

Siemens

Contribuições Siemens para Energias Renováveis e Eficiência Energética

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Megatrends are significantly shaping the future of our planet

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Efficient use of resources

Urbanization



Demographic change



Climate change



Globalization

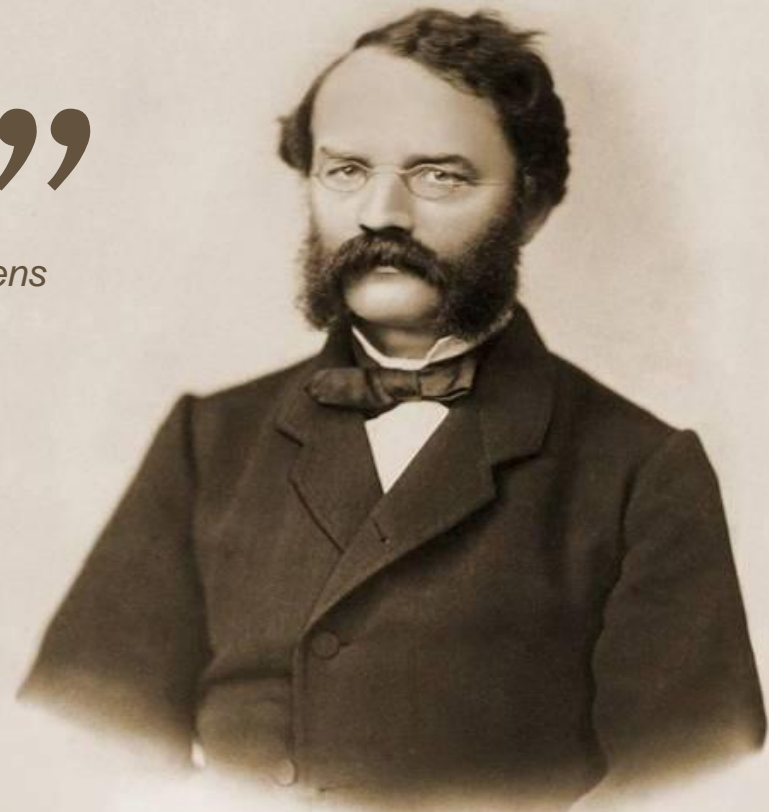


**Sustainability as the key to success:
Siemens has been in business for over 160 years**

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**“ I won't sell the future
for short-term profit. ”**

