

**Energy Performance Contracting  
for UK Public Sector buildings**

## Agenda



- Role of RBS
- Market developments
- The building emissions challenge
- The solution – Energy Efficiency Retrofits
- Financing options
- Other 'green' initiatives that RBS can support

## The role of RBS

### ■ Where did it start?

- ◆ The Clinton Climate Initiative – London becomes the 1st of the C40
- ◆ RBS works with the C40 Cities group
- ◆ RBS agrees to arrange financing of up to \$1bn for environmental projects

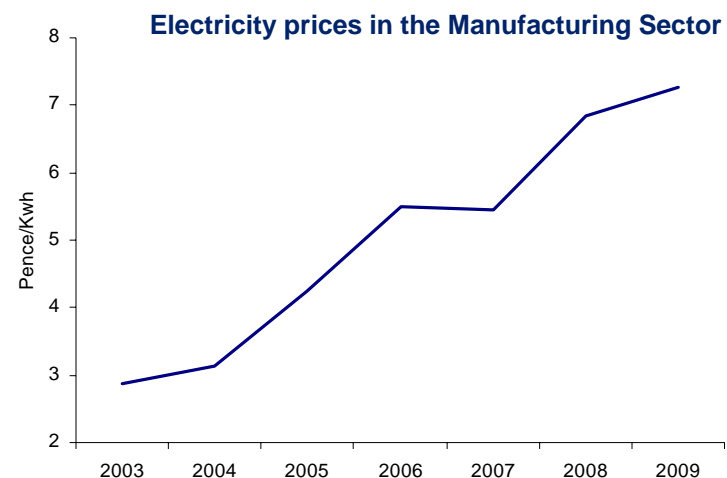


### ■ Playing to our existing strength

- ◆ Bankers to circa 50% of the Local Authority market
- ◆ Detailed understanding of public finance and accounting practices
- ◆ Expertise in environmental finance
- ◆ Holistic approach to managing our clients' risks and opportunities relating to environmental issues
- ◆ Close banking relationship with many of the key ESCOs

## Market Developments

- Carbon Reduction Commitment
  - CRC brings cap & trade to the UK creating a price for the carbon emitted by 5000 corporate and public sector organisations
  - Compliance - is your electricity spend over £500k?
  - Reputation - where will you be on the league table?
  
- Energy Performance of Buildings Directive
  
- Energy prices
  - Now one of the major costs for many organisations
  - Political instability, reducing natural resources & post recession growth all point to energy prices rising
  - CSR & carbon reduction are among the top priorities for organisations



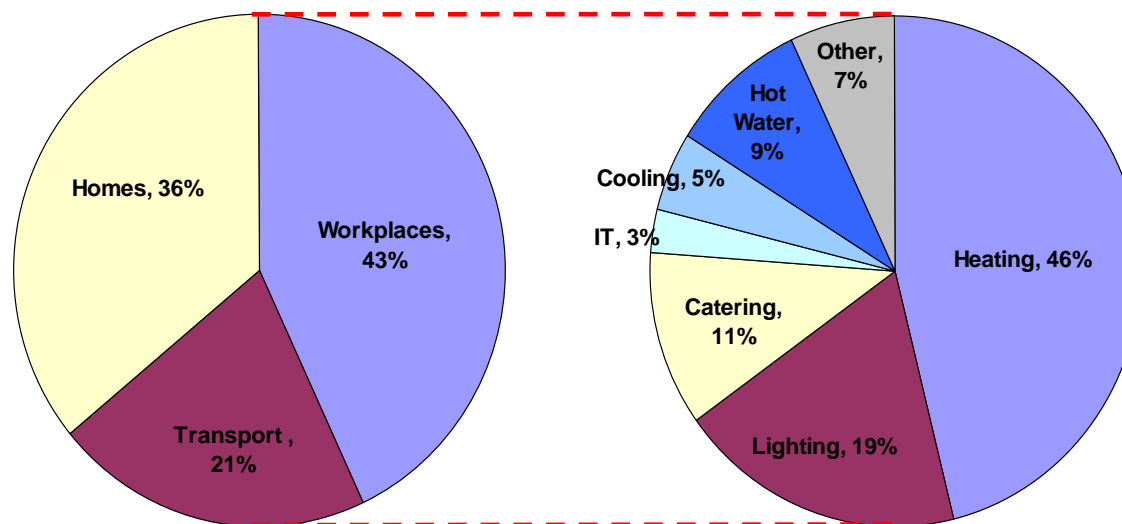
Source: Department of Energy & Climate Change, 2010

