ENERGY AND ENVIRONMENTAL EFFICIENCY
with a services company

Mise à jour du 12/12/06

Donner à votre énergie une nouvelle efficacité

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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
  - ➔ Return on “investment” (including expertise and operation) in energy efficiency improvement actions
  - ➔ Hedging against further price rise (energy prices as such, but also schemes internalising environmental costs such as EU ETS, carbon taxes, etc.)

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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, while taking best benefit of new instruments (e.g. white certificates)**

➔ **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 and servicing know-how

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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, res[al] & comm[al])
  - ➔ The exclusive knowledge gained through on-site operation and client needs management




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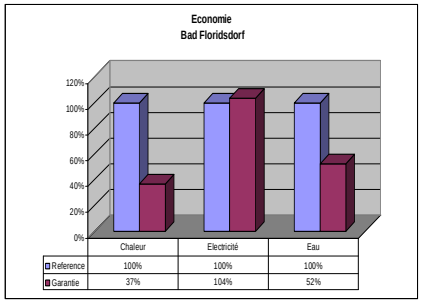
Why dealing with an energy efficiency services company ? (2/2)

Guaranteed performance

- Improvement of quality of service
- Formalisation through indicators

Guaranteed economic savings

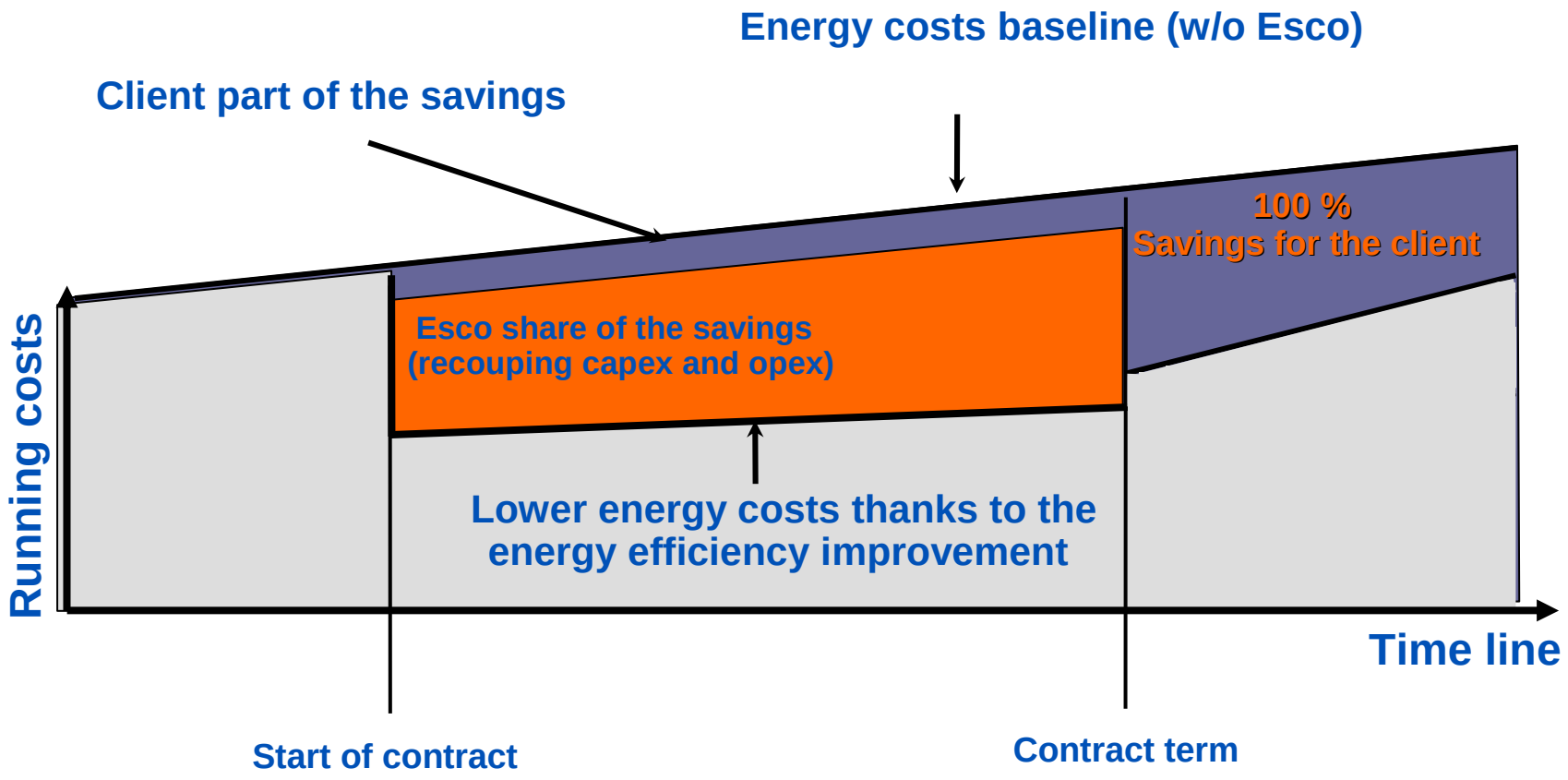
- Capex (and Opex) recouped from cost-cutting in relation with energy savings / rationalisation
- Contractual schemes fit with regulatory frame and client's preferences



