



Self Financing Energy Solutions in an age of austerity using Energy Performance Contracting

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Agenda



- Introducing eu.ESCO
- The challenge ahead
- Energy Performance Contracting
- What's the holdup?
- Who is benefiting?
- Summary

About eu.ESCO



It was founded in 2009 by **eu.bac**, the European Building Automation and Controls Association.

eu.ESCO's objective is to *accelerate the adoption* of **Energy Performance Contracting** (EPC) by helping European Member States achieve their **energy efficiency targets**.

More details at www.eu-esco.org

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The challenge ahead



20% reduction in carbon emissions by 2020
80% reduction by 2050

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On track to deliver less than 10% by 2020



Where should you focus?

€1 spent on more efficient energy use avoids €2 in investment in energy supply

Source: IEA

Supply Side



Demand Side



The greenest energy is the energy you don't have to generate in the first place

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Europe's buildings waste €270 billion of energy every year

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What are the options?

- Upgrade your buildings
Large capital outlay to fund improvements
- Source government funding, zero % loans
Only address 'low hanging fruit'
- Do nothing
Suffer the consequences
- Use energy savings to fund energy efficiency measures
Energy Performance Contracting

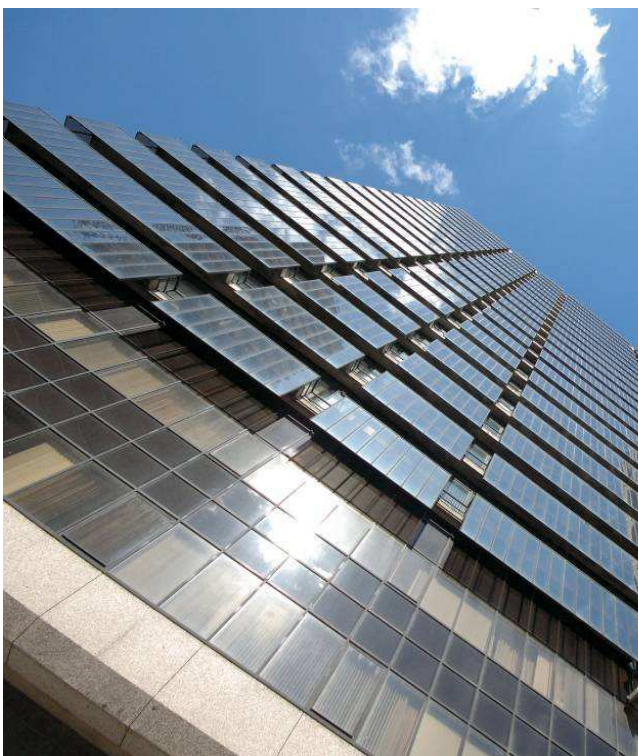


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The money is already in your budget, currently paying for wasted energy



What is an Energy Performance Contract?



- A programme of energy efficiency **improvements** to buildings funded from the savings they generate
- Delivered via a partnership with an **ESCO**
- **Funded** by the customer or ESCO's Finance Partner
- Energy savings are **guaranteed** by the ESCO
- Project managed by the ESCO but **installed** by local companies and contractors
- Can incorporate **renewable & clean energy** solutions



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Using wasted energy to fund carbon and energy reduction



Why use EPC?



