

SELECT COMMITTEE - ENERGY SECURITY

MINUTES of a meeting of the Select Committee - Energy Security held in the Darent Room, Sessions House, County Hall, Maidstone on Wednesday, 16 December 2015.

PRESENT: Mr J N Wedgbury (Chairman), Mr A D Crowther, Mr C P D Hoare, Mr P J Homewood, Mrs E D Rowbotham, Mr C P Smith and Mr M E Whybrow

IN ATTENDANCE: Mr G Romagnuolo (Policy Overview Research Officer), Mr D Price (Kent Graduate Programme – Management Trainee), Miss L Adam (Scrutiny Research Officer) and Ms C A Singh (Democratic Services Officer)

UNRESTRICTED ITEMS

16. Interview with Andy Morgan (Head of Energy Management, LASER Energy Group) (Item 1)

1. Andy Morgan had had been working in energy efficiency and procurement for 25 years since graduating as an Energy Engineer. Andy has been with LASER for 12 years. His role was initially focussed on energy efficiency within the KCC estate and Kent Schools. Andy was now 2nd in command of the LASER business and directly responsible for 3 of LASER's service areas:

Energy Bureau Services (Team of 9)

- Mandatory energy and carbon reporting
- Invoice validation
- Energy data management

Energy Surveying (Team of 3)

- Provide mandatory Display Energy Certificates for KCC, School and other LASER customer sites
- Provide Energy Surveys and reports on saving energy

LED Energy Efficient Lighting service (Team of 3 plus contractor)

- Provide a lighting upgrade service to LASER customers
- Typically reducing electricity used for lighting by 60% to 70%

2. Andy gave a presentation using overheads. Local Authority South East Region (LASER) was a Commercial Service created by KCC in 1989 to procure gas and electricity through the newly deregulated energy market. LASER has now grown such that it buys around £400 million worth of energy per year for Councils and other public bodies (including Universities and NHS Trusts) across the UK.

3. In addition to energy procurement KCC LASER provides related services around contract management, energy invoice validation, mandatory Govt. energy and carbon reporting, and energy saving services.

4. KCC now has only 4% of turnover. LASER buy £450 million of energy per annum. This had produced £28 million of savings per annum to customers. This is generated income by Commercial Services to KCC. This is carried out by procuring energy using sophisticated “flex techniques by consistently watch the energy markets.

5. LASER had access to wholesale markets through two energy suppliers which was totally transparent. This minimised supplier fees and maximised market opportunities.

6. LASER also provided a number of additional services including:

Energy invoice management – This involved the invoices from suppliers being check and a bill then being sent out on LASER headed paper.

7. Data and reporting – This service offered data on how much the customer was spending on energy and how much they were using.

8. LASER offered site surveying and certification; and

9. Installing low energy (LED) lighting – This was supplied to schools and other councils across the country.

10. Andy considered that energy security was a broad issue but broke this down into two key issues:

Long Term – Looking at primary fuels and generation including Gas, Coal, Nuclear, Wind and Solar; and

Short term – Managing the winter peaks by having a fast response electricity generation and fast response demand reduction.

11. He referred to a graph that showed electricity generation and the mix of energy sources. This showed an equal split between the use of nuclear, coal and gas.

12. Andy advised on the current government policy direction. He explained that the government was pro nuclear and pro interconnectors [this was the export of energy between European countries and interconnectors with Scandinavian hydro generation. Andy advised that there was slower growth in renewable.

13. Andy referred to a recent government statement that expected coal to drop to zero by 2030. The Green lobbyist outlook says that there was nothing to drive this opinion and there was nothing else to fill the gap that coal would leave.

14. Andy considered that if coal did drop to zero something else had to fill that gap. Nuclear would take a while to come up to the necessary level which would mean that gas would need to fill the gap that coal left. He considered that depending on gas was not less frightening considering the recent threat from Russia of withdrawing the gas supply to various countries.

15. Andy explained the slide headed "Growth in gas dependency" – import dependency on Gazprom. The UK imported 20% of its gas from Russia, far less than other European countries. The highest importers in Europe were Serbia, Bulgaria, Czech Republic Finland and Belarus.

