

# Workshop 4d:

Buy better, use less and generate: how to finance energy efficiency and energy generation

Speaker: Jon Miles, Parker Bromley Energy

Chaired by: Andrew Burke, National Housing Federation

Room: Charlecote Room



National Housing Maintenance Forum

serviced by





Buy better, Use less, Generate



Buy Better



Use Less



Generate

# Buy better, Use less, Generate



## Buy Better

Over the past 10 years real UK industrial energy prices have risen by 130%<sup>1</sup>. In addition, DECC predicts that wholesale electricity prices will rise by 33%<sup>2</sup> in real terms over the next 5 years.

As a result of these increases a significant competitive gap is opening up between UK business and their international competition<sup>3</sup>. Let us help you to ensure you are buying your utilities at the correct priced tariff for your consumption pattern.

<sup>1</sup>Fuel price indices for the industrial sector in real terms, DECC Dec 13, <sup>2</sup>DECC "Updated energy and emissions projections: 2013" Sept 13, <sup>3</sup>FT January 29, 2014



## Use Less

Companies are increasingly concerned about the impact of carbon and the sustainable nature of their operations. Not only can reducing carbon cut costs but it can also significantly reduce consumption, promote brand differentiation and promote employee satisfaction.



## Generate

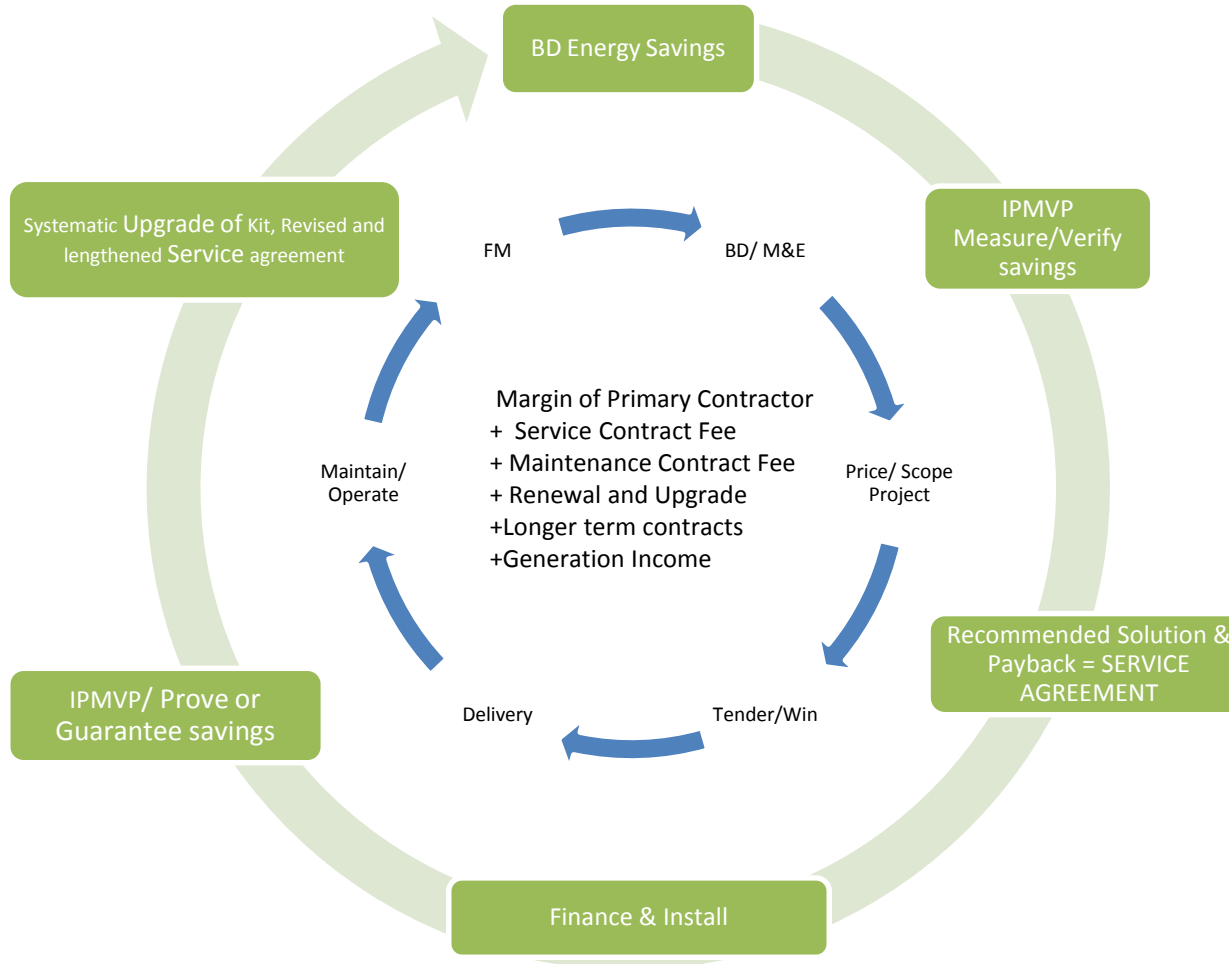
To date the UK has maintained a capacity margin of around 20%. However, the forced closure of many coal fired power plants and imminent retirement of 2nd generation nuclear plants, means this capacity margin is expected to fall to as low as 0% by 2014/15<sup>4</sup>. As a result 88%<sup>5</sup> of companies are worried about the security of supply and the prospect of the lights going out.