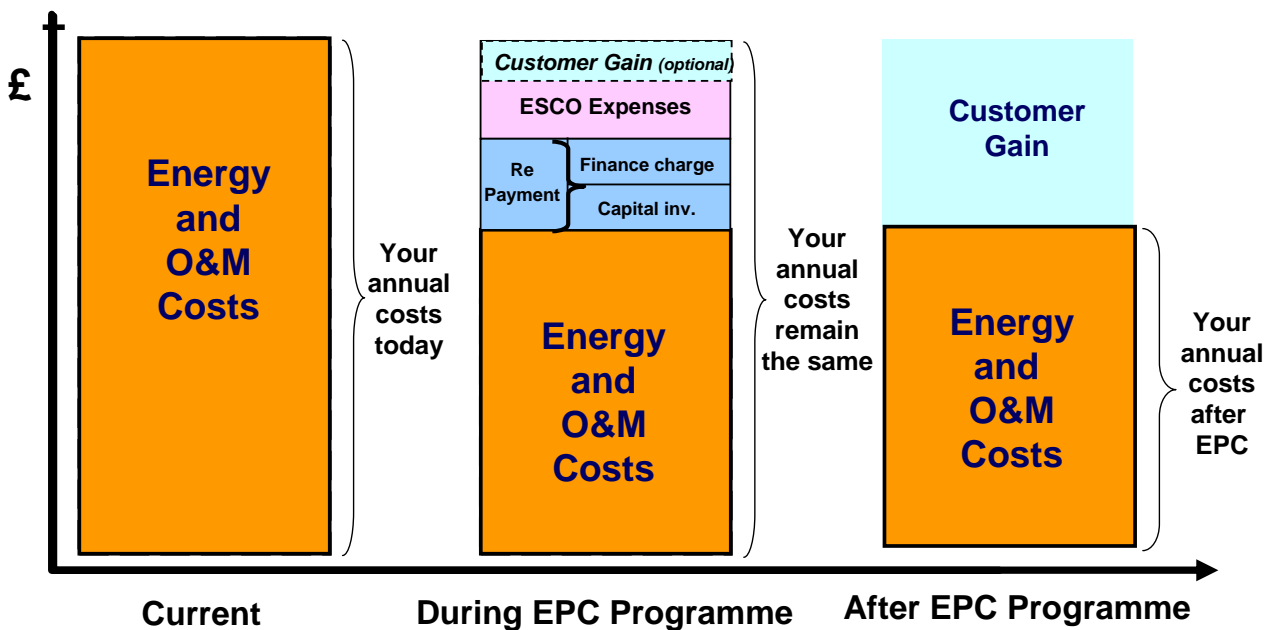
- **No** up-front capital required
- **Guarantee** transfers financial and equipment performance risk to the ESCO
 - if the savings target isn't made, the ESCO pays the difference
- Unlike most capital investments, EPC **reduces** operating expenses
- **Immediate** improvements are made
 - Buildings upgraded with modern, reliable energy efficient equipment
 - Comfort conditions are improved for occupants
 - Carbon reduction
- Avoids 'cream skimming' to provide **deep** savings >20%
- Creates **job opportunities**
- **Proven** process

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Self funded, risk free improvement programme



EPC – How the funding works

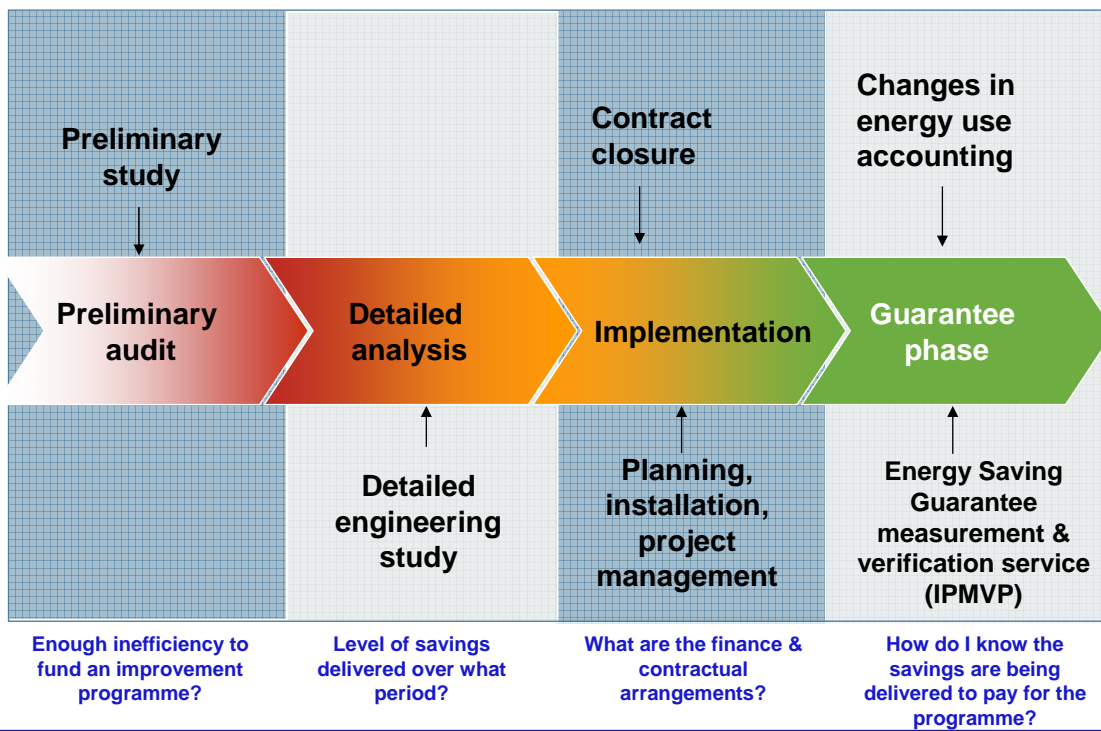


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There is no payback as there is no payment



