



Market Development and the Role of the ESCO Industry – a Reflection

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What is an ESCO?

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



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ESCOs in Europe...Some Current Industry Data

Latest Development of Energy Service Companies across Europe

- A European ESCO Update -

Authors: Paolo Bertoldi, Benigna Boza-Kiss, Silvia Rezessy
Institute for Environment and Sustainability



Number of ESCOs	The total number is <u>unknown</u> . Number of ESCOs range from 0 to 50 per country (0-1000 ESPCs)
Type of ESCOs	both public and private, many multi-national companies, most of which have heating and building control equipment retailer origin
ESCO association	Exists: EFIEES ⁴
Size of the market (data from 2000 and for EU15)	€5-10 Bln/year
Change in recent years	Increased, diversified, ESCOs enter into new national markets
Most popular technologies	CHP, street lighting, heating

⁴ European Federation of Intelligent Energy Efficiency Services: <http://www.efiees.org/>

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What is an ESCO ?

Real Market or Potential ?

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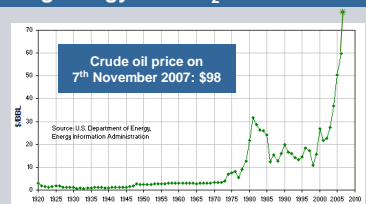
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What are Current Market Drivers?

Energy is at the top of any agenda


- Demand for energy continues to grow
- 40 percent of the world's energy is consumed in buildings
- Megatrend - Urbanization: 50%+ population now in urban centers
- Energy is a growing topic on corporate agendas

Rising energy and CO₂ emission costs



Source: U.S. Department of Energy, Energy Information Administration

Public awareness on climate changes



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Climate Change...
Not a new topic, but now with the right attention !

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Market Potential...
Hype or Reality, where are we right now ?

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The 5 phases of the Gartner Hype

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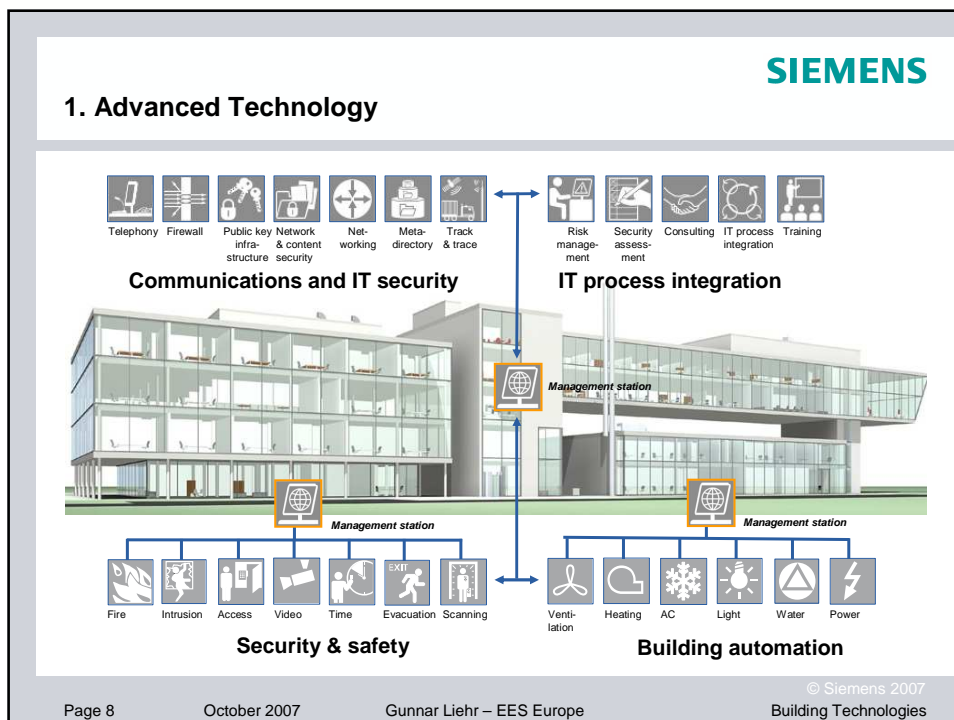
What is needed to turn potential into revenue?



