

# Introduction to sustainable procurement principles for buildings efficiency

*Overcoming procurement challenges in the UK*

**Bruno Gardner, Carbon Trust**  
**July 2016**

A decorative graphic at the bottom of the slide consisting of three overlapping, wavy horizontal bands in shades of blue and dark blue.



We are independent experts with a mission to accelerate the move to a *sustainable, low carbon economy*

What we can do for you >

## Advice

We **advise** businesses, governments and the public sector on opportunities in a sustainable, low carbon economy

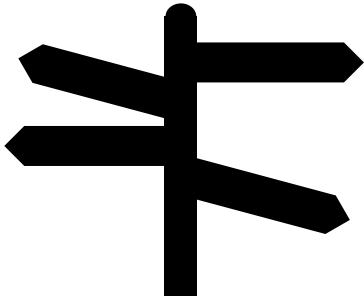
## Footprinting

We **measure and certify** the environmental footprint of organisations, products and services

## Technology

We **help develop and deploy** low carbon technologies and solutions, from energy efficiency to renewable power

# Public sector bodies face a range of common procurement challenges



- › Lengthy and time consuming process
- › Lack of relevant technical expertise
- › Insufficient funds
- › Uncertain business case
- › Conflicting interests
- › Lack of confidence in suppliers



# Multiple initiatives exist to help overcome procurement challenges in the UK

## Three contrasting procurement-focused initiatives in the UK

---

End-to-end  
procurement  
framework

**RE:FIT**

Minimum  
performance  
standards



Supplier accreditation  
scheme



ACCREDITED  
**SUPPLIER**

RE:FIT is a programme to help make the UK's public sector buildings more energy efficient

