

## JOINT LBEG AND LONDON HECA FORUM MEETING

Thursday 4<sup>th</sup> December 2014  
London's Living Room, City Hall

### MINUTES

#### Attendees

	London HECA Forum
	LBEG
	Both groups
	Speakers/Staff

Michele Rawlings	Alumasc Facades
Emma Adams	Avalon Sust. Energy Solutions
Anis Robinson	Brent
Keith Routledge	Brent
Bob Clegg	Bromley
David Barns	Camden
Frances Evans	Camden
Peter Snell	CIEH
Malcolm Bell	Croydon
Bob Fiddik	Croydon
Nia Prys-Williams	Croydon
Andrew Jackson	Ealing
Ieman Barmaki	Enfield
Jenny Shaw	Enfield
Nichola Hughes	GLA
Bex McIntosh	Global Action Plan
Steven Fleiss	Greenwich
Gillian Cox	Haringey
Natalie Sansom	Harrow
Gwyn Roberts	Home Quality Mark
Jean Roberts	Hyde Housing
John Kolm-Murray	Islington
Lucy Padfield	Islington
Daniella Gray	Keepmoat
Gonzalo Jimenez	Kensington & Chelsea
Justine Dornan	Kensington and Chelsea

Shadia Rahman	Kingston
Oliver Walton	Kingston
Ed Money	Kiwi Power
Kirsty Palmer-Jeffrey	Kiwi Power
Helen George	Lambeth
Martin O'Brien	Lewisham
Suzanne Wallis	Lewisham
Clare Ollerenshaw	LWARP
David Bell	Merton
Felix Onyeji	Newham
Sue Walker	Newham
Peter Sermol	North Star Solar
Molly Wang	Redbridge
Robert Marjoram	Scottish Power
Rachael Mills	SE2
Liz Warren	SE2
Dion D'Silva	Surrey County Council
Dan Crispin	Sust. Home Survey Company
Andrea Crump	Sutton
Tim Taylor	Sutton
Peter Thrift	Sutton
Giles Read	Thinking Works (Harrow)
David Esdaile	Tower Hamlets
Sian Pipe	Tower Hamlets
Beata King	Transport For London
Nimish Shah	Waltham Forest
Costas Panagiotakopoulos	Westminster

## Apologies

Kore Mason	GLA
Robert Spender	GLA
Anne McCann	Greenwich
Sadhbh Ni Hogain	Haringey
Saeed Atlas	Harrow
Rory Prendergast	Hounslow
Andy Morgan	Kent County Council (LASER)
Rob Ballington	Newham
Eleanor Dowling	Richmond
Paul Hasley	Surrey County Council
Joan Murphy	Waltham Forest
Zoe Dunn	Waltham Forest
Tim Starley-Grainger	Westminster

### 1. Welcome from Bob Fiddik (Chair of LBEG) and John Kolm-Murray (Vice-Chair of the London HECA Forum)

1.1. Bob Fiddik welcomed members of both groups to the meeting and gave a brief policy update covering the Conservative electoral win, Corbyn's Labour leadership victory and the successive blows to the green sector we've seen in recent months which has seen energy policy roll back into the late 80s/90s: a focus on supply and nuclear, a dash for gas and very little for energy efficiency. In her 'Energy Reset' speech (18<sup>th</sup> November), Amber Rudd announced the phase out of coal power by 2025, which will largely be replaced by gas. The Spending Review (25<sup>th</sup> November) saw the successor to ECO introduced (as expected but with a much smaller ambition than in the past), a relatively unscathed RHI (a surprise given that it comes out of general taxation) and cut to the DECC budget of 22% (which is not as bad as expected). The big shock was the deletion of the £1bn carbon capture and storage programme. More locally, the Mayor has done well to stick up for the zero carbon standard in the London Plan.