16. Japan imported nearly all of its liquefied natural gas. This would be shipped. Following an earthquake in Japan in November 2011 and a Tsunami, nuclear electricity generation stopped and LNG imports rose by 25%. Countries including Australia, Qatar, Malaysia, Indonesia and Russia supplied liquefied gas to Japan. There was a slight increase in the global gas price when Japan paid the price.

Short Term – this winter

17. Andy advised that the forecast demand for 2015/16 was 5% which was significantly more than last year and significantly less than years before. He considered that it was difficult to realise how important this was and difficult to get a view. He did not envisage the National Grid seeing this as an issue.

That capacity = ready to use.

Mechanism to demand less

18. Andy referred to showed one weekday of 24 hours indicating the use of nuclear, wind, coal and gas. The peak was the use of gas and coal and was above interconnectors. The peak demand was between 16:00 and 19:00 in the winter days. Electricity was the most expensive.

Supply v Demand

19. The Government agency (Ofgem) "booked" capacity through the "Capacity Market Auction". This was an annual auction 4 years in advance of demand.

20. Demand growth financial incentives to reduce peak demand.

Andy considered that there was now a growing demand at peak times it was going to become more expensive to use electricity between 16:00 and 19:00 in the winter days. There had been schemes where customers were paid to drop demand at peak times.

21. Andy advised that Guildford Council Civic Office had set up that a third party could click a button to switch off xxx of the capacity. There was also the capacity to switch the lights off in 100 buildings.

22. The National Grid best value for money was reducing the use at peak times.

In terms of how KCC responds

23. New generation – LASER or KCC would not be involved in large scale generation. Opportunity in new generation was limited so there was a need to focus efforts. Incentives for small scale were reducing.

24. Demand Reduction – the incentives were increasing. KCC was changing its lighting to LED lighting which was 60% reduction in lighting electricity use. There was a capital investment cost typically repaid in 5 years.

25. Andy advised that local authorities were able to receive interest free borrowing on energy efficient savings but had chosen LED lighting for now.

Short Term, Winter Peaks

New tariffs to benefit load shifting – Saving from

26. Andy explained that work had been carried out with energy suppliers for the winter peaks. Most paid day and night rates which did not show on the bills received.

Exploring new financial incentives

27. Payments for allowing 3rd parties to control customer kit eg ventilation plant or back-up generators run through diesel.

28. The use of batteries was being explored - There was now the technology for batteries to stay charged and the energy discharged to the grid.

Question and Answer session

Q – Liquid gas is being shipped from Oman, I have concerns that the liquid gas being shipped is vulnerable and I have concerns about the security in storage.

A - Andy considered that he had not heard of any shipping of liquid gas being lost at sea and was sure that insurers took this issue seriously.

Q- There was concern that we may not be able to keep the lights on

Andy advised that the National Grid was publicly owned in 1989-1984. It was now a private business that was regulated by the government. They were required to keep the lights on. Andy advised that their profit was regulated too.

Q – Biomass – Were there any incentives for school and corporate business to reduce their energy usage if they receive energy cheaper.

A – Andy advised that LASER procured their fuel but it was still a large part of their costs.

Q - Do you have any influence in reducing their consumption?

A – Andy explained that school ran their own budgets. He was sure that they had heard about biomass but it was about selling the message to the schools. It was a good thing for them to save money. The school pay if they leave their lights on.

Q - Do you supply to the domestic market?

A – Andy advise that LASER did not supply to the domestic market. It kept an eye on that market but concluded not to enter into that area.

Q – Southend Council had set up a company. Could KCC use LASER as our company to supply to the elderly in the community?

A – Andy considered that the County Council was a trusted brand but the question would be how much benefit there would be. You would be funding an advice service. To generate income there were ways to do that but not necessarily providing a better service.

Southend Council had partnered with OVO Energy – This is a white supplier and there would be a small income to the council. This may encourage users to change supplier. They could use the Switching Scheme. That scheme could deliver income to Council. A supplier expects to pay £50 per customer if it is a group you can save the £50 per customer.

This is not necessarily the best price in the market. Nottingham County Council had created their supplier “Robin Hood”. The press release said “... no profit. Director worked for free...” They did not expect to get the best price on the market.

Q With the LASER Business Model do we charge a fee?