## The Building Emissions Challenge



- Buildings in Europe waste €270 billion every year
- They account for 40% of CO<sub>2</sub> emissions

43% of London's total Carbon emissions come from Commercial and Public sector buildings

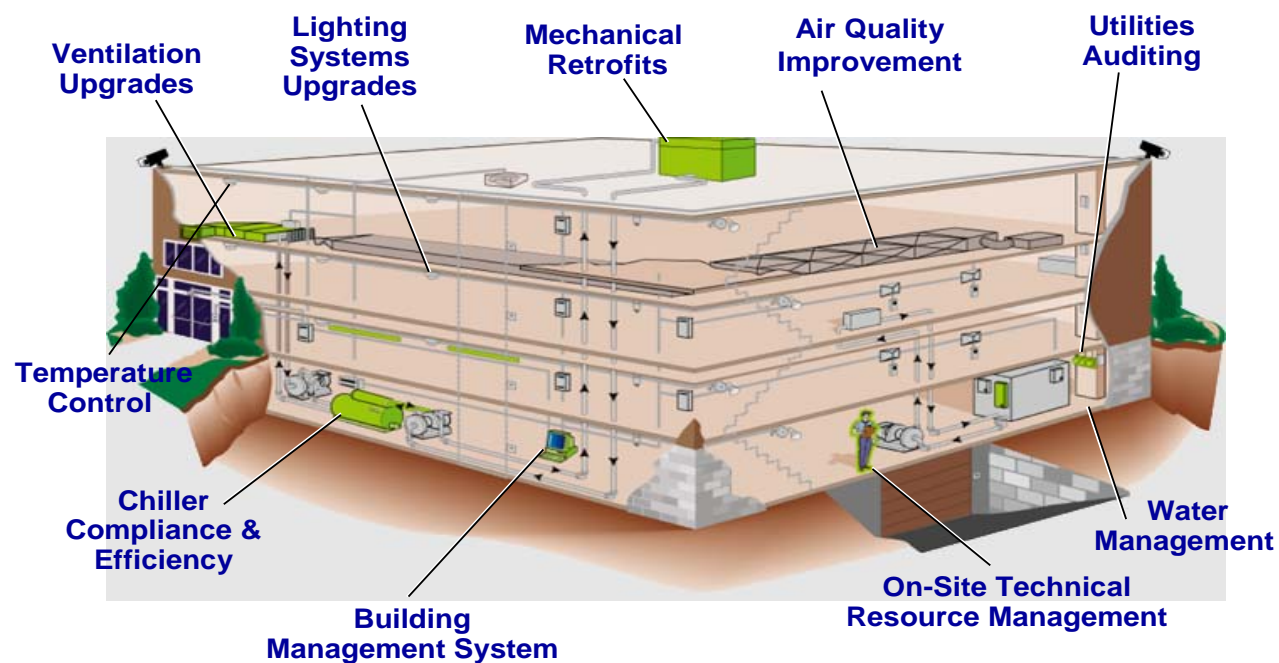


- 80% of the buildings we will occupy in 2050 are standing today

Source: London Development Agency, 2010

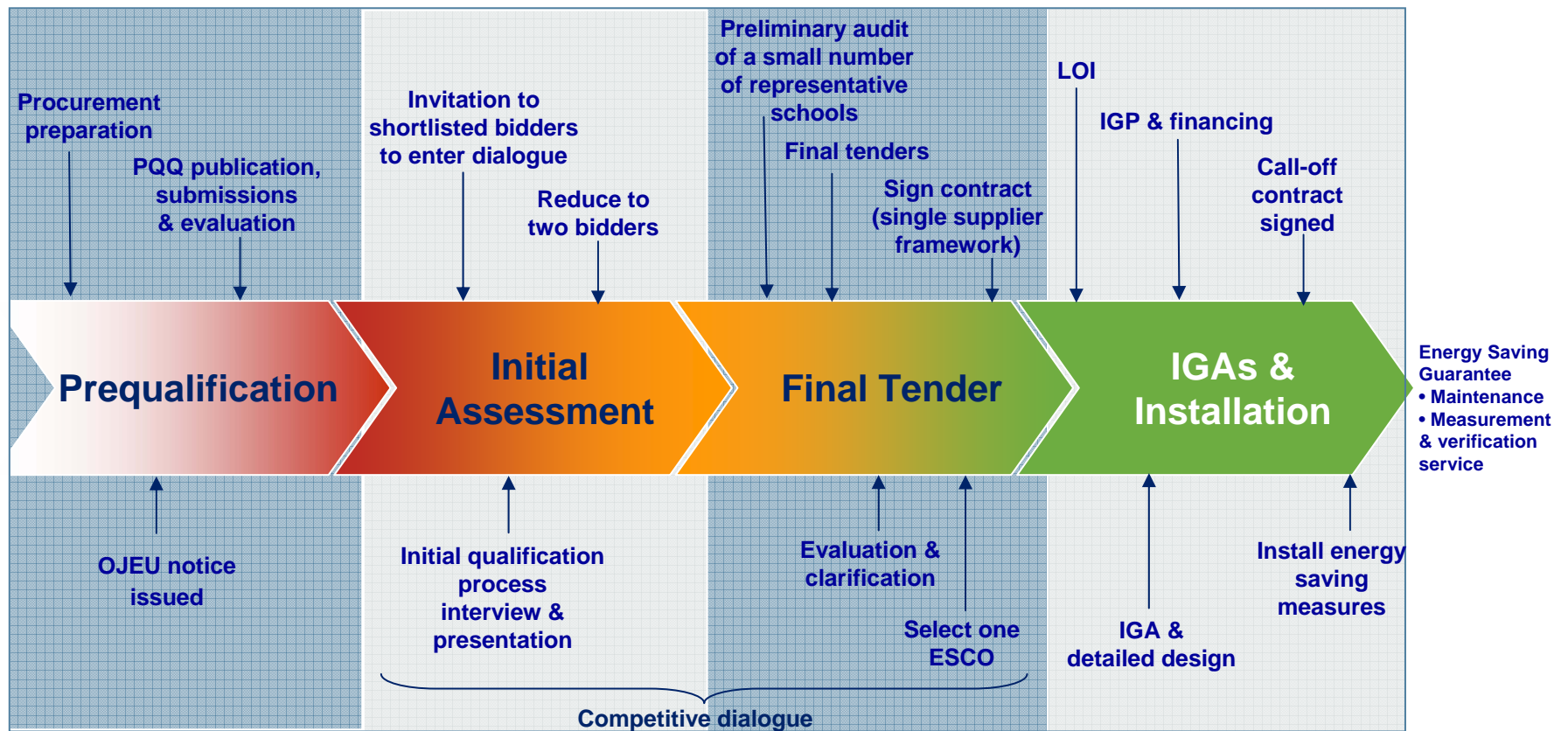
## A Solution – Building Energy Efficiency Retrofit

- *A building retrofit is...*
  - A programme of energy efficiency improvement measures
  - A building, site or portfolio approach to energy efficiency measures
  - A flexible long term contract guaranteeing energy savings & carbon reduction



# The ESCO Solution

## A compliant procurement process



## EPC Case Study – Transport for London



### The challenge

- 25% energy reduction target
- Building mix
- Capital funding issues

### Esco's solution (Phase 1, May'09)

- £4 million project
  - ◆ Lighting replacement and controls
  - ◆ Upgraded building energy management controls
  - ◆ Control of PCs during night time and in stand-by
  - ◆ Building fabric improvements
  - ◆ CHP plant
  - ◆ Solar thermal hot water system

### The Benefits

- 25% electrical and 20% gas reduction
- Guaranteed energy savings of circa £750k p.a.
- CO<sub>2</sub> reduction of 3,648 tonnes p.a.

## EPC Case Study – Gwent Healthcare Trust



### The Trust

- 3 acute hospitals & 20 community hospitals
