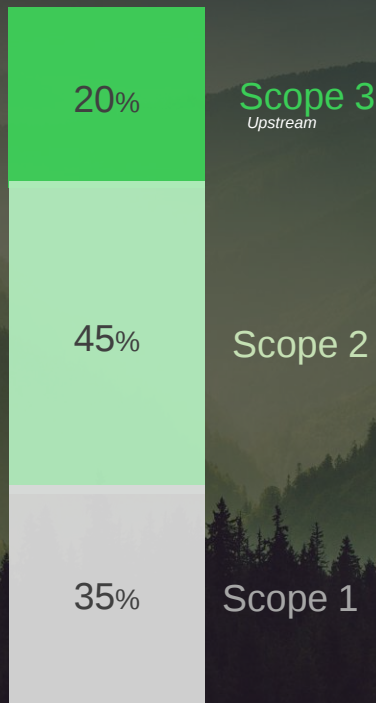
300 nm and 200 nm Fabs coming online
globally between 2023-2027

The carbon footprint of the semicon industry is massive and will expand if no immediate action is taken

100 Mt

2021 CO₂ emissions from the
semicon industry
(Scope 1 & 2) based on the SCC

Semicon Fab Emissions by Scope (CO₂)



237 TWh

Estimated electricity
consumption by 2030²

¹SEMI Blog 2020.