1.2. John Kolm-Murray joined the meeting half way through and broke the sad news that the London HECA Forum Chair - Rob Ballington - is losing his job, along with the rest of the Newham energy team. We need to be more forceful about telling people about what we do. It's not good enough just to present the evidence; you have to have a compelling narrative, which is something the national Carbon Action Network (the London HECA Forum's parent body) is working towards. John will be Acting Chair of the London HECA Forum until the next AGM in the Spring when a new Chair can be elected.

### 2. RE:NEW Update Nichola Hughes, GLA

*(Also see Powerpoint slides)*

2.1. Retrofitting buildings is extremely important and they need to be completely decarbonised by 2050 to hit DECC targets. Although RE:NEW was originally a carbon reduction programme, the GLA is also acutely aware of the 10% of homes (300,000 properties) in fuel poverty in London and the over 4,000 excess winter deaths last year. Tenant health is now a big driver for social landlords.

2.2. The third phase of RE:NEW is funded by the European Investment Bank through the ELENA programme and provides expert advice to Boroughs, social housing providers and universities, in a similar way to the RE:FIT model, to increase the scale and speed of retrofitting homes in London. A supplier network has also been procured.

- 2.3. The RE:NEW Support Team (provided by Capita) has been in place since August 2014 and will run until July 2017. They can offer free one-to-one support that includes opportunity analysis, strategy development, technical advice, funding and finance support, training and coaching, programme optimisation, planning support, marketing and engagement advice, procurement support and support during project delivery. There is no minimum project size: support plans are tailored to meet your needs. Boroughs are encouraged to make use of them while they can.
- 2.4. The supplier framework, managed and supported by the GLA, was launched in October 2015 and will be in place for 4 years. It's been purpose built for those delivering retrofit in London, covers a wide scope of projects and measures and can be used independently of the support team (and on a national basis). Pre-agreed terms have been put in place, to which local terms can be added if required. Four competitions have been run so far, the quickest of which only took two weeks (to take advantage of FITS).

### 3. Home Quality Mark: the new Code for Sustainable Homes?

Gwyn Roberts, Home Quality Mark, BRE

(Also see Powerpoint slides)

- 3.1. The Spending Review put a focus on low-cost home ownership, rather than affordable rent. In a recent speech, Greg Clark said that as well as building more homes, we need to build better homes: "Ultimately that means convincing people that development is a force for making places better not worse." We need to improve the public perception of housing, create greater acceptance and more skills.
- 3.2. The Government want more, better quality homes with less impact, but they won't help with regulation at national level. The Housing Standards Review (which only looks at housing, not other buildings) lead to the winding down of the Code for Sustainable Homes (apart from legacy developments, which means there's a long tail of assessments still ongoing). Other complexities have been introduced with the dual level Building Regulations and the Deregulation Act (which has not commenced but it's still unclear what local authority powers will be. It was due to be tied to zero carbon homes).
- 3.3. Consumer research has shown that people often choose where they live - lead by their heart - and then want facts and figures to back it up (e.g. running costs, amenities, investment return). People also like to think they're being sustainable. Consumers are looking for trust but they don't trust housebuilders: 90% would prefer a home with an independent mark, and 1 in 5 would pay more for it.
- 3.4. The Home Quality Mark (HQM) is BRE's response to the Housing Standards Review. It's independent and has been registered as a charity. At the moment, it's only for new build.

The infographic illustrates the benefits of a Home Quality Mark 4 Star Home. At the top, five stars are shown, with the fourth star highlighted in red and labeled 'Example'. To the right is the Home Quality Mark logo, which consists of the text 'HOME QUALITY MARK' and a circular icon with a checkmark.

Below the stars, a small text box reads: "An Excellent new home. Achieving this Mark means that the home is designed and built to have very low running costs, many positive impacts upon your health and wellbeing, all with an extremely low impact upon our environment."