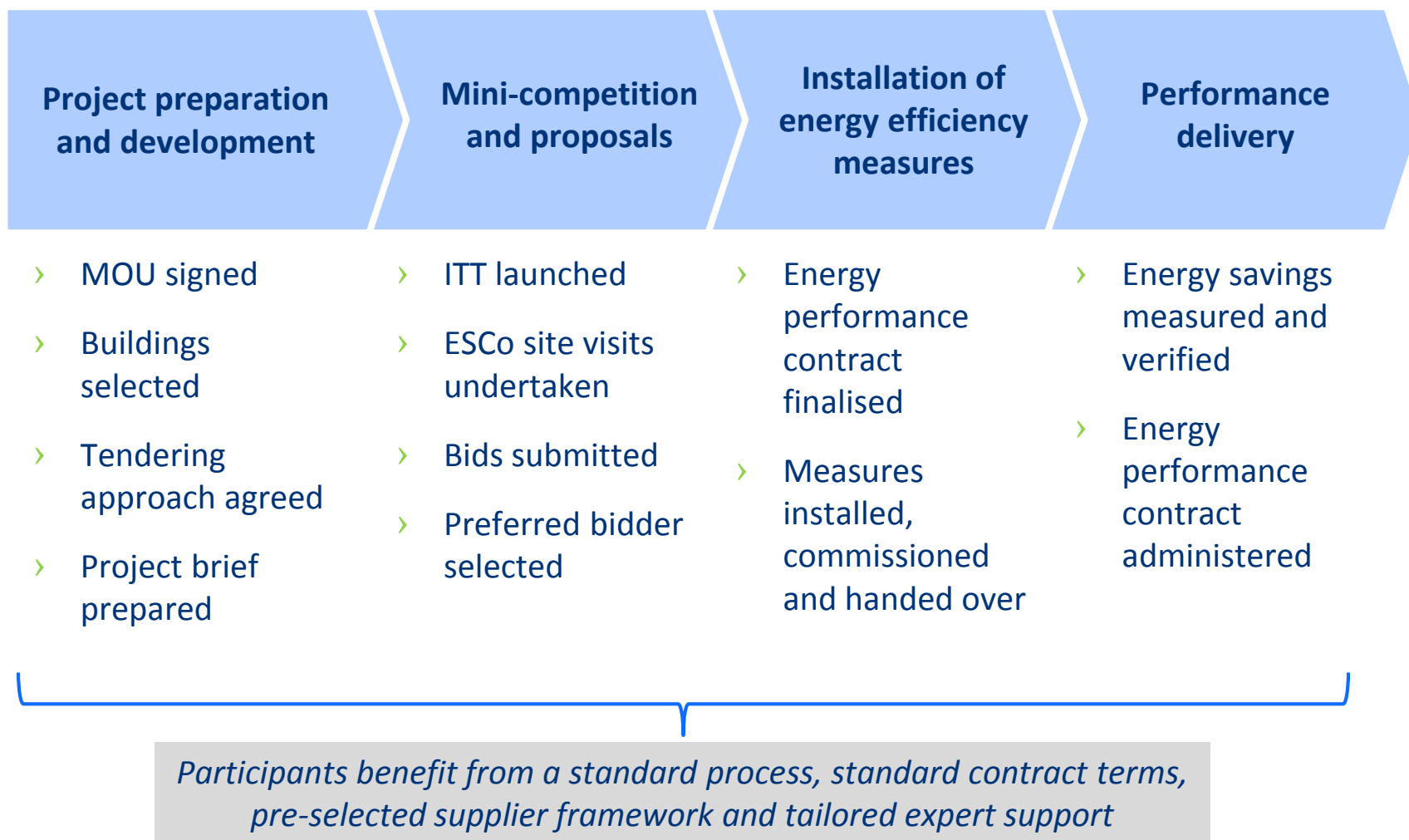
## Key features

- › EPC framework for public bodies
- › 16 pre-selected service suppliers
- › Standard core contract terms
- › Free expert technical assistance
- › Launched in London in 2009, subsequently replicated across the UK

## Key benefits

- › Speed
- › Simplicity
- › Expertise
- › Confidence
- › Certainty

The approach is flexible but projects typically comprise four overarching phases



RE:FIT's flexibility means it can be used in a wide range of contexts

## Measures covered

- › Lighting upgrades and controls
- › Boiler upgrades and replacement
- › Combined heat and power (CHP)
- › Heating controls
- › Heat recovery
- › Cooling and air-conditioning systems
- › Building management systems
- › Voltage optimisation
- › Variable speed drives
- › Building fabric improvements
- › Street lighting
- › District heating
- › Large scale energy plant solutions
- › Solar – photovoltaic panels
- › Water saving measures

## Buildings upgraded to date

- › Universities
- › Colleges/schools
- › Civic centres
- › Hospitals
- › Libraries
- › Fire stations
- › Police buildings
- › Office buildings
- › Community buildings
- › Leisure centres
- › Theatres/museums

Since 2009, RE:FIT has delivered real impact in London and across the UK



**1,000+**

projects procured  
across the UK

**£165m+**

capital investment  
procured

**£10m+**

audited energy  
savings p.a.

**52k+**

tonnes CO2  
saved p.a.



# The Carbon Trust provides specialist technical support for RE:FIT Cymru



Stage	Technical support available
Gaining management buy-in	<ul style="list-style-type: none"> <li>➤ Preparation of advice/evidence</li> </ul>
Prepare project brief	<ul style="list-style-type: none"> <li>➤ Advise on technical elements of procurement documentation</li> <li>➤ Advise on expected return on investment</li> <li>➤ Check quality of documentation produced for mini-competition</li> </ul>
Run mini-competition	<ul style="list-style-type: none"> <li>➤ Support public sector organisation at bidder days</li> <li>➤ Attend site visits to provide expert guidance</li> <li>➤ Ensure tender returns comply with the framework</li> <li>➤ Support evaluation and interview process</li> </ul>
Conduct high-level appraisals	<ul style="list-style-type: none"> <li>➤ Review appraisal document for technical robustness</li> </ul>
Develop investment grade proposal	<ul style="list-style-type: none"> <li>➤ Review and advise on robustness of investment grade audits</li> <li>➤ Advise on measurement and verification plans</li> <li>➤ Review technical aspects of contract documents</li> </ul>
Install measures	<ul style="list-style-type: none"> <li>➤ Check installed measures are as agreed</li> </ul>
Review performance	<ul style="list-style-type: none"> <li>➤ Review M&amp;V plan</li> </ul>