A. LASER provides the bill LASER adds on a small margin and send the bill this is all transparent.

Q What do you do for Kent businesses?

A. Luminar is the sister to LASER who deal with the SME market. LASER ring around businesses advising how it can reduce their energy bills and they get a small cost for that service. This had been very successful in reducing their bills, although savings in Kent had not grown as fast as LASER would have liked. [Andy agreed to submit further information to the Select Committee if required].

Q What in your view can KCC do to procure energy?

A. Reacting to incentives government is putting in place. Andy considered that the government was central to this. Demand reduction is what the local authority should be doing.

Q. With small companies coming to market national grid regulated local network operators regulated suppliers

A. Those businesses do not deal with infrastructure eg OVO they pay national grid billing customers. They are not worried about infrastructure they are the billing agents.

Ofgen pay some to sit there not to be used.

Q. What is LASER doing to promote energy?

A. LASER does not talk about energy but talks about avoiding. It also reacts to incentives central government provides.

17. Interview with Carolyn McKenzie (Head of Sustainable Business and Community), Dr Adam Morris (KES Intelligence and Commissioning Manager), Steve Baggs (Energy Manager), Neil Hilken (Economic & Spatial Development

Officer) (Kent County Council) and Andy Morgan (Head of Energy Management, LASER Energy Group)
(Item 2)

Carolyn McKenzie (Head of Sustainable Business and Community), Dr Adam Morris (KES Intelligence and Commissioning Manager), Steve Baggs (Energy Manager), Neil Hilkenne (Economic & Spatial Development Officer) (Kent County Council) and Andy Morgan (Head of Energy Management, LASER Energy Group) were in attendance for this item.

(1) The Chairman welcomed the guests to the meeting and invited them to introduce themselves. Neil explained that he was the Economic & Spatial Development Officer. Adam explained that he was responsible for supporting the Kent Environment Strategy; his background was in geology and had written the Fusion Unconventional Gas briefing for Members. Steve explained that he was responsible for reducing energy costs, improving energy efficiency and setting up renewable energy projects on the KCC estate; prior to his employment with KCC he worked for LASER.

(2) The Chairman noted that Carolyn as Head of Sustainable Business & Communities had attended a number of the Select Committee's hearings. He then invited Carolyn to provide an overview of the work being carried out by KCC. Carolyn stated that within the revised Kent Environment Strategy a number of priorities had been set out including reducing energy demand and moving towards a sustainable future. An action plan is being developed to identify partnership activities that will be delivering on those priorities. She highlighted the [Renewable Energy for Kent report](#), produced by AECOM that informed the 2013 Renewable Energy Action Plan (REAP) for Kent; the report looked at onshore renewable energy and identified a number of potential viable sources in Kent including onshore wind and district heating. She noted that the Growth and Infrastructure Framework stated what was needed in Kent in terms of growth, whilst the Kent Environment Strategy will inform how this can be provided sustainably.

(3) Carolyn highlighted work currently being carried out by KCC including the Department of Energy & Climate Change's Heat Networks Delivery Unit (HNDU) funded feasibility study into the possibility of creating a District Heating Network in Maidstone, the creation of the Sheppey Community Energy Project and continuation of ISO 14001 accreditation for KCC. She noted that since 2010 KCC had achieved a 15.9% carbon reduction and had invested £3 million on its estate which had resulted in £13.1million of energy savings. She reported that KCC had been awarded a £22 million interest free government loan as part funding for a £40 million project to convert all of its street lights to Light Emitting Diode (LED) technology. She stated that KCC led on the Low Carbon Plus project in Kent which provided grants to businesses operating within the Low Carbon Environmental Goods and Services (LCEGS) section, further funding has been applied for LOCASE which will also provide grants to LCEGS business and to help them improve their estates. She also noted that KCC was involved in the Warm Home Scheme, a partnership project with district authorities to support residents in Kent and Medway to save energy in their homes

(4) Carolyn reported a number of challenges to KCC including the installation of renewable energy in schools. She explained that where KCC owned the school building it was responsible for the cost of installing a renewable energy source; under

the legislation the school would receive payment for any electricity exported to grid which meant that there was no return on the capital investment for KCC. She stated that the varied nature of KCC's existing building stock meant that some buildings to reduce costs were more feasible to retrofit than others, but noted the importance of KCC incorporating low carbon and energy efficiency schemes into the early design of its new buildings. She noted that whilst community energy generation created benefits for the wider community including job creation; it was resource intensive and KCC had to ensure, when supporting local schemes, that it was the most effective use of its money.