The main content is organized into three columns, each with a star icon and a list of benefits:

- MY COST (4 stars):**
  - Very low energy bills
  - Low mortgage & insurance
  - Reduced maintenance
- MY WELLBEING (3 stars):**
  - Lots of natural light
  - Good air quality
  - Access to amenities
- MY FOOTPRINT (4 stars):**
  - Low CO<sub>2</sub>
  - Planet friendly materials
  - In tune with nature

- 3.5. The HQM provides each home with a score card, giving a star rating out of 5. It's closer to BREEAM than the Code and looks at the house holistically, beyond energy to also include aspects such as well-being, air quality, environmental footprint and how the house fits into its community. HQM also encourages knowledge sharing amongst designers, builders, sellers, owners and maintainers to help reduce the performance gap.
- 3.6. HQM are talking to the finance, mortgage and insurance sectors help them understand how the rating adds value.

### **Questions**

- Q1: Will there be a whole-house retrofit mark?
- A1: Yes, we'll look at this in the future. The branding would work well for retrofit. We're also looking at an 'in-use' scheme for post-occupancy assessments (BREEAM in-use schemes are popular in Europe, but less so in the UK)
- Q2: Are you in danger of crowding the market? Do consumers understand the difference between HQM, NHBC, RDSAP, etc?
- A2: Our research shows that consumers don't actually have enough information. HQM is much wider than NHBC, which is just an energy rating and defect warranties.
- Q3: How much does HQM cost and how long does it last?
- A3: The cost of certificate (which is the cost we can control) is broadly similar to the Code (£40/dwelling with discounts for affordable housing). Then there are also consultancy costs and the cost of building to higher standards.

## **4. Solar PV Battery Storage - and funding beyond FiTs** (Also see Powerpoint slides)

### **David Barns, London Borough of Camden**

- 4.1. LB Camden has successfully won funding through NEA's redress technical innovation fund. They are trialling battery storage with solar PV in 40 homes, in partnership with Islington, Waltham Forest and Haringey. Northstar Solar are providing a finance model, which they've had to adapt with the changes to FiTs. Lakehouse are overseeing the installations, all of which have to be complete by the end of March 2016.
- 4.2. Camden is particularly interested in the impact of battery storage on fuel poor households and hope to build an evidence base to guide future policy development. The batteries will mean residents can use the electricity produced by the PV in the evening and night-time, and also tailor their consumption (eg by running their washing machine at 2pm when the battery is full). The batteries are sized and selected specifically for each family situation: Tesla, Sonnen, Leclanche and Toshiba are hoping to be used.
- 4.3. By using optimised solar panels (which, for example, take account of shading), generation is expected to be increased by about 20%. Residents will also receive a free LED lighting upgrade, an in-home display (to help them make consumption decisions) and access to an online portal (to help them track energy usage)
- 4.4. NEA will monitor the project for 1 year, overseen by Ofgem, with the results published results in March 2017. An NEA press release on all the funded projects is imminent.

### **Peter Sermol, Northstar Solar**

- 4.5. Northstar Solar felt the market to finance solar was wrong and so have approached the debt capital market with a solution to unlock funds. Debt capital only requires a 2% return (rather than 6-8% required by equity markets) which means even north facing rooves can still generate enough power and a whole housing portfolio can be looked at more holistically.

- 4.6. Using the PAYS mechanism (originally set up for the Green Deal) means the debt is put on the electricity meter, which is seen by pension providers as a secured loan, giving us access to funding at less than 2%. This also negates the need for credit ratings (which can often be wrong anyway). The PAYS mechanism lasts for 23 years.
- 4.7. All equipment, installation, operations and maintenance costs are borne by Northstar. Every part of the value chain is insured if possible to reduce risk (installations, materials, latent defect insurance, roof, personal liability). Installed costs are about 81p/watt (optimised). Northstar are working with about 11 high quality manufacturers. The occupiers don't need a lease or licence, which makes things easier and means there's a lower barrier of entry.
- 4.8. Now the financing is unchained from FiTs, we can also look wider than PV and bring in battery storage at the same time, as well as LED lighting (which can cut the electricity bill by up to 20%)
- 4.9. The system charges the battery on a low rate tariff (eg Economy 7) overnight. The battery is then used through breakfast and recharged from the PV during the daytime so it's full again by the evening. Different batteries are being tested against different household profiles. Our preferred battery at moment is Leclanche. This can be recharged 15-20,000 times in a lifetime and takes 1-2 hours to charge. This compares to a Tesla which can be recharged 5-7,000 times and can take 5-6 hours to recharge, although this battery might actually fit better if householders are out all day.
- 4.10. Using the battery allows householders to time shift their PV electricity use. Users are expected to save 20% on electricity, or 40% or more for those on pre-payment meters. The electricity will cost about 9p/kWh (including all financing costs).