Werner von Siemens



Our Vision and Values

Siemens – Pioneer in

Energy Efficiency

Industrial Productivity

**Accessibility and
Customization of
Healthcare**

**Intelligent solutions in
infrastructure**

Our Values

Responsible

**Committed to ethical and
responsible actions**

Excellent

**Achieving high performance
and excellent results**

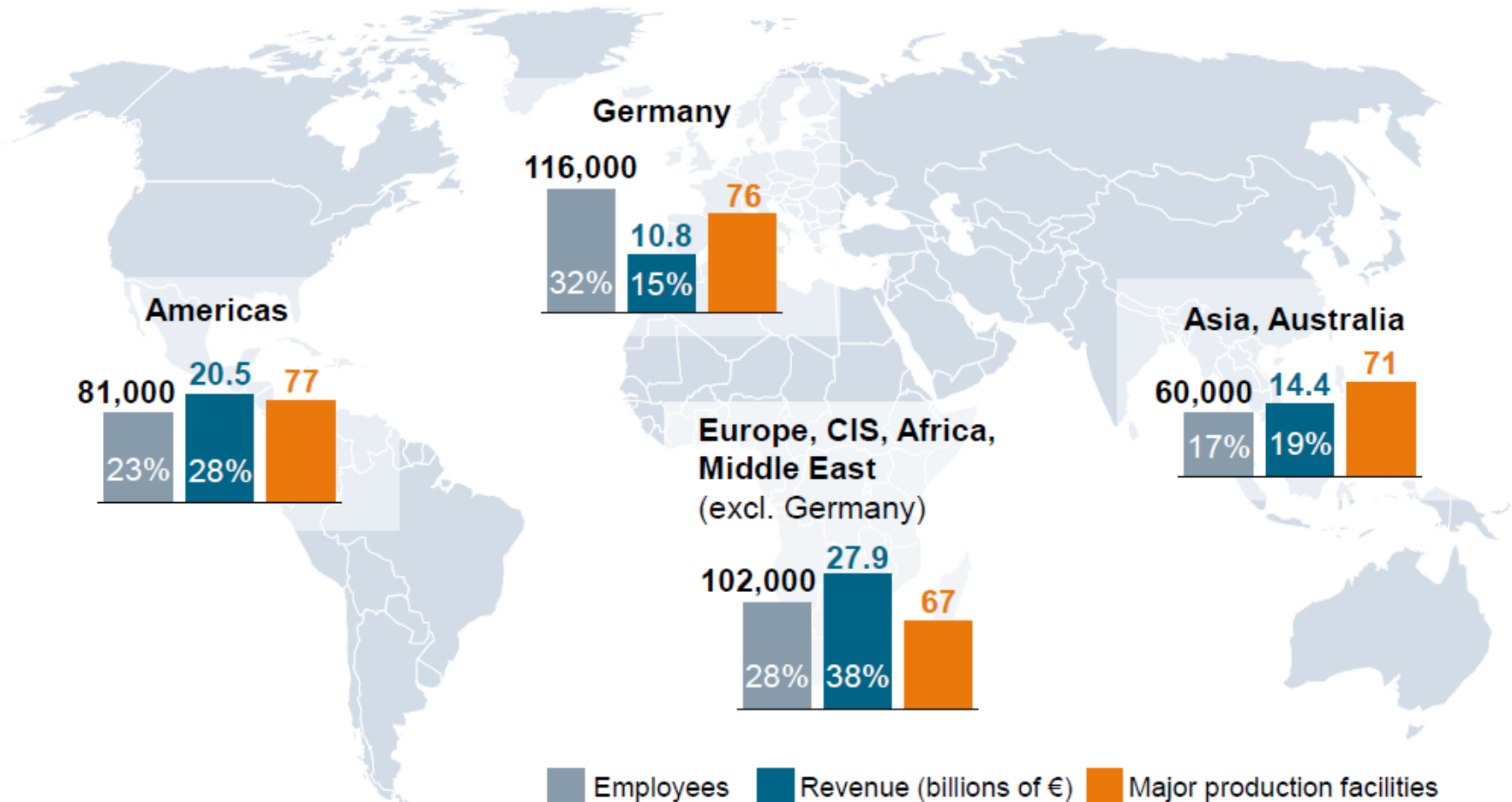
Innovate

**Being innovative to create
sustainable value**



A strong local partner for our customers – in more than 190 countries

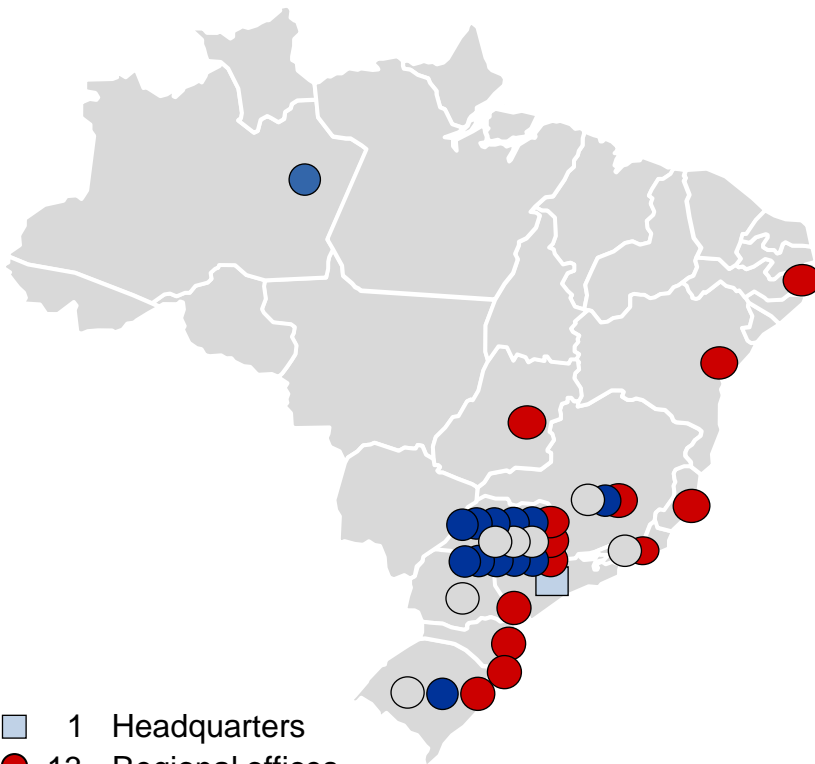
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R&D investments of € 3.9 Bn. (5,3% of revenue)