EPC is a 4 stage process

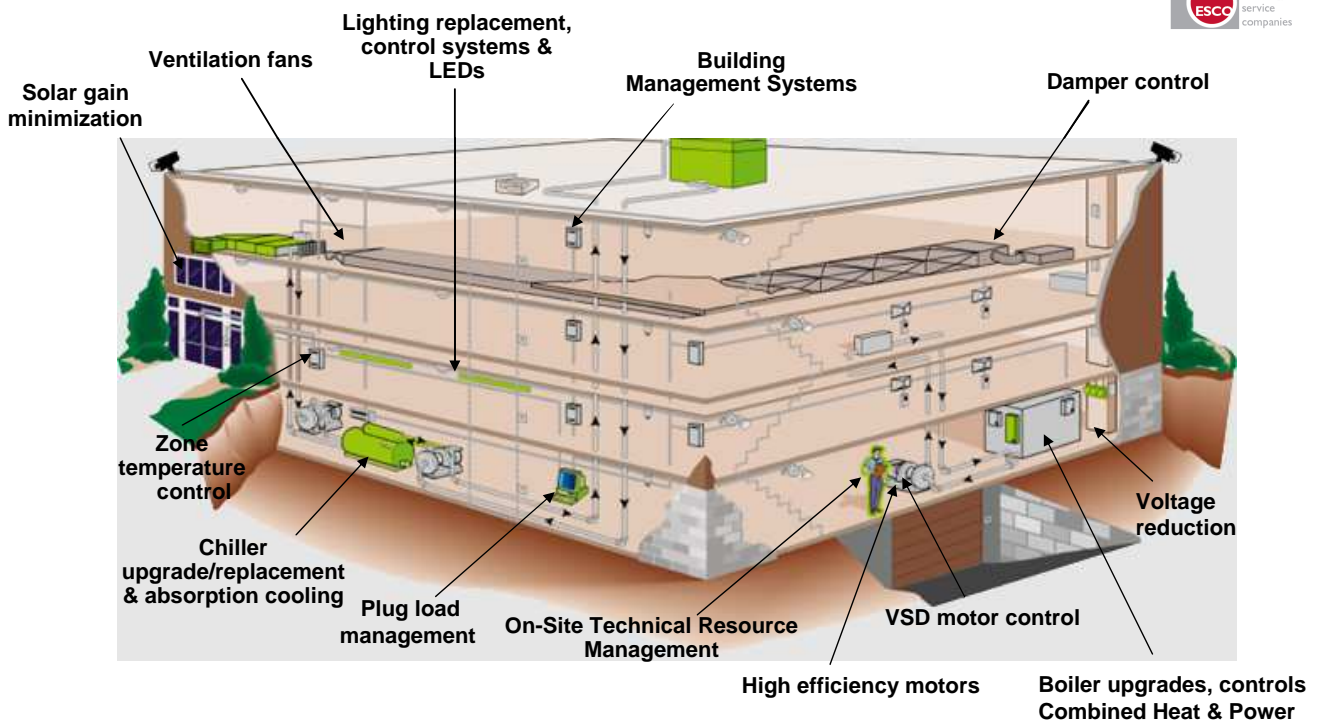


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No commitment until contract closure



A total facility approach



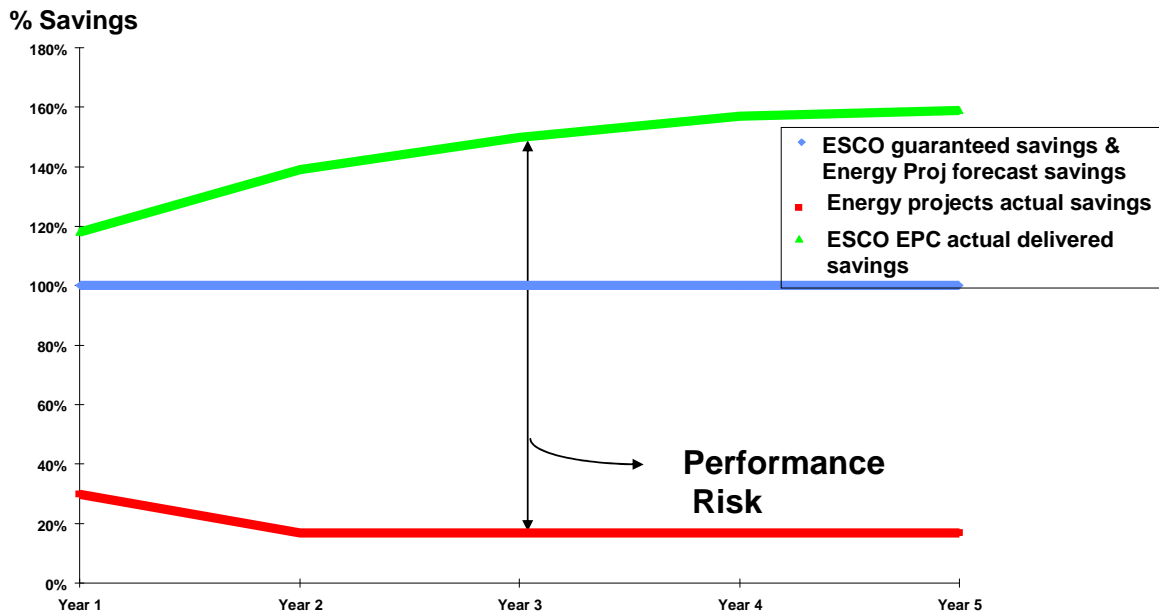
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Agnostic approach to technology – over 250 ECMs