### Questions

- Q1: What is the battery payback?  
A1: Battery costs have come down considerably. However, the customer doesn't payback anything at all. No householder/landlord contribution is required. The PAYS mechanism is paid over 23 years.
- Q2: How does AC/DC switch happen? What are the losses?  
A2: Usually PV (which is DC) is converted to AC to be fed into the grid via an inverter, which presents an efficiency loss. But in our system, because both the PV and the batteries are also DC, the number of conversions and efficiency losses are reduced.
- Q3: How long is the battery life? What maintenance is required?  
A3: The batteries are about the size of a desktop computer but are quite heavy (100-120kg) and so are usually stored under the stairs. There are no moving parts and so maintenance is low (which is attractive to investors). The Leclanche battery is guaranteed for 20 years (and also insured by Northstar). After this time the electrodes in the battery die and the cells have to be replaced: this is included in our costings for the 23 year PAYS period. The finance also includes a complete inverter change in year 10. For the PV panels, Northstar notifies the installer if any maintenance is required: because they are optimised they can be monitored in real time and often we know there's a problem before the householder. To enable this, we provide a free concierge service broadband (ie basic service, not fast streaming) to social tenants.
- Q4: How much will the cost in electricity be to residents?  
A4: DECC's average price last year was 15.5p/kwh: PPM, if you include all credit and meter charges, averaged at 23p/kwh. Northstar expect householders to save at least 20%, but owner occupiers could save 30-35% and the fuel poor or those on PPM 60% off their electricity bill. PAYS also has to be repaid (householders pay their supplier, who repay Northstar). Consumers can still swap supplier.

Q5: What if there is a change of occupant?

A5: The debt sits on the meter so it doesn't matter who lives there. If the new resident isn't interested, then Northstar would have to remove the equipment, but this would form part of the sales negotiations. UK energy prices are expected to double in the next 20 years, so householders can only continue to benefit and the offer will become more and more attractive.

**5. Behaviour change in the health sector**  
**Bex McIntosh, Global Action Plan (GAP)**  
*(Also see Powerpoint slides)*