Siemens' Presence in Brazil

Current locations



Leading position in the country

- Largest conglomerate in electric and electronics engineering
- Siemens equipment and systems are responsible for 50% of the electrical power generated in Brazil
- 30% of all digital diagnostics imaging is performed by Siemens systems
- Present in two-thirds of all Brazilian offshore platforms defined over the past 8 years, with a clear market leadership
- Nearly all Siemens Divisions hold #1 or #2 market positions



Sectors and Divisions as of October 1, 2011

Energy

Divisions

- Fossil Power Generation
- Wind Power
- Solar & Hydro
- Oil & Gas
- Energy Service
- Power Transmission



Healthcare

Divisions

- Imaging & Therapy Systems
- Clinical Products
- Diagnostics
- Customer Solutions



Industry

Divisions

- Industry Automation
- Drive Technologies
- Customer Services



Infrastructure & Cities

Divisions

- Rail Systems
- Mobility and Logistics
- Low and Medium Voltage
- Smart Grid
- Building Technologies



1) In fiscal 2011, Siemens announced its intention to publicly list OSRAM and, as an anchor shareholder, to hold a minority stake in OSRAM AG over the long term

Questions that move us

How can we ensure healthcare that is both excellent and affordable?

How can cities grow and at the same time offer a high quality of life?