- Royal Gwent Hospital: > 800 beds, 15 operating theatres
- £5.9m annual utility bill - 3rd highest spend item after staff & drugs

### Esco's solution

- £6.5 million project
  - ◆ 9000 energy efficient lamps
  - ◆ 5 x steam boilers including waste heat boiler
  - ◆ CHP & absorption chiller
  - ◆ 2 x 600kw standby generators
  - ◆ Complete BMS system upgrade
  - ◆ Water conservation measures
  - ◆ Pipes, valves & insulation upgrade

Gwent Healthcare  
NHS Trust



### The Benefits

- Guaranteed savings of £1,137,600 p.a.
- CO<sub>2</sub> reduction of 54,000 tonnes

## London – case study Framework agreement

- London committed to Clinton Climate Initiative as a C40 City
- Building Energy Efficiency Programme (BEEP – now Re:fit)
  - 42 buildings in pilot (TfL, Police & Fire Service)
  - Further 58 buildings in first stage
  - Process proved
- GLA announced commitment to cut energy use by 25% in PS buildings using this model
- Move to 4 yr (3+1) framework agreement
  - LDA on behalf of GLA (Oct 12'09 award date)
- *“will be made available to Public Sector in London as well as the rest of the UK”*
- DOE based contract vehicle to provide pre-qualified ESCOs for EPCs on public buildings
  - Access external financing
  - Guaranteed energy savings pay for capital investment



LONDON

## Financing – the standard choices

How do you fund Energy Performance Contracts?