# The Energy Technology List is catalogue of high efficiency, government verified products

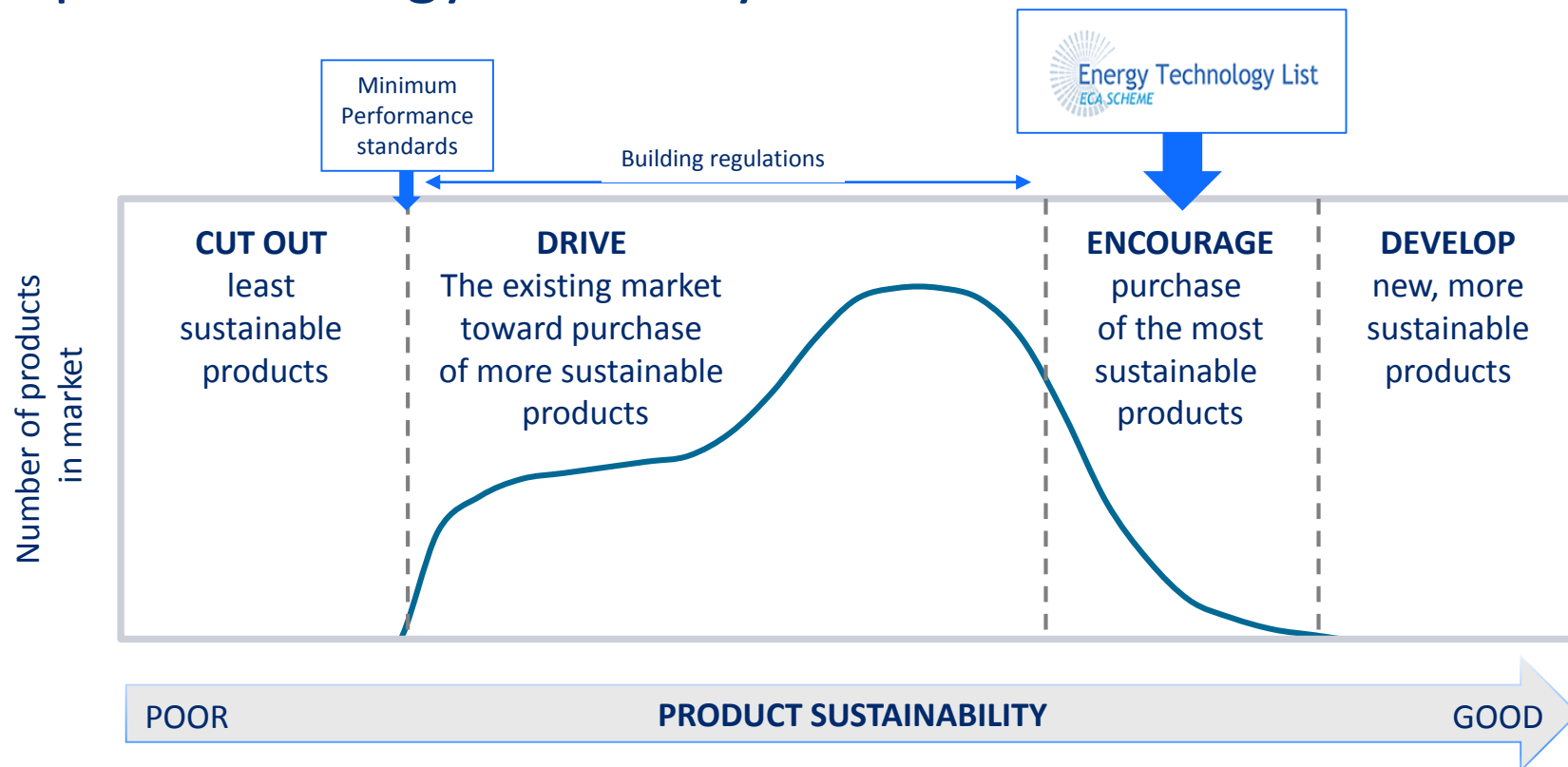


HM TREASURY



- › Created to support the Enhanced Capital Allowance Scheme for Energy Saving Technologies
- › Covers nearly 60 technologies and includes over 16,500 products
- › Administered by the Carbon Trust
- › Used by many organisations as a procurement tool for identifying energy efficiency technologies and specifying minimum performance standards