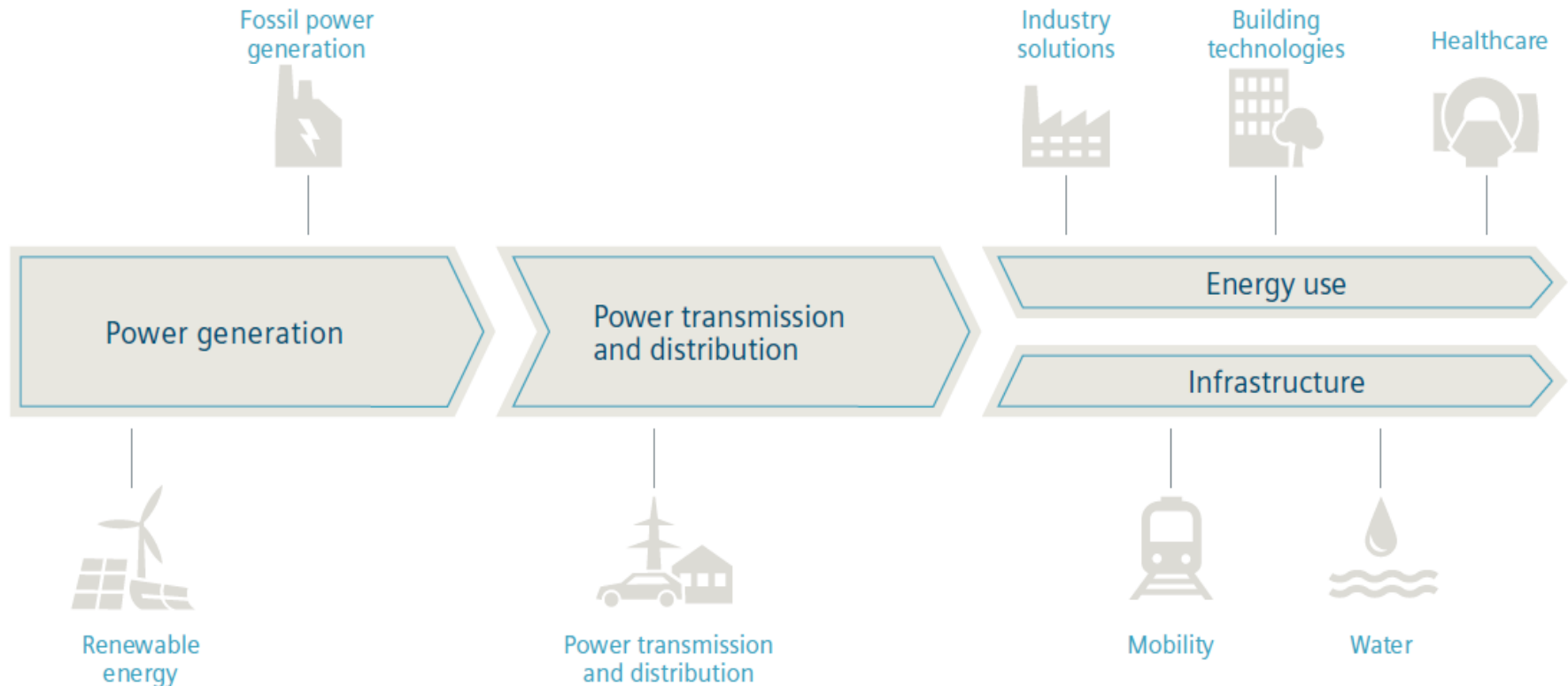


How can we make industrial production more flexible, efficient and competitive?

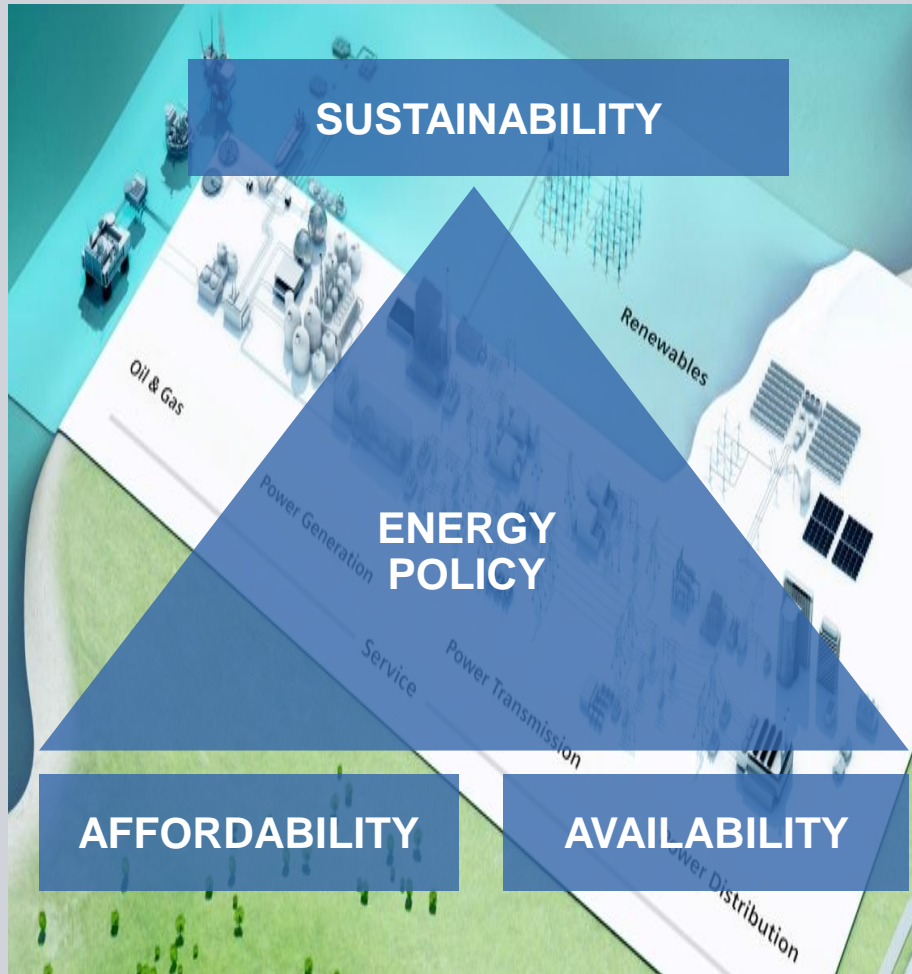
How can we create economic growth and reduce the consumption of energy and resources at the same time?

