

- Mega Trends
- Threads and opportunities
- Business Development in SEE through Centre of Competence
- CSR of Siemens
- Green Building Monitor for user
 Education

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Megatrends – the world's toughest questions

Climate Change	The average global surface temperature has increased by 0.76° C compared to the 18th century 11 of the 12 years between 1994 and 2005 rank among the 12 warmest since weather observations began
Demographic Change	Greenhouse gas emissions haven risen dramatically since industrialization. Today we face the highest CO ₂ concentration in the atmosphere for the past 350,000 years Average life expectancy worldwide will increase to 72 years in 2025 from 46.6
Urbanization	 years in 1950 World population will grow from more than 6 billion now to 8 billion by 2025 Today: 280 million people live in megacities (> 10 million residents) 2030: 60 % of the world's population will live in cities
Globalization	From 1950 to 2004, the volume of global trade has increased 27.5-fold. The number of global players has grown from 17,000 in 1980 to over 70,000 today

Climate Change threatens our life, our reaction is strange



Threat for economics; trend of electricity tariffs shows **SIEMENS** that we have reached AT prices in CEE, whereas GDP level is 1/3



Source: eurostat

The easiest opportunity is to save energy, thus reduce the energy costs and optimize the CO₂ emission

Energy saving potential is high. It offers a hugh market **SIEMENS** potential for energy efficiency; e.g. Services bldgs. Romania

Services buildings cause energy costs of 1'574 mEUR per year. Optimization of the bldgs. generate a success of 301 mEur per year. Assuming a payback time of 10 years the available market potential for energy efficiency projects reaches 3'010 million EUR. By the way to do this Investment you need about 7'500 workers!

Segement	Energy Market			Sub Segement	Energy Market				Saving Potential		
	GWh	Mio. Euro	%		GWh	Mio. Euro	%		%	GWh	Mio. Euro
Service	19677,96	1.574,24	11%	Lightning	1.771,02	141,68	9%	[13%	230,23	18,42
Industry	113415,76	9.073,26	62%	Drivers	4.329,15	346,33	22%		18%	779,25	62,34
Transport	48892,52	3.911,40	27%	Process Heating / Cooling	3.345,25	267,62	17%		12%	401,43	32,11
Households	93109,78	7.448,78	51%	Domestic Water	1.180,68	94,45	6%		8%	94,45	7,56
Agriculture	2326	186,08	1%	Space Heating / Cooling	9.051,86	724,15	46%		25%	2.262,97	181,04
			0%				0%			0,00	
			0%				0%			0,00	
			0%				0%			0,00	
Total	181.986,24	22.193,76	100%	Total	19.677,96	1.574,24	100%		19%	3.768,33	301,47





Source: market survey based on figures from eurostat

Pragmatic approach: reduce the existing utility costs. **SIEMENS** Use the savings to pay modernization and efficiency measures



Maximize Efficiency ! Performance Contracting

Characteristics

- Specially tailored to customer's requests
- Guarantee promise ensures success
- Innovative technical solutions
- Optional financing of the investment possible
- Integration of users and operators
- Standardized procedure (EUROCONTRACT)
- Energy-price changes are neutralized in the baseline



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Success Story Clinical Center Bremerhaven; We use **SIEMENS** our know how to develop energy efficiency business in CEE too



Basic Data

- Prior energy costs 2004:
 €2.0 million / year (Baseline)
- 680 beds
- Less modernization during last 20 years

Solution

- Energy management system
- Heat generation / distribution
- Air-conditioning & ventilation
- Water technology
- Control, monitoring, maintenance

Customer Benefits

- Guaranteed total savings: €0.52 million / year or 26% / year
- Contract duration: 9 to 12 years
- CO2 emission reduction: 45% / year
- Initial investment: €5.2 million
- Higher plant availability
- Secured financing

What we know about buildings...