Guaranteeing the overall economic return

Two examples of contractual schemes

The so-called « Esco » scheme



Example : Floridsdorf Bath in Vienna (Austria)

Heat

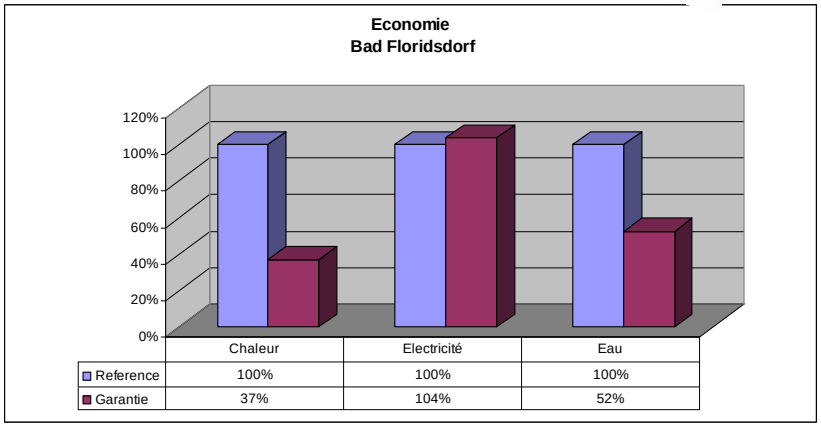
- Thermal solar system with heat pump for indoor heating and water preheating
- Heat recovery from the ventilation system and the perspiration water
- Replacement of regulation and optimisation of controls

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



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)**

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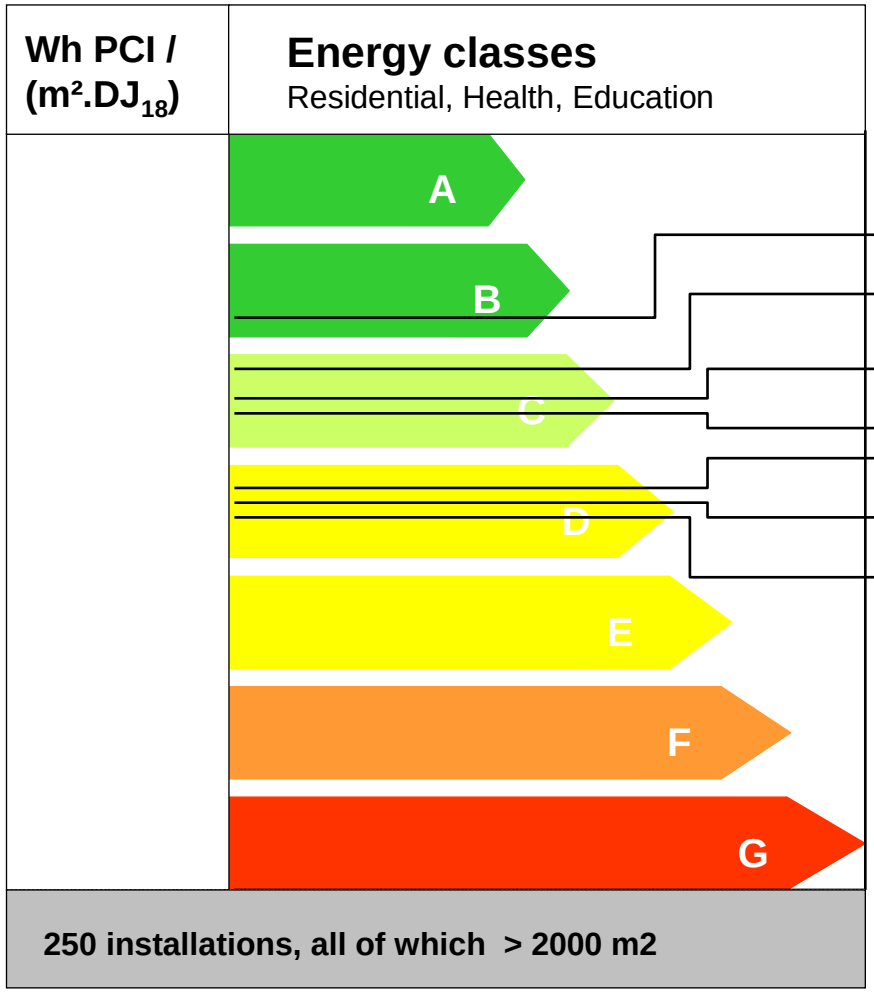
Energy consumption according to contractual scheme



DEGREE-DAYS

PURE LUMPSUM

DEGREE-DAYS W/ PROFIT SHARING

FUEL & OPERATION W/ PROFIT SHARING

METERED ENERGY W/ PROFIT SHARING

METERED ENERGY

OPERATION W/ PROFIT SHARING

LA MAISON DU CIL

Cambrai (59) - France

- **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**

CITY OF ROME
Schools

Rome - Italie

- **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**

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Measuring energy efficiency

Consumption reduction is not a satisfactory indicator for energy savings… unless referring to a sustained and comprehensive level of service → Performance indicators come first. They should be

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

Thanks for attention !