- 5.1. Poor air quality has cost the UK £54bn and been responsible for 9,400 deaths. It's a bigger public health issue than obesity and alcohol combined.
- 5.2. GAP have been involved in air quality for 3 years, working with Barts Health NHS Trust across multiple sites, engaging people to take action.
- 5.3. The Warm and Well project (part of the wider Barts Cleaner Air project) focussed on Tower Hamlets and had an ambition to reach 1000 vulnerable households. Fuel poor households were targeted to reduce their boiler emissions by reducing their use of heating and hot water.
- 5.4. GAP worked with trusted messengers within Tower Hamlets: local charities, nurses and occupational therapists. They developed meaningful messages around improving patient experience and long term outcomes. The focus was on being warm and well over winter (rather than fuel poverty or energy saving) and reduced hospital admissions (A&E is 20 times more carbon intensive than self-managed care at home).
- 5.5. Yellow packs were issued with simple no-cost actions, home thermometers, a fridge magnet, a pen and a pledge card. Clinicians could enter a prize draw for an iPad: residents could win more energy saving items (such as radiator keys or foil) by completing the pledge card.
- 5.6. About 800 were reached by 157 professionals. Using health professionals proved to be 15-23% more effective than just posting the packs through the doors (though it's difficult to be precise as clinicians broke up the packs and gave different things to different people - but this is the nature of pilots!)
- 5.7. Of those that responded, 36% pledge to take action resulting in 36 tonnes of CO<sub>2</sub> over the year (if they keep the actions up).
- 5.8. What would we do differently next time? (We're happy to share our mistakes!)
  - Start advertising in the autumn months: there was a long lag time working with the NHS and we weren't on the ground until December
  - Clearly display the NHS logo on literature - they are a trusted messenger
  - Simplify the packs - less is more! Would reduce complexity and aid distribution.
  - Deploy fewer packs at a time to allow more interaction with clinicians
  - Some packs were not deployed as quickly as hoped because the clinicians felt unsure: we underestimated the amount of training required.
  - Finding out the patient pathway is key. Nurses spend more time with patients than doctors.
  - Tailoring for local situations is very important
- 5.9. The project had a really good geographical spread. The postcard return rate was 8% (against a typical 3% return rate of a direct mail campaign). The clinicians really want to do it again. They don't come into contact with as many people as we thought, and we now ask this early on. Giving people information isn't enough: they need to know how to take action.

5.10. A new project is looking at Bart's fleet. The drivers are motivated by different things to the clinicians: they are young, local drivers with families and are motivated by community so we're using prominent pledge photos and thank you triggers (eg air fresheners and key rings). We'll be running 'No Idling' workshops in the first two weeks of February.

## 6. Demand response in local authorities

**Ed Money, Kiwi Power**

*(Also see Powerpoint slides)*

6.1. We can pay you to manage your energy demand at peak times.

6.2. National Grid will struggle this winter to meet peak demand. We're facing the lowest spare capacity for a decade and so National Grid are paying old stations to stay online at cost to consumers. This is at the same time as increased costs, less money and a green policy dilemma - but demand side response (DSR) can help.

6.3. Peak periods are traditionally on hot or cold days or when there are sporting events. National Grid trying to push DSR, to engage people with the revenue and saving opportunities it offers. Kiwi Power is a commercial partner of National Grid and so can offer you their programmes one of which - Frequency Response (FR) - pays up to £62,500/MW/year just for being on standby.

6.4. Peak happens 10-15 times a year. To participate, you have to commit to responding to a DSR signal within 30 seconds and to stay off for half hour. This is achieved by load shedding (eg extract fans, chillers) and turning on standby generators, both of which can be automated by the Power Information Pod (PIP) we install. The PIP are provided free of charge, enabling us and you to monitor data second by second. You are also provided with a client app to see the monitoring data and also your cumulative income earned.

6.5. There are many success stories across retail, hospitality and utilities as well as in the public sector. We're used to delivering DSR within business critical services (eg NHS). By way of example, Milton Keynes Council joined in 2014. By January 2016 they will be earning £7k/year (this also shortens the payback on the required BMS upgrades to 6 months). There's been no disruption and no complaints: in fact, only key personnel know about the load shedding - no-one else notices!

6.6. Kiwi Power acts as an aggregator. Joining the FR programme is a sound commercial choice: the equipment is installed free of charge, you get second by second data, the project is National Grid approved and DECC funded, and you benefit from end-to-end project management.

### Questions

Q1: How have you dealt with Milton Keynes' heavily air conditioned buildings? Doesn't that present a heavy load? Wouldn't powering down would significantly affect them?

A1: We want you to maximise income without impacting on business. Milton Keynes does have a considerable cooling load but there's been no complaints. The system only needs to shut down for 30 mins: it's switched back on again before most people realise.

Q2: What level of BMS upgrades are required (in order to integrate the PIPs)?

A2: A BMS software upgrade is required, which usually costs about £1500 of a software engineer's time (but this is paid back very quickly)

Q3: Can you participate in FR without the PIP?

