

ENERGY AND ENVIRONMENTAL EFFICIENCY with a services company



Mise à jour du 12/12/06

Suez
ENERGIE
SERVICES

Energy efficiency: Why ?

- **An environmental stake**
 - Less fossil fuels
 - Less greenhouse gases emissions
 - Less pollution

- **A response to higher energy prices**
 - Energy budgets under pressure
 - A means to be hedged against further price rise (energy prices, schemes internalising environmental costs such as EU ETS, carbon taxes, etc.)
 - Return on “investment” (including expertise and operation) in energy efficiency improvement actions

Energy efficiency: What is it ?

- Energy efficiency is « a ratio between an output of performance, service, goods or energy, and an input of energy”

(Energy Efficiency and Energy Services Directive)

- Energy efficiency therefore combines :
 - lower energy consumptions, thanks to performing and well operated equipments
 - an appropriate service level (e.g. temperature)

The advantages of a comprehensive approach in the long run.

- It does not favour a quality parameter at the expense of others

E.g. : indoor temperature + indoor air quality + noise control / no nuisance from the ventilation system

- It ensures solid economic return and long-lasting environmental benefits

➔ Audit, solution design, installation, operation and feedback from real-life, ... every step of an optimal energy efficiency improvement action requires

- taking account of all the others
- both technical expertise servicing know-how

Why dealing with an energy efficiency services company ?

(1/2)

- A comprehensive approach through long term commitments
- Avoiding diverting resources from core business activities
- A single point of contact, with the adequate resources, expertise and day-to-day know-how and attention
 - A track-record of thousands of references throughout Europe, covering new buildings as well as existing ones, and all sectors (industry, residential and commercial)
 - The exclusive knowledge gained through on-site operation and client needs management

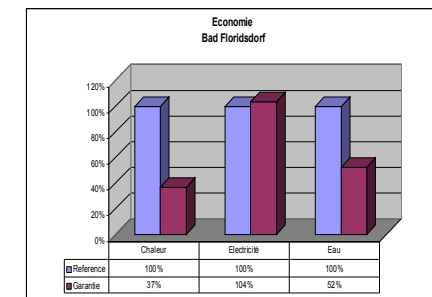


Why dealing with an energy efficiency services company ?

(2/2)

- **Guaranteed performance**
 - Improvement of quality of service
 - Formalisation through indicators

- **Guaranteed economic savings**
 - Capex (and Opex) recouped from cost-cutting in relation with energy savings / rationalisation
 - Contractual schemes fit with regulatory frame and client's preferences