Siemens Environmental Portfolio is divided in eight categories

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Trends & Siemens Answers



1 Renewable Energy



2 Environmental Technology



3 Energy Efficiency



Siemens in Renewable energy

Wind Onshore



Wind Offshore



Biomass



Hydro



Photovoltaic



Solar Thermal



Energy Efficiency in Fossil Power Generation

Air pollution control systems

Modernizing coal-fired power plants

Removing carbon dioxide from fossil power plants

Gas-fired Power Plants: H-class example

1991

SGT5-2000E



52 % Efficiency ¹⁾
Killingholme
2 x 470 MW, 2x(2+1)

1996

SGT5-4000F



56 % Efficiency
Didcot B1&2
702 + 710 MW, 2x(2+1)

2001

SGT5-4000F



58 % Efficiency Mainz-
Wiesbaden
>400 MW, (1+1)

2008/2011

SGT5-8000H



>60% Efficiency
Irsching 4
SCC5-8000H 1S 570 MW



Note: 1) Net efficiency achievable with this technology / project specific efficiencies may vary

Reduction of CO₂ emissions vs. 1991

Basis

- 7.1 %

- 10.3 %

- 13.3 %

Advanced GT technology allows for significant improvement of competitiveness and serves as basis for CO₂ reduction of gas fired generation

Power Transmission and Distribution



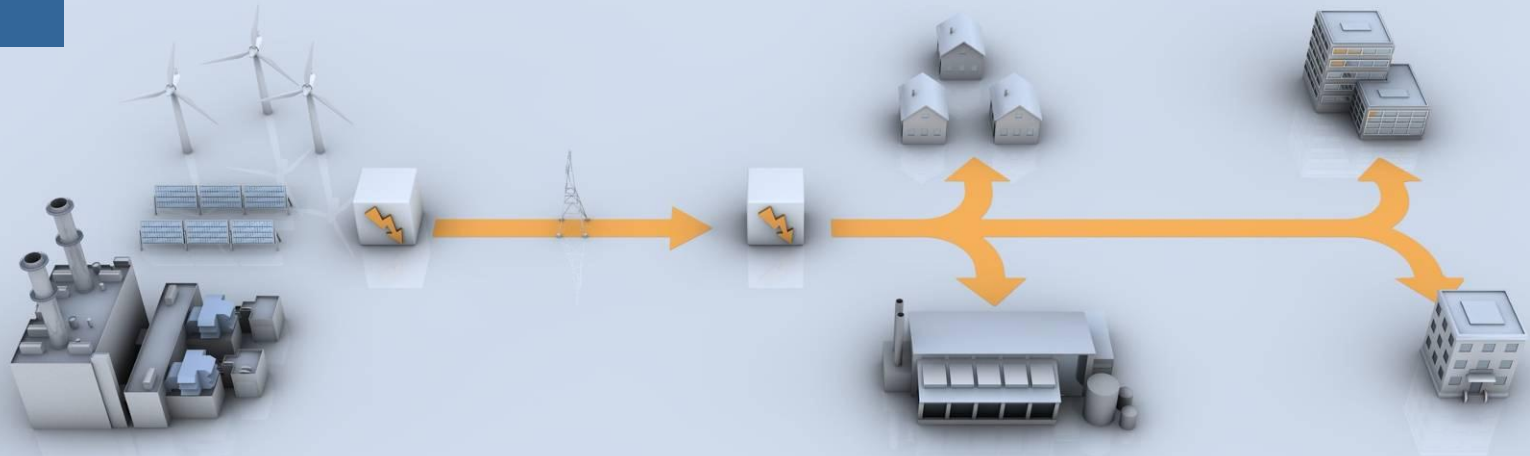
- ✓ Efficient transformers
- ✓ Gas-insulated transmission lines and switchgear
- ✓ The basis for smart grids