1. Advanced technology
2. Appropriate procurement or business models
3. Available financing
4. Favorable legislations
5. The right people – Experts on Energy Efficiency

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2. Appropriate Procurement / Business Models

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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3. Available Financing

Example: CCI

CLINTON CLIMATE INITIATIVE
Energy Efficiency Building Retrofit Program

OBJECTIVE	STRATEGY	METHODOLOGY
Significantly reduce greenhouse gas emissions in large cities throughout the world	Increase energy efficiency of municipal and private buildings in C40 cities	Performance Contracting and large-scale energy retrofit projects

C40 CITY COORDINATION

CCI City Directors

PROJECT FINANCING

\$5 billion total commitment from five major global banks

ENERGY RETROFIT PROJECT EXECUTION

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Major Energy Retrofit Projects

PROGRAM PARTICIPANTS

C40 cities and private building owners

Greenhouse Gas Reduction


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4. Favorable Legislation

- **Directive 2002/91:
EPBD - ENERGY
PERFORMANCE OF
BUILDINGS DIRECTIVE**
- **Directive 2006/32:
EEUES ENERGY END-
USE EFFICIENCY AND
ENERGY SERVICES
DIRECTIVE**
- **EU'S / NATIONAL
ENERGY EFFICIENCY
ACTION PLAN**

- Promoting the improvement of the energy performance of buildings via:
 - Framework for performance calculation
 - Minimum performance requirements for buildings
 - Energy certification of buildings
 - Inspection of installations (heating & cooling)
- National action plans to achieve 1% p.a. savings
- Public sector to have an exemplary role
- Member States to provide guidelines
- ESPC as a public procurement measure
- Model contracts for financial instruments




SPT BAUEES

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5. People

- **Shortage of energy professionals:**
 - Sales
 - Consulting
 - Engineering
 - Services
- **Too few universities offering curriculum in energy engineering**
- **ESCO's are looking for substantial increase of capacity**



SPT BAUEES

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The Energy Efficiency Market in Europe...

Very interesting future potential!

Latest Development of Energy Service Companies across Europe

- A European ESCO Update -

Authors: Paolo Bertoldi, Benigna Boza-Kiss, Silvia Rezessy
Institute for Environment and Sustainability

Table 1. Summary of basic data of the EU-27 ESCO market

Number of ESCOs	The total number of ESCOs is 50 per country (0-50)
Type of ESCOs	both public and private national companies have heating and equipment retail
ESCO association	Exists: EFIEES ⁴
Size of the market (data from 2000 and for EU15)	€5-10 Bln/year
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Energy efficient buildings represent a tremendous growth market

Increasing price of energy

Increasing environmental awareness

New environmental programs and changed basic conditions

Additional market potential for SBT :
~€20 billion in the next 10 years

- Energy-efficient products
- Energy Management Systems
- Energy Services
- Energy-saving Contracting

SBT will benefit from this growth trend in high-grade segments.

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Energy Efficiency by Siemens...
We keep growing and growing!


More than 2,000 energy efficiency projects since 1994

Energy savings of > €1.5 billion in 10 years

Total CO₂ savings: > 700,000 tonnes, equivalent to 230,000 cars each driving 20,000 km/year!



European Energy Service Initiative
The European Energy Service Award




Best Provider 2006
"Siemens Building Technologies"

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... and we have strong partners !



FACE FRONT FOR SOME KEY ENERGY-SAVING TIPS FROM CAPTAIN AMERICA, SPIDER-MAN, THE HULK, AND SPIDER-WOMAN! LET'S WORK TOGETHER AND SOLVE OUR COUNTRY'S ENERGY PROBLEMS, TRUE BELIEVERS!

REDUCE YOUR OIL CONSUMPTION! IF YOU BUY RADIAL TIRES, INFLATE THEM TO THE HIGHEST RECOMMENDED PRESSURE AND DRIVE SMOOTHLY, YOU CAN SAVE THE EQUIVALENT OF 12¢ A GALLON.

OWNING A NEW CAR THAT WILL GET YOU TEN MORE MILES TO THE GALLON THAN YOUR LAST CAR CAN SAVE YOU 22¢ A GALLON, CAP!

RIGHT, WEB-LADY! AND EVEN MORE CAN BE SAVED AT HOME. EFFEND! TRY TO KEEP YOUR THERMOSTAT DOWN TO 65° IN THE WINTER AND 78° IN THE SUMMER!

HULK NOT WANT ANYBODY TO DRIVE FASTER THAN 55 MILES PER HOUR ON THE HIGHWAY! SAVE MONEY-- SAVE LIVES!