Deep savings delivered by EPC

(EPC v Subset of 204 US DOE Projects)



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Guarantee Accountability Delivers Results

EPC Challenges

- Lack of awareness of:
 - available solutions
 - no money required
 - risk transfer
 - the hard benefits of verified savings with proven metrics
- Lack of policy push, support and incentives
- Credit risk
- Reliance on government funding
 - With resulting 'cream skimming'
- Energy efficiency tends to be a low priority item for public sector (c/w service delivery)
- >5 year perspective required
- Procurement process needs to be compliant yet realistic
- Accounting treatment requirement for 3rd party financing



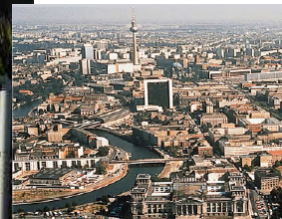
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Energy inefficiency is the solution NOT the problem

Who is benefiting from EPC in Europe today?



- Transport for London (UK)
- Gwent NHS Trust (UK)
- Lievensberg Hospitals (NL)
- Atrium Hospital Complex, Heerlen (NL)
- St Elisabeth Hospital, Herten (DE)
- Landshut Clinic, Landshut (DE)
- Erasmus University (NL)
- City of Malmö (SW)
- Ifö Sanitec (SW)
- EHSAL School (BE)
- Brigittenau Swimming Pool, Vienna (AT)
- UniCredit Group, Milan (IT)
- University of Art, Berlin (DE)
- City of Berlin (DE)
- Clinical Center Bremerhaven-Reinkenheide (DE)
- St. Joseph Krankenhaus, Berlin (DE)
- Municipality of Nyköping (SE)
- City of Örebro (SE)
- Swedish University of Agricultural Sciences (SE)
- Municipality of Hollola (FI)
- Municipality of Middelfart (DK)
- University of Sheffield (UK)
- Jewish Museum, Berlin (DE)
- German Army Medical Co-ordination Centre, Diez (DE)
- German Army Training Camp, Aulenbach (DE)



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Transport for London



The Customer

- **Transport for London** (Clinton Climate Initiative)

The Challenge

- Reduce carbon & energy by 25%
- Varying building mix
- Project payback of 10 years

Solution

- **£4 Million** project in 22 buildings
 - Lighting Replacement and Controls
 - Upgraded Building Energy Management Controls
 - Control of PC's during night time & in stand-by mode
 - Building Fabric Improvements
 - CHP Plant & Solar Thermal Hot Water System

The Benefits

- 25% electrical and 20% gas reduction
- Guaranteed energy savings of **£500k+** pa
- CO₂ reduction of **3,650** tonnes pa
- Local trade jobs

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Accessing guaranteed risk free benefits



Royal Gwent Hospital – Wales



- **The customer**
 - Aneurin Bevan Health Board
 - Covers 800 beds and 15 operating theatres
- **The challenge**
 - Aged infrastructure
 - Capital funding issues
- **Honeywell's solution**
 - 15 year Performance Contract
 - **£6.5m** capital funding
 - CHP, 5 new steam boilers, 9000 LED lighting retrofit, BMS, inverters
- **The Benefits**
 - **£1.1m** guaranteed annual savings
 - **£1.5m** savings delivered
 - National Health Services' Best Practice Award for Energy Efficiency

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Excess savings provide additional investment



EPC Summary

- Building owners keep paying what they currently do but...
 - Obtain a **complete** upgrade of all their buildings
 - Implement a **programme** of guaranteed, significant carbon reductions across their buildings
 - Reduce carbon footprint by **integrating** Renewable Energy solutions
 - Improve **reliability** of the building's energy system
 - Reduce **operational** costs
 - Improve **working environment** for building occupants
 - Use energy **inefficiency** as a tool to make improvements
 - **Create jobs**



Take the money currently paying the utility company for wasted energy & use it to invest in improvements across buildings

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Thank You

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