²Greenpeace Energy Consumption Report, 2023

Shifting dynamics across Europe

Europe

€51B

2023 Semiconductor
Market

20%

Goal to share increase
semicon market by 2030

€43B

In Investments in public and
private funding in the region

60 Fabs

In the EU with 7 under
construction and 8 more
in planning stages

Looking Ahead

55%

2030 emissions goal of
at least 55%

Favorable
Environment

Local policies and initiatives
support growth

Two headlines on every company's agenda

Digitization

One Data Hub
One Digital Twin
One User Experience

Energy

Affordable
Secure
Sustainable

One Customer experience to build the Enterprise Metaverse

AVEVA RIB CLIP
IGE+XAO GROUP etap Planon
AutoGrid uplight energysage

Digital Twin

Across the lifecycle

Data Hub

One singular source
for your Enterprise

Controls & IoT

Plug & Play Architecture

EcoStruxure

CONNECT
1 Customer Experience

The Equation for the Future

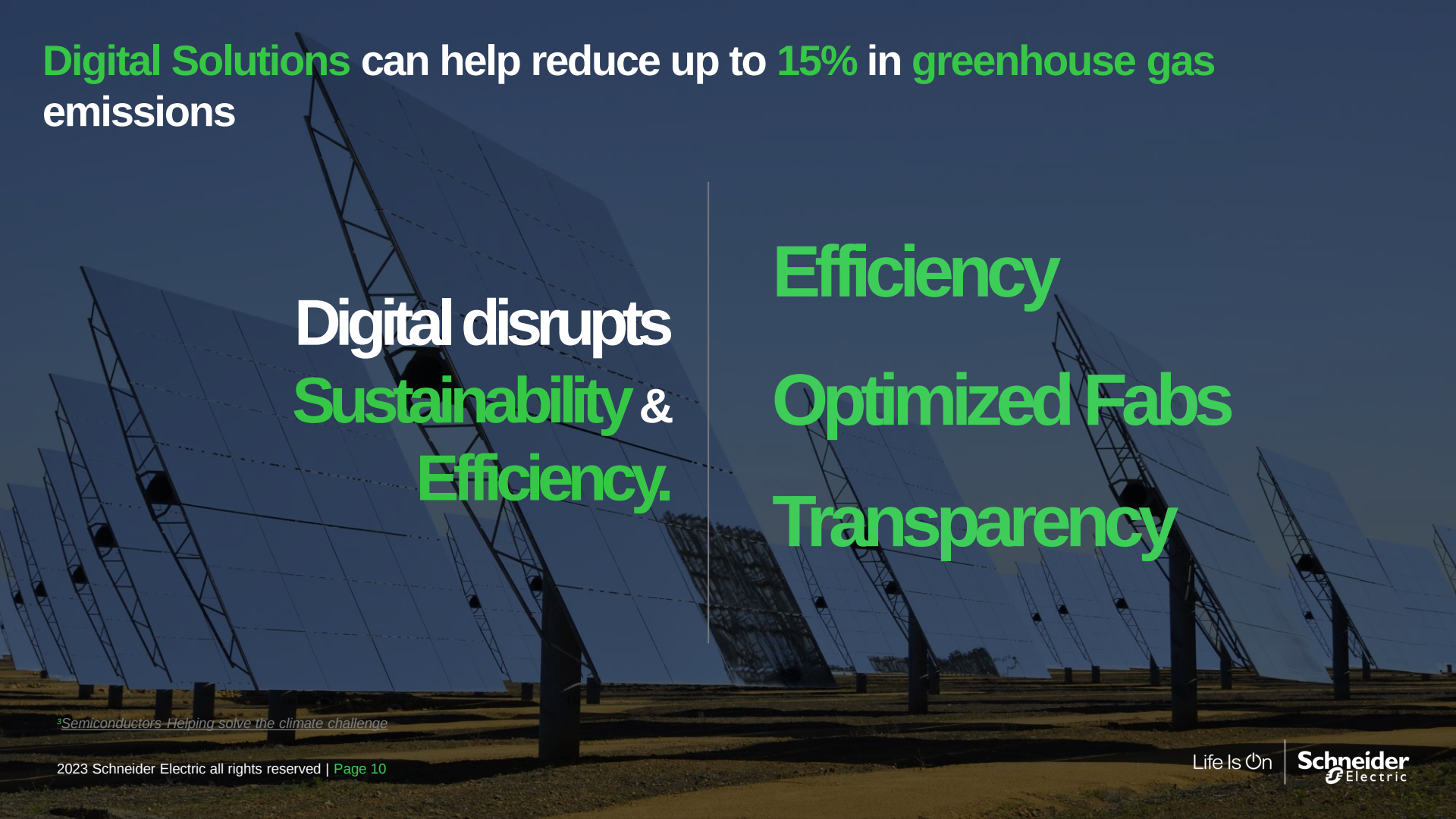
Automation

Software
Energy

Digital + Electric = Sustainable

Data
Decarbonization

Electric
Green and Smart



Digital Solutions can help reduce up to **15%** in **greenhouse gas emissions**

Digital disrupts
**Sustainability &
Efficiency.**

Efficiency
Optimized Fabs
Transparency

³*Semiconductors Helping solve the climate challenge*

The time to **Act is Now** & **Electricity** is the largest Lever

80%

Of semiconductor emissions come from the consumption of electricity (scope 2)



Build and design more efficient manufacturing facilities and offices to consume less electricity



Work with suppliers to use less electricity and to manufacture more energy efficient equipment and materials



Reduce energy-related emission with investments to accelerate the transition from the global electrical grid powered by low-carbon energy



Partner with device users to design and manufacture more energy efficient devices

Large American Producer of Computer Memory and Data Storage Chips

EcoStruxure™ for Semiconductor
Innovation At Every Level

Apps,
Analytics, and
Services



EcoStruxure advanced energy management solution powered by machine learning and AI

Edge
Control



Connected
Products

- Chilled Water Plant
- AHU
- MAU
- CDA
- Power Meters
- Flow Transmitter
- Pressure Transmitter
- Temperature Sensors

10% in energy savings for targeted assets
(chilled water plant & HVAC)
expected per year¹

¹Based on case of annual total energy consumption of 10M MWh

Evaluating and detecting hidden energy consumption anomalies

Identified energy saving opportunities

Optimized energy usage from actionable insights

Our own sustainability journey

Ranked #1



United Nations
Global Compact



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Commit to

ZERO

Leading ESG in our ecosystem

Embedded
across
organization

Sustainability
trusted partner
for our customers

Clear path
towards net-
zero value
chain

2025

2030

2040

2050

Carbon
neutral
operations
(Scope 1 & 2)

Net-zero
ready
operations
(Scope 1 & 2)

End-to-end
carbon neutral
value chain
(Scope 1,2,3)

Net-zero CO₂
value chain
(Scope 1,2,3)



Driving Innovation Through Strategic Partnerships

Leading European Chipmaker

Domain: Silicon Carbide (SiC)
Application: Protection & Control

Large European Semicon Manufacturer

Domain: Microcontroller
Application: Protection & Control

Leading American Chipmaker

Domain: Microprocessor
Application: Protection & Control

World's Largest American Chipmaker

Domain: Microprocessor
Application: Software Defined Architecture

Strategic Partnerships

Co-Innovative

Digital Interaction

Introducing



CATALYZE



A program to increase access to
renewable energy
for the semiconductor supply chain

Powered by Schneider Electric's



In partnership with





To access additional details
about the
 **CATALYZE** program,
please scan the QR code!

Life Is On



Schneider
Electric