*International Energy Association, auf weltweiter Basis, im Jahr 2002 / ** Dena Congress, Berlin, 2008 / *** "Global Mapping of Greenhouse Gas Abatement Opportunities up to 2030", Building Sector deep dive, June 2007, Vattenfall AB, basiert auf Information von IEA, 2002, % der weltweiten Treibhausgasemissionen; Total 40 Gt CO2e

Right Approach: Sustainability requires right sequence and holistic approach

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- Building Envelope
- Energy Supply
- Energy Distribution
- Heating
- Cooling
- Ventilation
- Indoor Air-Quality
- Lighting
- Water
- Building automation
- User behavior
- Operator qualification
- Energy Management
- Maintenance

30-40% Energy savings can be achieved on a sustained basis

Appropriate Business Models: Sustainable solutions versus short-term results

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- Today energy-efficiency is mainly seen as product feature
- Main priority in the up-to-date procurement is best price for the investment – GC-Model
- User-investor Dilemma -Distinct responsibility for operations and investment
- No standard procedures for Life-Cycle-Calculation available

How do you ensure your facilities achieve Maximum Efficiency ?

Right Approach: Energy-Management is an ongoing and evolving process

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>> What is not measured - cannot be managed !

- Sustainable Efficiency is an ongoing process.
- It's not the target to maximize Savings...
- It's all about Maximizing Efficiency without compromising on business objectives!





You know the energy (fuel) efficiency of your car.

What about the energy efficiency of your building?

How do you compare to other facilities?

Are you efficient enough? Or room for improvement?

Maximize Efficiency! AOC – Advantage Operation Center



Maximize Efficiency AOC-Report - Benchmarking



Sales Force Customer With the energy and project know how concentrated in our Centre of Competency for energy efficiency Siemens CEE is further improving energy efficiency business

Our CoC is acting as ESCO. We are going to stepwise **SIEMENS** develop energy efficiency business in the regional companies

ESCO = Energy Service Company

- 1. Develop, design, and finance energy efficiency projects
- 2. Install and maintain the energy efficient equipment involved
- 3. Measure, monitor, and verify the project's energy savings
- 4. Assume the risk that the project will save the amount of energy guaranteed

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Process How do we develop the regional business?



With the support from the CoC we

•Accelerate the development of energy efficiency business in the regional companies

•Cover the risk management for complex energy projects

•Supply the necessary know how and educate the teams

Building Technologies

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The Employee ramp up for Romania shows our ambitous goals

Function	Type Head Counts	Actual	Full Time Equivalent (FTE)					
		2008	2009	2010	2011	2012		
Total Administration (FTE)	Admin	3	3	4	4	4		
Management	Admin	1	1	1	1	1		
Back Office	Admin	2	2	3	3	3		
Others	Admin	0	0	0	0	0		
Total Sales (FTE)	Sales	2	4	4	4	5		
Sales Engineers (Hunter)	Sales	1	2	2	2	2		
Sales Engineers (Farmer)	Sales	1	2	2	2	3		
Consultative Sales Engineers	Sales	0	0	0	0	0		
Others	Sales	0	0	0	0	0		
Total Execution (FTE) *)	Execution	5	6	10	11	11		
AOC-Operators/PA-Engineers	Execution	0	0	0	0	0		
System Engineers	Execution	0	0	0	0	0		
Service Technicians	Execution	3	3	3	3	3		
Energy Technicians	Execution	0	0	1	2	2		
Energy Engineers	Execution	0	1	2	2	2		
Project Managers BACS	Execution	2	2	2	2	2		
Project Managers Energy	Execution	0	0	2	2	2		
Others	Execution	0	0	0	0	0		
Total Full Time Equivalent (FTE)	10	13	18	19	20			



*) without overheads

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We are going to use our existing know how to develop various projects in the public sector

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You always have to consider the life cycle needs and the overall performance of the building.

To achieve the highest efficiency you have to avoid realizing single measures without an overall concept and you need a contract for ongoing and additional optimizations

Life Cycle thinking is important!

Appropriate Business Models: Sustainable solutions versus short-term results

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How do you ensure your facilities achieve Maximum Efficiency ?

Siemens is increasing their customers Carbon Foot **SIEMENS** prints. And we are going to increase our own efficiency as well



We have set ourselves ambitious efficiency targets for energy, CO₂, water and waste

With the Green Building Monitor we are improving the **SIEMENS** public awareness for energy efficiency



What is your contribution to increase energy efficiency? When are you going to start with?

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