(5) Carolyn explained that it would be useful for the Select Committee to: champion the issue of energy security; campaign for a stronger mandate to incorporate sustainable energy issues into policy and procurement; recommend a review of financing energy efficiency and renewables in schools and academies, and to support local renewable energy generation.

(6) Steve noted that demand reduction was a key theme across the KCC estate – 'the best kilowatt (Kw) saved is a Kw not used' - with LED lighting being implemented in 50 – 60 schools and in Sessions House. He stated that the Green Guardians were critical to implementing behaviour change amongst staff such as turning off lights and computers when not in use. Carolyn reported that there had been a marked improvement in coordinating policy across KCC with regards to its own estate.

Q – How can renewable energy be incorporated into schools?

(7) Steve explained that with existing school buildings a number of measures could be introduced retrospectively to improve energy efficiency such as LED lighting. In terms of new school builds, it was important that to ensure good insulation and ventilation were incorporated into the design to create healthy schools. He highlighted a number of initiatives including a project to develop Passivhaus schools and the installation of a smaller boiler in a school in Cornwall which had reduced its energy bills to £20 - £30 a month. Andy noted that a large school could spend £150,000 a year on energy costs. Steve also reported that Wolverhampton Council had challenged their Capital Projects team to design a Passivhaus school at no extra cost than a normal new build.

(8) Steve stressed the importance of incorporating renewable energy into new builds to engage pupils and encourage behaviour change. Carolyn stated that it was important to focus on outcomes and how those can be delivered when commissioning a building design.

Q - What is the environmental equivalent of the term 'social capital'?

(9) Steve stated that the term 'environmental benefit' was normally used. Adam reported that there were concerns about using the word capital in terms of environmental strategy as this had the risk of focusing only on the economic benefits of a good environment.

Q – What is the best and most viable community project?

(10) Steve explained that the projects he had been involved with had a variety of renewable sources such as solar photovoltaic and biomass. The most successful projects had energy saving and income generation as part of a wider social cohesion element. He highlighted Friendship House, Minster, Isle of Sheppey, a community venue used by a variety of social

organisations, which had installed renewable energy technologies to reduce the building's impact on the environment.

Q – Have there been any relevant changes to government policy recently?

(11) Neil noted that recent government policy had removed green standards and regional strategic planning. He stated that, whilst this had reduced and harmed planning frameworks, this did provide more opportunities to plan at a local level.

Q – Is nuclear the only long term option?

(12) Neil explained that a shift from fossil fuel to sustainable fuel was required. He stated that he was sceptical that there would be new nuclear reactors on line in the UK by 2026. He noted that the new reactor being built in Finland was already behind schedule and running over budget. He noted that electricity currently accounts for 25% of domestic energy use (the other 75% being primarily gas for heating and cooking). Removal of gas from the UK's fuel mix would require far more electricity to be generated so as to bridge the gap. With regards to anaerobic digestion, he reported there was only so much green waste which could be sourced in Kent and imports from the UK or abroad may be required if anaerobic digestion was expanded. He noted that offshore wind farms were a sustainable option given the wind was always blowing somewhere around the UK coast. He stated that the Crown Estate had recently made available an [online tool](#) showing real time generation data and the efficiency of offshore wind sites.

(13) Andy stated the importance of diversity in energy supply; when nuclear generation was turned on, generation runs flat and does not cover peaks in demand, another source was required to cover the peaks. He noted that chemical or nitrogen storage may be possible in the next 30 – 50 years. He stated that tidal energy could be another viable option; tides were predictable but were in a difficult environment to generate electricity. Steve reported that Sheppey Community Energy Trust was looking to employ a graduate to look at potential marine renewable energy on the Isle of Sheppey.

(14) Steve noted that the development of a battery to store small and large scale electricity generation was key for future energy production. He reported that technology was rapidly changing and this may be possible within 5 – 10 years; he stated that LED technology in the past was not considered viable.