# The ETL is limited to products demonstrating top quartile energy efficiency

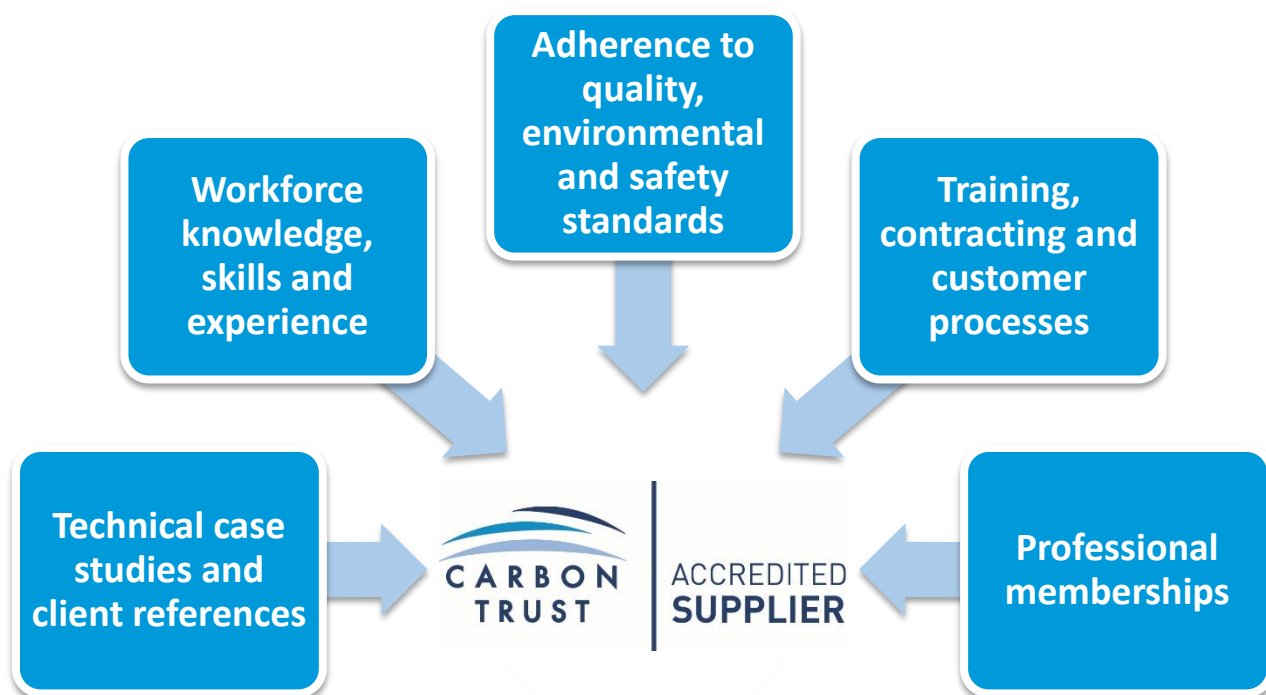


- A large pool of scientists, engineers and technologists assess ~5,000 products across ~20 technology categories each year
- Assessments are independent, critical analyses of the latest technical developments, advances in academic theory, industry innovation and practical application

# Nearly 60 buildings-related technologies are covered in the ETL

**Automatic Monitoring & Targeting Systems.** Portable Energy Monitoring Equipment. **Biomass Boilers** and Roomheaters. Burners with Controls. Condensing Economisers. Flue Gas Economisers. Gas-fired **Condensing Water Heaters.** Heat Recovery from Condensate and Boiler Blowdown. Heating Management Controllers (for Wet Heating Systems). **Hot Water Boilers.** Localised Rapid Steam Generators. Retrofit Burner Control Systems. Steam Boilers. Combined Heat and Power. Flow Controllers. Master Controllers. Refrigerated Air Dryers with Energy Saving Controls. Air Source: Air to Water Heat Pumps. **High Speed Hand Air Dryers.** Air Source: Gas Engine Driven Split and Multi-Split (including Variable Refrigerant Flow) Heat Pumps. Air Source: Packaged **Heat Pumps.** Air Source: Split and Multi-Split (including Variable Refrigerant Flow) Heat Pumps. CO2 Heat Pumps for Domestic Hot Water Heating. **Ground** Source: Brine to Water Heat Pumps. Heat Pump Dehumidifiers. Heat Pump Driven **Air Curtains.** Water Source: Split and Multi-Split (including Variable Refrigerant Flow) Heat Pumps. **Heating, Ventilation and Air Conditioning (HVAC) Equipment.** Building Environment Zone Controls. Close Control Air Conditioning Equipment. High Efficiency Lighting Units. **Lighting Controls.** White Light Emitting Diode **(LED) Lighting** Units. Integrated Motor Drive Units. Permanent Magnet Synchronous **Motors.** Single Speed AC Induction Motors. **Variable Speed Drives.** Pipework Insulation. Biomass Fired Warm Air Heaters. Radiant Heating Equipment. Warm Air Heating Equipment. Absorption & Other Heat Driven Cooling & Heating Equipment. Air Blast Coolers. Air-Cooled Condensing Units. Automated Permanent Refrigerant Leak Detection Systems. **Commercial Service Cabinets.** Cellar Cooling Equipment. Curtains, Blinds, Doors and Covers for Refrigerated Display Cabinets. Evaporative Condensers. **Packaged Chillers.** Refrigerated Display Cabinets. Refrigeration Compressors. Refrigeration System Controls. Solar Thermal Systems. **Uninterruptible Power Supplies.**