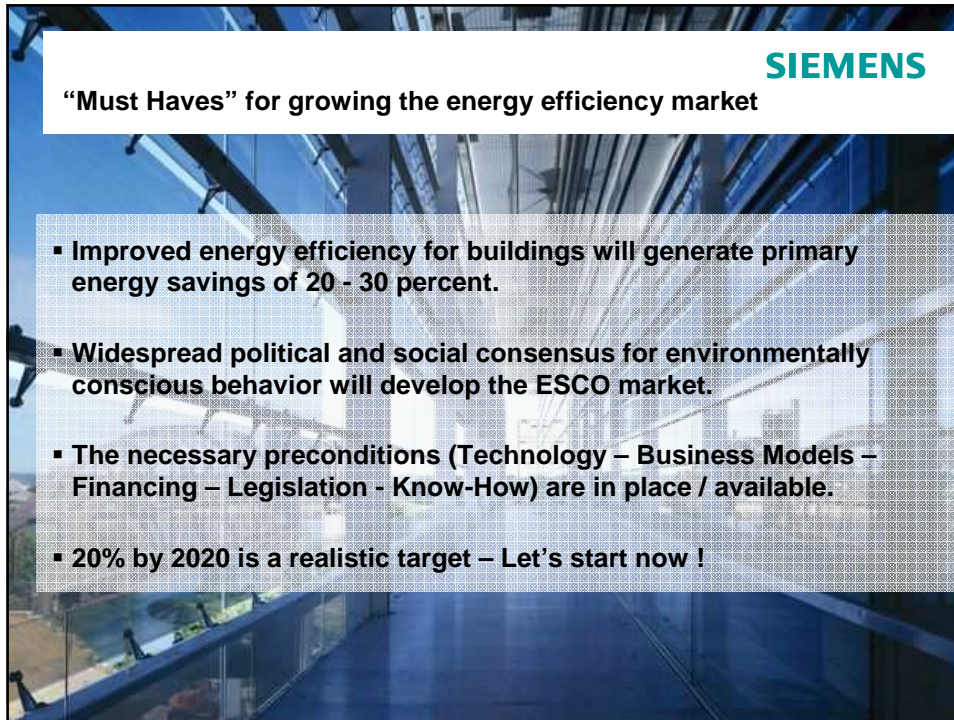
AND REMEMBER-- TRANSACTING BUSINESS WITH A 15¢ STAMP OR A PHONE CALL IS A LOT CHEAPER THAN DRIVING!

EACH DEGREE CLOSER TO THESE TEMPERATURES WILL SHAVE 25% OFF THE UTILITY BILL!

PLAN YOUR DRIVING AHEAD TO ELIMINATE EXTRA TRIPS!

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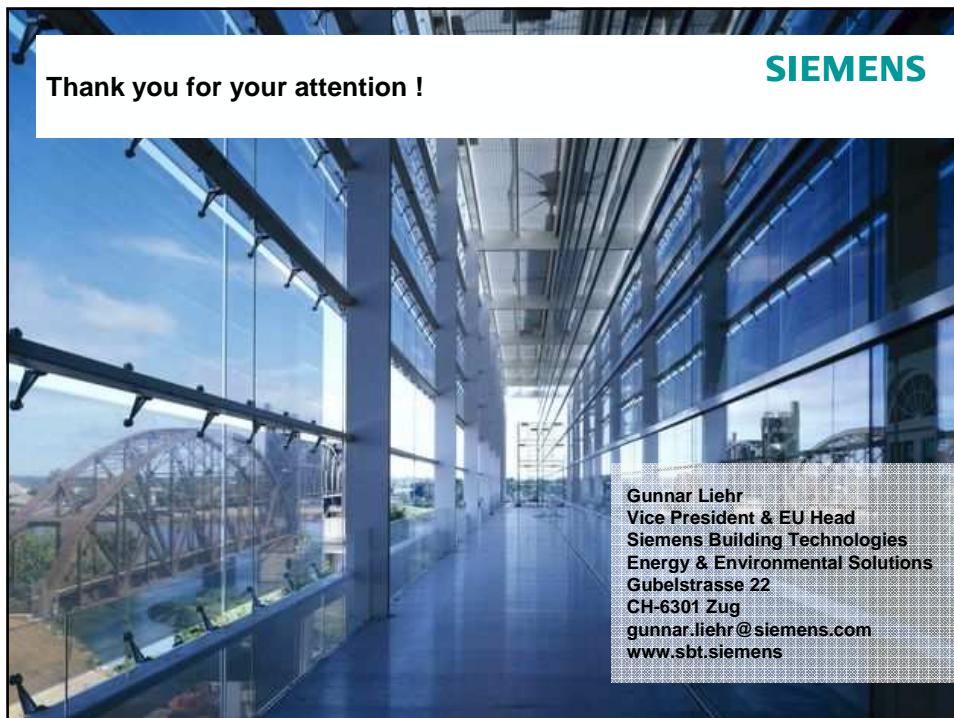
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“Must Haves” for growing the energy efficiency market

- Improved energy efficiency for buildings will generate primary energy savings of 20 - 30 percent.
- Widespread political and social consensus for environmentally conscious behavior will develop the ESCO market.
- The necessary preconditions (Technology – Business Models – Financing – Legislation - Know-How) are in place / available.
- 20% by 2020 is a realistic target – Let’s start now !



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Thank you for your attention !

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