(15) Neil stated that if electric cars were able to be charged at night time it would help to flatten the peak energy burden and make for a more efficient and balanced system.

Q – How can KCC maximise renewable energy generation in schools through the planning process?

(16) Carolyn and Andy highlighted the importance of incorporating energy efficiency into the design stage to reduce costs of low carbon infrastructure and to incorporate low cost/no cost resources.

Q – Why has Lumina, the energy comparison and switch service owned by KCC, not reached its potential?

(17) Andy stated that it was difficult to get through to businesses as it was a telesales based approach. He stated it would be useful if Lumina could be linked with the Low Carbon Plus grant.

Q – How can KCC benefit from investment in the installation of renewable energy generation in Academies and Free Schools?

(18) Andy explained that KCC could approach Academies and Free Schools with a business offering, as they do with LED lighting, to generate an income; only Free Schools were eligible for an interest free government loan. Steve stated that periodically Salix provides energy loan funding to academies to implement energy efficiency measures like boiler replacement and lighting.

Q – Why should we limit energy demand?

(19) Carolyn stated it was important to reduce energy demand so as to reduce pressure and create a more efficient system. Steve noted that KCC's own estate not including schools spent £3.5 million on energy if we included schools the total energy bill would be £25 million. So by reducing demand we could increase our energy security but also reduce our own energy bills. Adam explained that there was a STEM scheme working with businesses and SMEs to reduce demand.

Q – Why is renewable energy so heavily subsidised?

(20) Carolyn explained that all types of energy were subsidised to an extent. Andy reported that a recent study had found that the public overestimated the subsidies for renewable energy by a factor of 40, and that they also underestimated subsidies given for traditional fuels such as nuclear energy; renewable energy subsidies were not as large as people expected.

Q – Why do more schools not utilise wind power to generate their power?

(21) Steve reported that schools tend to focus on other types of renewable energy; there were 40 – 50 schools in Kent with solar panels. He stated that there were difficulties in financing and gaining permission for renewable energy. He noted that the FIT subsidies for solar panels had reduced which meant that it was difficult for the schools and KCC to get a return on investment. He explained that the Simon Langton Grammar School for Boys was one of six schools in a pilot which were installing solar panels through a loan from the SALIX fund – a loan from SALIX was only normally allowed for funding efficiency measures.

Q – How will reductions in FIT rates affect Kent?

(22) Steve stated the FIT rates would be reduced by the end of the financial year. He noted that the cost of renewable technology had reduced; for example when the photovoltaic cells were installed on Invicta House in 2011 it had cost £72,000, the cost now would be £45,000. He explained that in two or three years photovoltaic cells would be commercially viable without subsidies. He noted that the sector should be able to stand on its own feet within two to three years.

Q – How best would it be to lobby government to promote energy security in the long term?

(23) Andy stated that there was a lack of consistency in government energy policy as a result of different governments.

Q – Would the Committee be more effective in lobbying the government as a cross party group?

(24) Carolyn stated it would be useful if the Committee wrote to the Minister to ask for the funding for the Energy Company Obligation (ECO) domestic retrofitting scheme be transferred from the utilities companies to local authorities.

Q – Should older properties such as Sessions House be demolished and rebuilt?

(25) Steve explained that each building needed to be looked at in isolation.

Q- How can transport be made more efficient?

(26) Neil explained that KCC had a Sustainable Transport Plan which promoted car sharing, reducing mileage and teleconferencing and working from home. He noted that the number of vehicles in the UK had not changed so it was important to improve public transport networks and increase the efficiency of vehicles. He reported that the number of hybrid and electric cars was increasing; RAC and AA now carried recharge packs in their vehicles. He also stated that the proportion of biofuels being added to petrol and diesel was increasing. Carolyn stated the importance of minimising the need for travel such as improvements to broadband to encourage homeworking.

(27) Carolyn stated that she would provide the Committee with additional information regarding renewable energy and subsidies; she noted that Germany had intended to generate 80% of its electricity from renewables by 2050, suggesting that renewables were increasingly feasible for providing energy.

(28) Steve stated that there were always unknown developments and advancements that may end up changing the field unexpectedly.