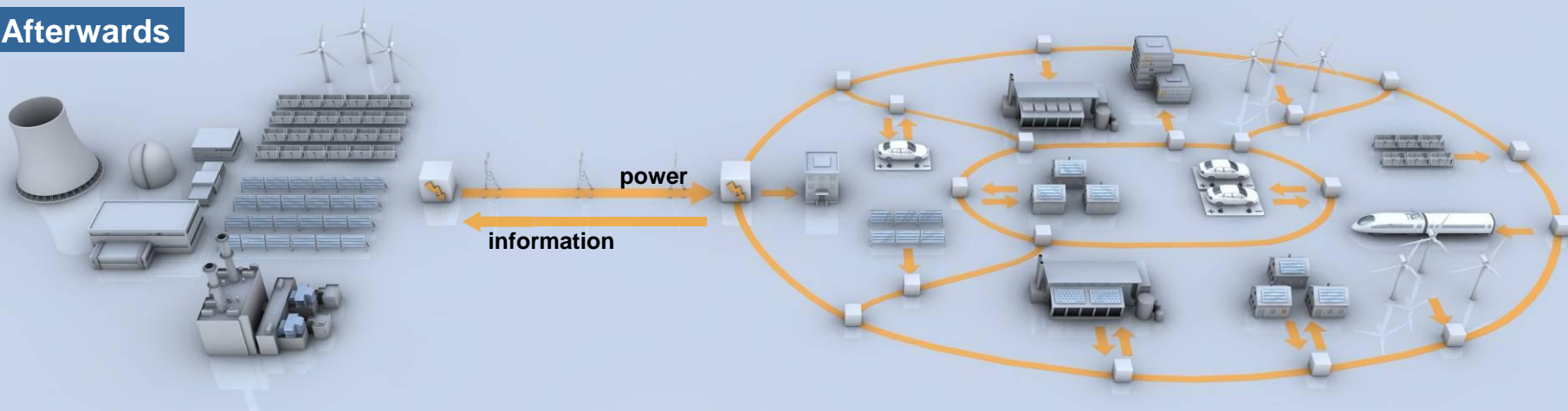
The Energy world is in transformation towards and integrated energy system – more volatile and complex

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Before



Afterwards



Industry Solutions

**Efficient
Steel
Production**

**Efficient
drive
systems**

**Energy -
saving
container
cranes**

**Efficient
positioners**



**20% CO2 REDUCTION
20% LESS COST**



At Çolakoğlu Metalurji A. S. in Gebze, Turkey, an energy-efficient SIMETAL EAF Ultimate Electric arc furnace produces up to 350 metric tons of steel an hour.

Energy Efficiency Roadshow



Mobility

Environmental portfolio examples

- ✓ **Metro trains**
- ✓ **High Speed Trains**
- ✓ **Locomotives:**
- ✓ **Intelligent traffic solutions**



High speed trains (for every 100 km):
 Equivalence of 0,33 liters of gasoline per passenger
 10 times less carbon dioxide emission than airplanes