A3: No - PIP monitors second by second: BMS can't respond quickly enough (you must power down within 30 seconds of the signal)

Q4: Do you have a main competitor?

A4: Yes! There are 2 other companies in the CCS framework. Any of the companies would do a good job - you just need to take advantage of the opportunity.

## 7. Waste management and the circular economy

Clare Ollerenshaw, London Waste and Recycling Board (LWARB)

(Also see Powerpoint slides)

- 7.1. LWARB has traditionally helped Boroughs with their recycling targets but now we're looking towards a circular economy: using products for longer and retaining their value (as opposed to the linear economy we have now where we make stuff then sell stuff and don't know where it goes).
- 7.2. By 2050 London will have a population of 11m, a rate of growth is faster than other UK cities. The London Infrastructure Plan 2050 includes waste infrastructure and looks at how can we have less waste to deal with in the long term (less need for recycling and/or more effective recycling). Recent research by Arup has shown this could save £5bn to 2050, in addition to other savings by diverting waste to landfill (£200m/year gate fees alone).
- 7.3. LWARB is writing a route map for what a circular economy means for London - this is the start of long journey. Ellen McArthur is a thought leader in this field and the GLA have joined her Foundation to gain experience from other EU cities (and the world).
- 7.4. The challenge with the circular economy is that it could include everything! We wanted to make sure we did more than just talk so had to focus efforts and have chosen electricals, construction and built environment, textiles, food and plastics. We're also looking at what London is really good at that can help us make a change (eg finance sector, digital companies, higher education)
- 7.5. GLA is looking at how they can use procurement policies to drive more circular outcomes. This requires us to think about the market and what businesses are doing. Accenture research has provided 5 circular economy business models:
  - Renewable inputs (into products)
  - Recovering value at the end of life (manufacturer retains ownership)
  - Prolonging product life (reused or remanufactured)
  - Sharing economy (underutilised assets - eg Air BnB, unused parking spaces)
  - Do people need to buy a product or just need the use of a product? For example, do you need to buy an electric drill just to drill 3 holes a year? Philips Pay-per-Lux scheme is looking at this: you buy light for your office, not light bulbs.
- 7.6. As well as the financial benefits of the circular economy (as above), 205,000 (54,000 net) new jobs could be created. These would be much needed 'mid-range' jobs.
- 7.7. The timetable for the routemap is as follows:
  - Evidence base to be published by December 2015
  - Opportunities consultation will be launched next week
  - Each focus area will have a working group to develop short, medium and long term goals. We'll then be running projects to demonstrate what's possible: LWARB is seeking projects and partners in both the public and private sectors.
- 7.8. The key challenges are integrating with other strategies (especially the London Plan), gaining the political support of new Mayor and attracting additional resources.

### Questions

- Q1: Of the £5bn - where does that go and how well does it match with money required to set up?
- A1: The £5bn is savings from not needing such intensive systems (eg warehouses rather than MERVs). It will need some catalyst funding but shouldn't need that much investment.

Q2: How can London be different?

A2: We're still at very early stage in our work. In housing for example, could social landlords provide white goods on managed lease programme to help get better quality products into homes? Would private householders be attracted to similar offers? How can we encourage a second life for the appliances afterwards?

## 8. AOB

8.1. Sue Walker from Newham explain that the Council has joined a growing group of organisations and decided they don't need any domestic energy efficiency or fuel poverty officers in the future. This is despite Newham having the highest fuel poverty rates in London by far. Rather than incentivising measures they will be enforcing through licencing. 4 staff have lost their jobs. It's hoped that the recent successful bid for NEA funding will be adopted by the Adult Social Care and Public Health Teams.

Martin O'Brien expressed everyone's feelings in saying that Sue and Rob will be missed. He's always enjoyed Sue's contributions: a continuing thorn in the side of policy makers, we need more people like her! Bob Fiddik joined Martin's condolences and added that domestic energy efficiency has become a complete and utter blind spot in Government policy. Cuts have been made but with nothing to replace it.