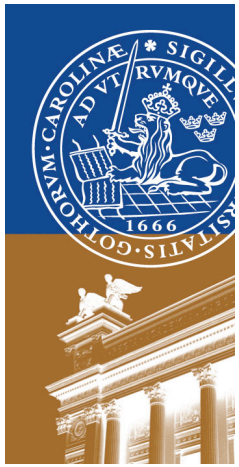

Transforming the “Efficiency Gap” into a Viable Business Opportunity: Lessons Learned from the ESCO Experience in Sweden

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A puzzling “gap” exists between optimal level of energy efficiency and actual projects completed

Only 15% of profitable energy efficiency measures are carried out, according to recent investigations by Swedish authorities!

(Report CEC 2005:1; SOU 2008:1 10)

Swedish ESCO market experienced a series of false starts amid broader energy history

1970s - Oil crisis spurred interest in energy conservation

1980s - Public referendum to phase-out nuclear power
- HVAC equipment and HVAC entrepreneurs developed first EPC
- Falling oil prices in the mid-1980s stymied further EPC development
- EPC earned bad rap of 'freezing in the dark,' creating legacy of customer distrust

1990s - 1991 carbon tax introduced
- 1996 market deregulation. Energy companies offered "value-add" services.
- Excess hydropower led to decreased in electricity prices.

2000s - Rising energy prices, increased climate consciousness and favorable policy environment led to renaissance of interest in ESCOs

Courtesy: Lindström

Research conducted Oct. 2008 - May 2009 found a strong & vibrant ESCO market developing in Sweden

Number of ESCOs	27
Type of ESCOs	Local and multinational
ESCO association	No
Annual Revenue (2008) for ESCO projects	Euro 72 million in 2008
Range of deal size	10,000 to 900,000 square meters

- ESCOs built upon customer base and expertise from 4 main areas:
  - Building and controls manufacturers
  - Facility management companies
  - Consulting firms
  - Energy supply companies

- Public sector has led the way with ESCO projects

Insights on Market Development

- **Subsidy programs provide a financial carrot and firm deadlines** for accelerating pace and scale of projects.
- **Mutual trust between companies and customers has grown**, leading to increased comfort with energy services.
- **Third party financing has played a surprisingly unimportant role** in the ESCO business.
- **Local laws and norms matter.** Technical aspects of projects may not vary, but local differences affect EPC.
- **Rivalry among existing firms is marked by competition and cooperation**.

Despite rapid growth, ongoing challenges remain for ESCOs

- **Lack of knowledge remains a significant issue.** Developing savvy consumers of energy services required for market growth.
- **Investments needed to strengthen energy efficiency related curriculum** with universities, technical schools, and lower schools to build skilled workforce.
- **Timescale of projects and "trust" issues may present a barrier to entry** for ESCOs without an existing customer base or reputation.
- **Fluctuating energy prices impact project priority** within customers' organizations.
- **Opportunity to connect existing programs** like, energy declarations, with specific energy saving actions and measurable results.
- **Expanding market beyond public sector may require additional incentives**.

Discussion Questions

1. Are additional government carrots and sticks needed to meet the ambitions in the Energy Service Directive?

2. How will we evaluate EPC impact?

3. What are best practices for building systems to measure and report results for the ESD?

4. How does Sweden's vibrant market compare with ESCO experiences from other countries?

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