



ECONOLER

Growth of the EPC model across Europe; challenges and opportunities

The ABC of EPC SEMINAR

Ireland

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EPC CONCEPT INTRODUCTION

EE END USER BENEFITS

Lower operation cost

Optimization of equipment operation

New and modern equipment (increased value)

Improved competitiveness

Improved product quality

Higher comfort level

Green image

“High return on investment”

???

**So why do EE projects
are not being implemented**



BARRIERS TO MARKET



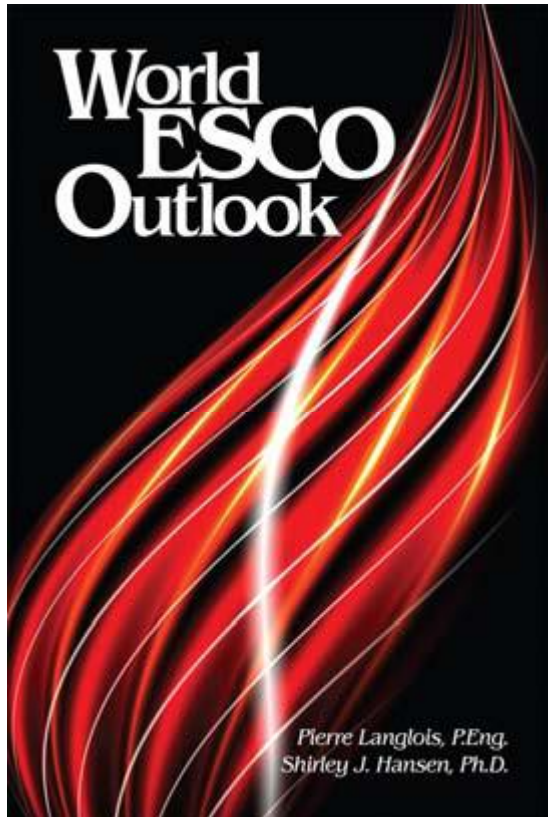
AN ADAPTED SOLUTION

Energy Performance Contracting



CURRENT WORLD STATUS

CURRENT WORLD STATUS



Sub-Saharan Africa:

Kenya – South Africa

Americas:

Argentina – Brazil – Canada – Chile – Colombia – Jamaica
– Mexico – Uruguay – USA

Asia-Oceania:

Armenia – Australia – China – India – Indonesia – Japan –
Malaysia – New Zealand – Philippines – South Korea –
Thailand – Turkey – Vietnam

Europe:

Austria – Belgium – Bulgaria – Croatia – Czech Republic –
Denmark – Finland – France – Germany – Hungary –
Ireland – Italy – Netherlands – Norway – Poland – Portugal
– Romania – Russia – Slovakia – Slovenia – Spain –
Sweden – Switzerland – Ukraine – United Kingdom

MENA:

Israel – Jordan – Lebanon – Morocco – Tunisia

CURRENT WORLD STATUS

Most Developed Markets

› North America

- USA: 6-7 billion USD/year (mainly public sector)
- Canada: 0.5 billion USD/year (mainly public sector)

› Europe

- Germany: most successful market in Europe
3.9 billion USD/year (all sectors)
over 250 ESCOs (mainly large national and international companies)
Focus on Energy supply contracts

› Asia

- China: 4.25 billion USD/year (mainly private sector)
- South Korea: 150 active ESCOs (mainly industrial sector)



CURRENT EUROPEAN STATUS

› Austria

- ESCO association has 12 members
- Largest market is the public sector ($\geq 80\%$)
- Annual market of about 120€ M/year
- Strong energy supplying focus including EE components

› Belgium

- National Super ESCO (FEDESCO) creation in 2005
- Exclusive rights to use EPC in federal facilities
- Biggest barrier is the presence of long term maintenance contracts
- Guaranteed savings contract is the most popular

CURRENT EUROPEAN STATUS

› Bulgaria/Romania

- Strong EBRD initiative (2012) to support the creation of an EPC market in the public sector: no results yet
- Very limited market otherwise, including few municipal and some industrial projects
- Focus on building envelop, lighting and HVAC, and street lighting

› Croatia

- Utility based ESCO (HEP ESCO) created in mid 2000
- Over 50 projects implemented (20M USD), strong focus on the public sector
- Market collapsed when EPC projects were qualified as on balance sheet and affecting the budget of public sector entities