- Options:
  - PWLB
  - Self funding / cash reserves
  - Loan / Asset Finance

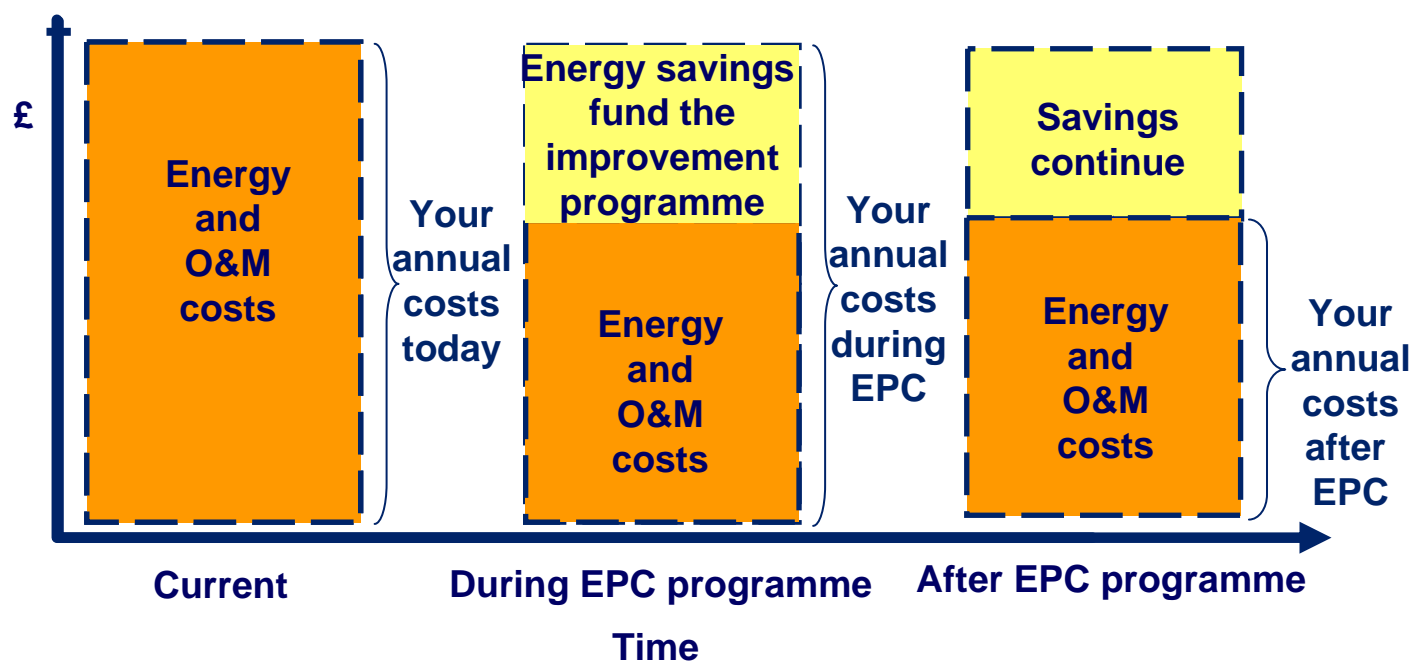
None of these are ideal

- Still require capital expenditure and have a balance sheet impact
- Difficult to prove the measures pay for themselves
- Despite the guarantee, project risk sits with the Local Authority



## Financing – the alternative option

- Future guaranteed energy savings finance improvements today
- No upfront investment or capital expenditure: a true self – financing option
- No additional revenue expense
- Risk transfer - ESCO and finance partner takes the performance obligation and finance risk



## Other 'green' initiatives that RBS can support

- Tri-Generation (CHP & absorption cooling)
- Solar (heating & photovoltaic)
- Small scale wind turbine
- Rainwater harvesting
- Green roofs
- LED lighting
- Biomass
- Ground source heat pumps
- River water cooling
- Landfill gas utilisation
- Chilled water / ice storage
- Anaerobic digesters



## Recap

- Role of RBS
- Market developments
- The building emissions challenge
- One solution – Energy Performance Contracts
- Financing options
- RBS pilot schemes



**Thank You**

Jon Miles

Director, Sustainable Energy Finance

Royal Bank of Scotland

[Jon.Miles@rbs.co.uk](mailto:Jon.Miles@rbs.co.uk)

Tel: +44 20 7672 0482