Linha 4: driverless system technology

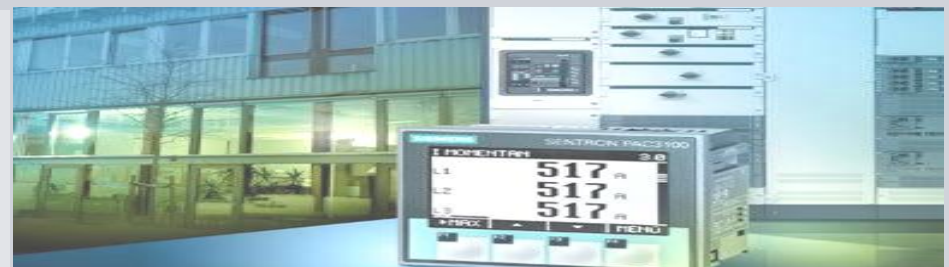


Building automation

**Buildings account for 40 percent of global energy consumption
and 21 percent of CO2 emissions**



- ✓ Efficient Building Automation
- ✓ Energy Performance Contracting
- ✓ Energy Health Check
- ✓ Home Automation



Taipei 101 building: LEED platinum certification and 30% less consumption than the average

Water



Sustainable wastewater treatment

Siemens' wastewater treatment solutions increase energy efficiency and reduce biosolids output

Industrial reuse and recycling

Siemens helps companies reduce their use of fresh water with innovative reuse and recycling technologies.

Water infrastructure

Siemens' solutions for improving water and wastewater systems meet today's financial, regulatory and environmental demands.



Healthcare

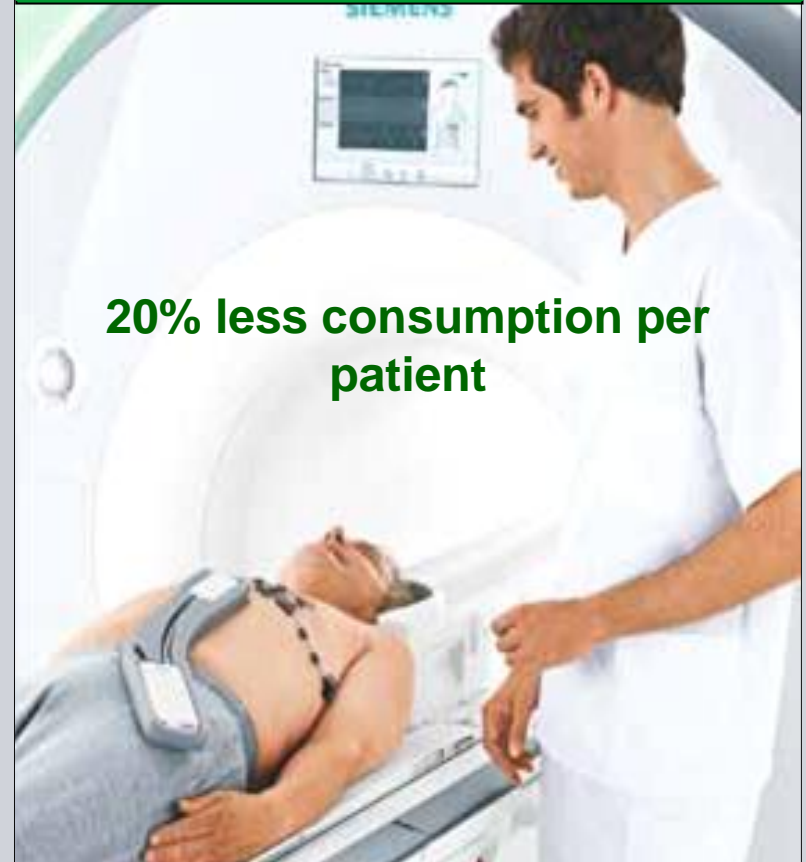


Further examples

Siemens researchers and engineers – in their pursuit of more confident diagnoses and efficient medical processes – are also dedicated to making their products more environment-friendly.