CURRENT EUROPEAN STATUS

› Czech Republic

- 10 active ESCOs and 10 other companies providing long term energy delivery contracts
- Mainly subsidiaries of large European companies
- Presence of a standard contracts and ESCO association
- Small market 10-15 M €/year, mainly public sector

› Denmark

- Big focus on municipal projects
- Guaranteed savings approach predominantly

CURRENT EUROPEAN STATUS

› Finland

- 10-15M € annual market
- Mainly focused on public sector
- Guaranteed savings is the favored mechanism used

› France

- Long history in the use of EPC
- ESCO association: FEDENE, dominated by 2 big ESCOs (Dalkia, Cofely)
- Mainly focused still on the supply side contract approach
- Many public associations promotes the EPC concept
- Market over 30M€/year (EE components only)

CURRENT EUROPEAN STATUS

› Hungary

- Over 175 projects in the public sector since the mid 1990s
- Main focus as been district heating, small focus on demand side EE

› Italy

- Introduced in early 1990's
- Main approach is the energy supply approach
- About 200 actors in the market, but few complete ESCOs
- Quite limited pure EPC contracts implemented

› Netherlands

- 70-80 M€ market, mainly public sector
- Pure EPC but also maintenance contracts
- All types of contracts used (shared savings, guaranteed savings, supply side)
- NL Agency is promoting the use of EPC



CURRENT EUROPEAN STATUS

› Sweden

- Over 70 projects mainly in the public sector since the early 2000's
- Mainly done through public procurement
- Less than 10 active ESCOs

› United Kingdom

- Introduced in early 1980's
- About 15 active ESCOs
- All types of contracts used
- Started in the private sector because of important barriers in the public sector
- Still not a mature market, including in the public sector

LESSONS LEARNED

MAIN CONCLUSION

Different models in every country

- › North America is mostly guaranteed savings
- › China is mainly shared savings

Different ESCOs, different models

- › Large equipment manufacturers favor guaranteed savings (Siemens, Johnson Controls, etc)
- › Dalkia specialises in Chauffage (supply side) contracts

**EPC is a complex mechanism
often difficult to introduce in a country**

MARKET BARRIERS

Most Common Barriers

- › Customers do not understand EE
 - › Concept is rather new in countries of the Middle East
- › Difficulty in introducing a new concept
 - › 5 years of market penetration in Tunisia
- › Cultural aspects have a role to play in success/non success
 - › Chinese energy users very interested in new technologies

MARKET BARRIERS

Lessons Learned

- › EPC can only develop in a business environment that values EE
- › It can not by itself create an EE market
- › Need for promotion of EPC by unbiased parties (EE agencies, Energy or Environment Ministries, etc.)

FINANCING BARRIERS

Barriers

- › Lack of knowledge about EPC by the finance community
- › ESCOs creditworthiness (debt or guarantees) is an important limiting factor
- › Use of dedicated mechanism is often necessary

Accounting regulations make it very difficult to recognize EPC transactions as off balance sheet for clients and for ESCOs



MEASUREMENT AND VERIFICATION

M&V is a Fundamental Part of EPC that is often underestimated:

- › Lack of knowledge by stakeholders
- › Horror stories come often from a lack of understanding and pre-agreement (plan) on M&V.
- › Needs for the promotion of internationally accepted protocol to structure markets

Strong presence of IPMVP

in Austria, Belgium, France, Portugal, Spain, UK

**Too many M&V protocols
will not help EE/ EPC development**



ROLE OF GOVERNMENT

Most Common Barriers

- › Existing or new laws can make EPC difficult
e.g.: Croatia, Poland
- › Lack of adapted public procurement for EPC
e.g.: Spain

CONCLUSIONS

- › Out of 55 countries analyzed
 - about half have some kind of significant EPC activity
 - The others are working on it and could develop soon
- › EPC is used in very different ways in different markets and can be adapted to all sectors
 - public and private
 - buildings/industries/transport

CONCLUSIONS

- › The concept has limitations
 - › cannot address all markets' barriers by itself
 - › Can not address small size projects, except if bundled
- › Governments support usually play a role in developing a sustainable EE and EPC market
 - › procurement has to be adapted and streamlines

CONCLUSIONS

- › Financing is an issue:
 - › Accounting and regulations have to be addressed (limited capacity to enable off balance sheet financing)
- › Needs to agree on standardised M&V protocol

Thank You

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