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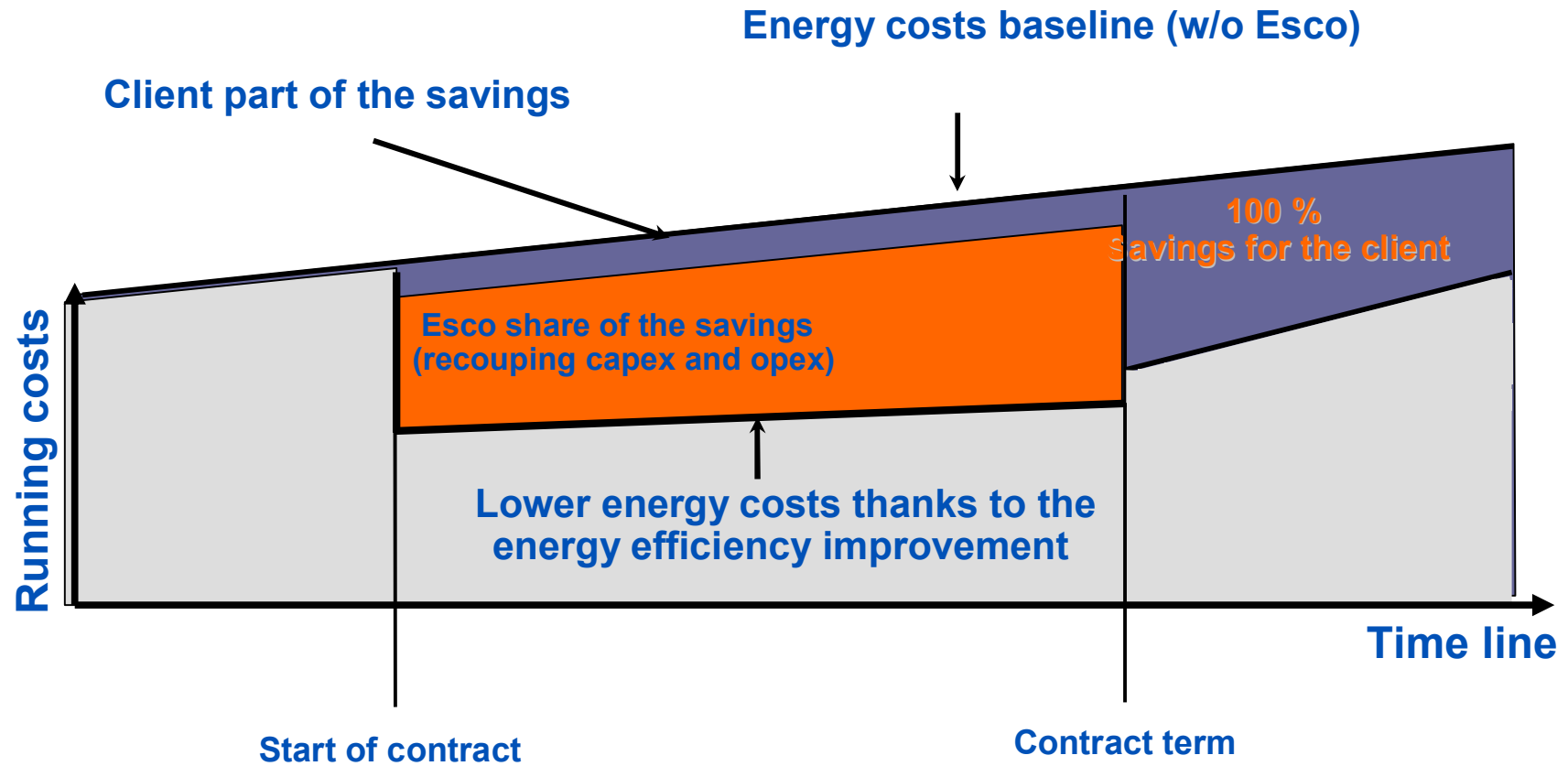
Guaranteeing the overall economic return

Two examples of contractual schemes

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The so-called « Esco » scheme



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Example: Floridsdorf Bath in Vienna (Austria)

Heat

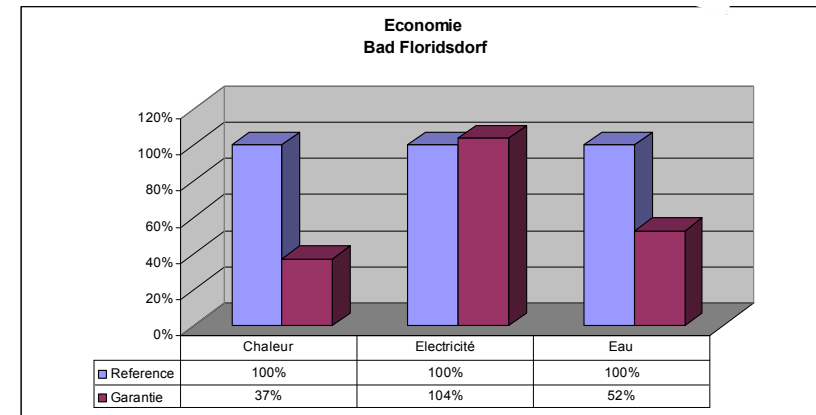
- Thermal solar system with heat pump for indoor heating and water preheating
- Heat recovery from the ventilation system and the perspiration water
- Replacement of regulation and optimisation of controls

Electricity

- Peak load management and reactive current compensation
- Relamping and optimisation of lighting
- Free-ventilation in summer