- **Computer tomography**
- **Biograph mCT**
- **Refurbished Systems**

MAGNETIC RESONANCE IMAGING

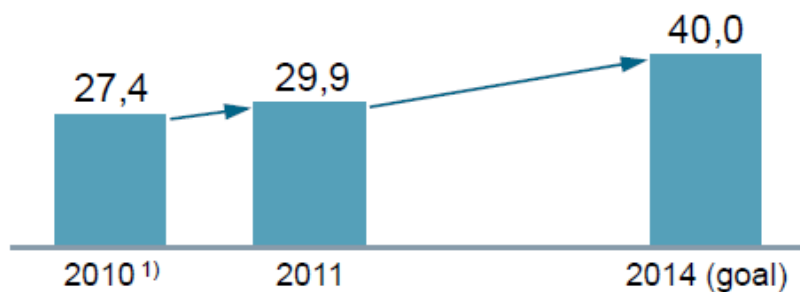


Excellent comfort for patients, enhanced image quality, reduced total cost of ownership, and very green: MAGNETOM Skyra, installed for example in San Luis Obispo, California.

Siemens sustainability commitment

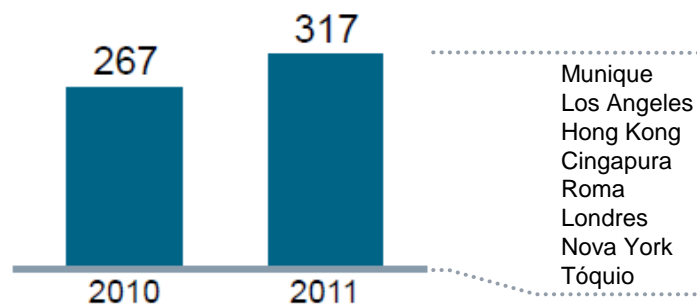
Revenue from environmental portfolio

in millions of €



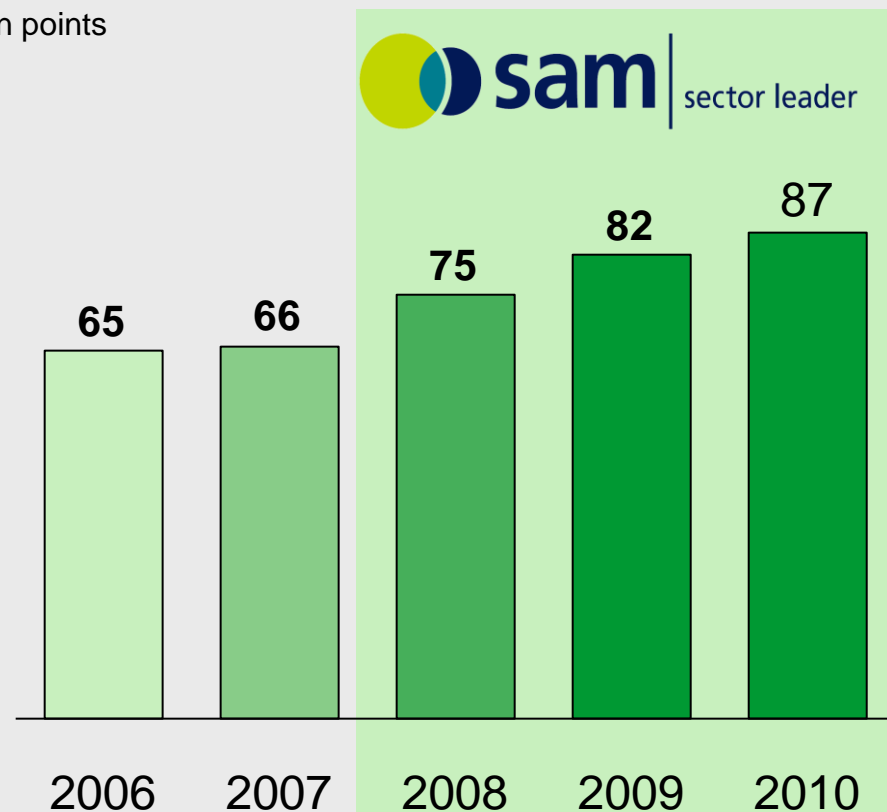
Customers' CO₂ abatement²⁾

in millions of tons



Siemens' ranking on the Dow Jones Sustainability Index

In points



Rio+20

Siemens strong engagement on Sustainability



Thank You!

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