<sup>4</sup>Ofgem 27th June 2013, <sup>5</sup>"Power cut Britain are the lights about to go out for UK business " MEUC October 2013

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# Parker Bromley Energy Proposal



## Parker Bromley Energy – “Buy Better”



- Review of procurement strategy
- Analyse billing to identify anomalies and mistakes
- Utilise the estates buying power to ensure the most effective unit price for energy, waste and water

With our partners we undertake an appraisal of your resource purchasing to ensure not only that you are buying your utilities at the correct tariff, but also at the correct price on that tariff. We can optimize the cost for single site premises, or arrange for an aggregated price to be achieved for Multi-site organizations, thus ensuring that you are operating at the correct and most efficient cost base.

## Parker Bromley Energy – “Use Less”



- Benchmark consumption against market and peers
- Identify measures to reduce consumption
- Optimise &/or replace plant and machinery to reduce consumption

We undertake a full energy monitoring service and establish a baseline of your current consumption (if you have already installed smart meters, we can utilize this data thus reducing the requirement for additional metering) and use this data to determine how you can operate more efficiently.

## Parker Bromley Energy – “Use Less”



This is where Parker Bromley Energy come into their own, we identify how the building can operate more efficiently and recommend a suite of products, process and equipment that will significantly reduce the energy consumption of the building or estate. Once the solution is jointly identified and agreed with the client, a fully funded self- financing package is installed (if required) where the energy savings we create will finance the installation, thus reducing or eliminating capital expenditure.

Parker Bromley Energy can then offer a range of service contracts, ranging from a simple maintenance (O&M) contract to a fully-fledged Outsourced Managed Energy Service contract that **GUARANTEES** the energy savings are maintained for the life of the contract across the entire estate.



## Parker Bromley Energy – “Generate”



- Maximise the onsite generation capacity and benefit from incentives
- Create revenue streams and ensure security of supply
- Employ technology best suited to the sector to create the most appropriate mix of energy

Parker Bromley Energy’s unique insight into energy generation technologies, ranging from simple solar installations to ground breaking Waste to Energy solutions, can ensure that surety of supply (outside of the big 6 energy suppliers if required) is maintained. The energy created can then be utilized within the existing estate or delivered to community and residential schemes.

## Funding

- Clients decision not ours, but we can educate and influence. On balance sheet or Off balance sheet?
- Client Pays through existing budget - On balance sheet
- Client borrows money – On balance sheet and we have access to funding
- Client wants a Service Agreement – Potentially OFF balance sheet but their decision
- Service Agreement = Energy savings pays for install
- Kit suppliers can provide finance or incentives that can be utilized within the service agreement
- Energy generation can be pre sold via Power Purchase Agreements, to fund construction phase
- Utilise “Energy Efficiency Fund” or create your own.

## Case Study

The I Way project consisted of a completely new LTHW (low temperature hot water) heating system to 4 separate high rise blocks overlooking the Solent. Works were completed in 416 dwellings where the old inefficient electrical storage heaters were removed and replaced with a modern radiator system.



**The new individual heating systems were fed from a centralised boiler room installed on the drying deck level of each building. New gas supplies and meters were provided by the local gas suppliers and from that point we installed a new gas main up the exterior of the 15 story blocks.**

The gas supplies feed a modular boiler system which is controlled by a sequencer and heats the water which is driven around the communal system by a set of twin head pumps. The boiler room is fully monitored and safety protected by a solenoid valve, heat detectors, gas and carbon monoxide sensors.

Project Value: £1.5M  
Energy Payback: 4.8 years



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The communal water system is distributed vertically via a central riser and horizontally throughout the existing corridors. The pipe work feeds into a HIU (heat interface unit) within each individual dwelling; this unit contains a heat exchanger which separates the water in each flat from the communal system.

From the HIU we installed a new radiator system to supply heating and a new solar coil to supply stored hot water to the existing cylinders. The HIU is controlled by a thermostatic programmer which is set up by each individual resident. Both heating and hot water can be individually controlled.

Electrical installations were completed to all plant, both in the boiler rooms and each individual's dwellings. Bonding was also completed to the new communal pipe work and in each individual flat as required to bring the installation up to the IEE 17th edition standard.

Heat metering was provided to each individual dwelling for billing purposes and insulation was provided to all pipe work where it was not providing useful heat to create a self sufficient and efficient new heating system.

## Project Overview at a glance

- 4 Separate high rise blocks
- 416 Dwellings
- Solar PV
- Heating
- New gas main
- Storage heaters replaced with modern radiator systems
- Electrical works

Project Value: £1.5M  
Energy Payback: 4.8 years



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## PBE Contacts



### **Jon Miles**

*Director*

Jon has spent the last 10 years at RBS as Head of Sustainable Energy Finance, starting up the business of funding Energy Efficiency and Energy Performance Contracting and embedded Energy Generation for Corporate clients, SME's and Public Sector.

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## PBE Partners



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