Water

- Optimisation of water treatment
- Water recycling through membrane filter



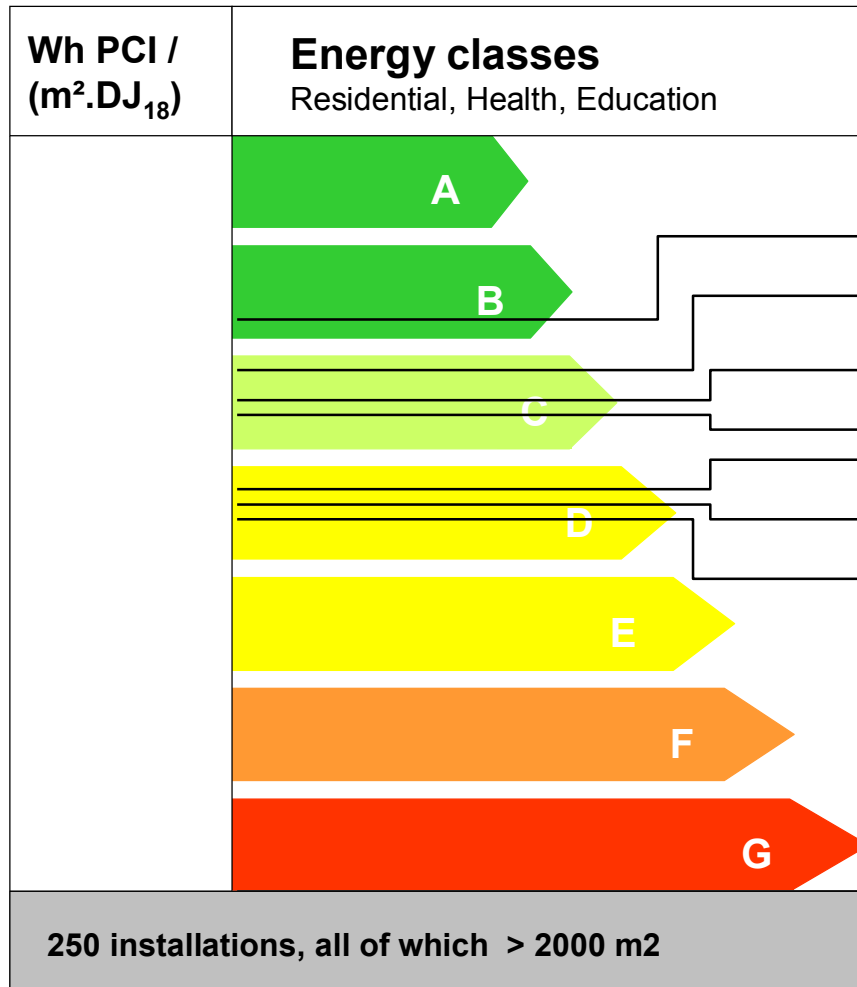
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The « contract energy management » scheme

- The energy efficiency services company takes care of the whole set of dovetailing items which “convert” primary energies into services. It aggregates them inside a comprehensive contract (with relevant price indexation patterns)
 - Energy procurement & Energy management
 - Operation and Maintenance
 - Total guarantee / replacement schemes
 - Financing and installation of new equipments
- The schemes delivering the best results (in terms of Economics: e.g. energy markets expertise and volume aggregation, as well as in terms of energy efficiency : see next slide)...
- ... are those by which the contractor has the greatest flexibility to reach its commitments (defined by performance indicators)

Energy consumption according to contractual scheme



- DEGREE-DAYS
- PURE LUMP SUM
- DEGREE-DAYS W/ PROFIT SHARING
- FUEL & OPERATION W/ PROFIT SHARING
- METERED ENERGY W/ PROFIT SHARING
- METERED ENERGY
- OPERATION W/ PROFIT SHARING

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In short a performance indicator is

1. Designed sitting together with the client and aiming at representing his needs
2. The basis of a long term contractual performance commitment
3. Measured either continuously or periodically
4. Communicated to the client to demonstrate agreed service level is met (penalties if not)



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LA MAISON DU CIL

- Operation and maintenance
 - Pre-existing contract
 - > *Energy management*
 - > *Total guarantee*
 - Revamping leading to a 10% price cut
 - > *Design, financing, installation and operation of a 1 MWe cogeneration scheme*
 - > *Refurbishment of the old boiler house*
 - Site features :
 - > *500 dwellings*



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- **Operation and Maintenance**
 - Performance commitments on temperature and continuity of service for every building
 - Energy supply
 - Remote monitoring and control of all installations
 - Refurbishment of the installations
 - Energy savings : 3 GWh/an
- **Site features :**
 - > *Capacity: 70 MW*
 - > *360 buildings*
 - > *900 boilers*





Thanks for attention !

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