# The Carbon Trust's accredited supplier scheme recognises best in class energy efficiency suppliers



## Technologies covered:

- Automatic metering
- Compressed air
- Controls
- HVAC
- Insulation
- Lighting
- Motors and drives
- Process heating and cooling
- Refrigeration
- Renewable technologies
- Voltage management
- Waste saving technology
- Water saving technology

*"Being accredited by the Carbon Trust really underlines our credibility. When clients see the Accredited Supplier logo, it immediately puts them at ease."*

**- John Robb, Director, Cooper Lighting and Safety**

# The Green Business Directory makes it easy to search for suppliers

Find your ideal energy efficiency or renewable technology supplier with the Carbon Trust *Green Business Directory*

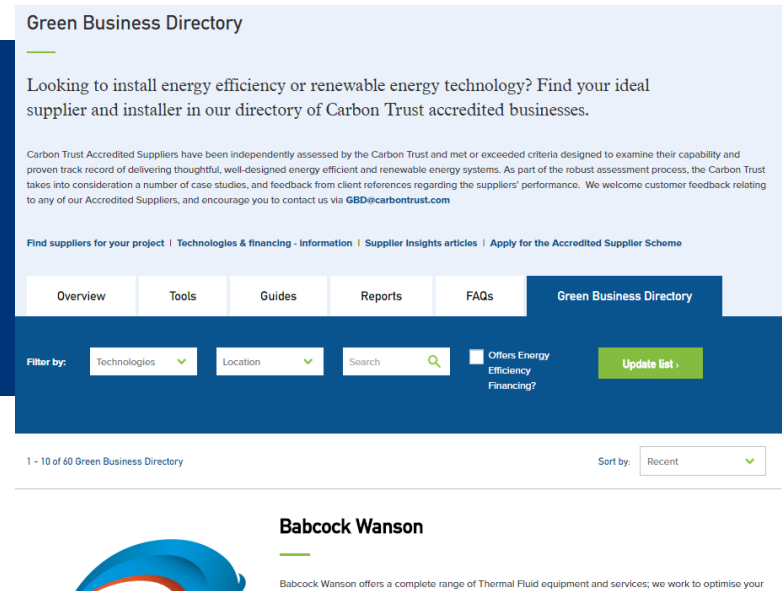
If you're looking to install an energy efficient or renewable technology there can be a number of barriers, including:

Knowing which supplier claims to trust

Differentiating between suppliers in the market

A lack of customer understanding


No time to assess all of the options



The Carbon Trust [Green Business Directory](#) is the market leading supplier directory, providing users with:

- A free-to-use resource
- A trusted quality standard
- Independent assessment and validation of a supplier's skills and services
- An easily filterable and searchable database

[www.carbontrust.com](http://www.carbontrust.com)



Whilst reasonable steps have been taken to ensure that the information contained within this publication is correct, the authors, the Carbon Trust, its agents, contractors and sub-contractors give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions. All trademarks, service marks and logos in this publication, and copyright in it, are the property of the Carbon Trust (or its licensors). Nothing in this publication shall be construed as granting any licence or right to use or reproduce any of the trademarks, services marks, logos, copyright or any proprietary information in any way without the Carbon Trust's prior written permission. The Carbon Trust enforces infringements of its intellectual property rights to the full extent permitted by law.

The Carbon Trust is a company limited by guarantee and registered in England and Wales under company number 4190230 with its registered office at 4th Floor Dorset House, Stamford Street, London SE1 9NT.

Published in the UK: 2016.

© The Carbon Trust 2016. All rights reserved.