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**Full report of the
KEB Low Carbon and Energy Production
Business Growth Event**

Held on Monday 23rd May 2011

3pm – 6pm

at

East Malling Conference Centre

Kent Economic Board hosted this event in partnership with KCC



www.kent.gov.uk/business.aspx

KEB Low Carbon Energy Production Business Growth Event – 23rd May 2011

Draft Event Report

The Kent Economic Board (KEB) hosted this event at East Malling Conference Centre, in partnership with Kent County Council.

More than 80 delegates attended 70% of whom were from Low Carbon related businesses.

The Speakers were Paul Carter, Leader of Kent County Council, Alan Banks from EnviroBusiness, Peter Mills, from New Earth Solutions and Elias Dencker from DONG Energy – with concluding remarks from Kevin Lynes, KCC Cabinet Member for Regeneration and Enterprise.

Below is a summary of the key points made in the presentations, (full presentations can be viewed on the KEB website at www.keb.org.uk) the plenary, table discussions and feedback forms. We received written submissions on the discussion questions from 14 individuals (commenting individually and on behalf of their discussion table group) detailed feedback questionnaires from 33 individuals – and general comments from a further 8 individuals. This has provided a rich contribution to setting the priorities for business growth for this sector.

The conclusions will inform the KEB and KCC Business Growth Programme and the LEP priorities.

Speakers Headline Points



Paul Carter, Leader Kent County Council

Paul began by emphasising the importance he placed on this programme of business led consultations. “Nationally there is a drive to replace fossil fuel energy with low carbon energy, and Kent is keen to be at the forefront as this policy develops, growing the Kent economy.”. He commented on the local growth white paper, launched in autumn 2010, that reinforced the drive for low carbon energy and set the policy environment which should be conducive to growing the local economy.

Paul stated that in Kent we already have major investments in offshore wind at Ramsgate and Whitstable, and London Array will soon start their development in the Thames Estuary. He also

informed delegates on potential growth as a result from options that Vestas had taken to build a new turbine plant in Sheerness with assistance from Peel Ports and explained the potential in Kent for a growth in demand for biomass and wood fuelled boilers. “We have large coppice woodland reserves that when working to maximum potential could produce enough energy to heat around 10,000 homes, as well as an opportunities for jobs.”

Paul summarised what he hoped would be the purpose of the day, suggesting how Kent County Council and more broadly the public sector could take the lead in promoting an environment that is conducive to enable existing businesses to expand, and the emergence and success of new businesses.



Alan Banks, EnviroBusiness

Alan began by pointing out that low carbon energy production was a very complex, complicated and diverse sector, employing 117,000 people in the South East alone producing £13.5 bn in sales and growing at the rate of 4-5% PA. He explained that there are 23 sub sectors which incorporate 2400 different technology platforms, and therefore it is critically important to specialise. Kent has a disproportionately small proportion of this business in the South East compared to it's size: with only 15,210 employed in Kent and Medway but still accounting for £1.75 bn in sales. He explained that the key to growth would be deciding which areas within this wide and complex sector to choose, support and nurture. He continued with an analysis of recent government policies and by looking at leading investment indicators to identify that the broader opportunities are in the following areas: low carbon buildings, low carbon transport, offshore wind, water treatment and production, waste recovery and re-use, marine renewables (wave and tidal), carbon capture and storage, and finally smart grid efficiencies. Some of these opportunities do have significant relevance to Kent, as we have already developed strengths in offshore wind and waste recovery.

Alan went on to describe the critical and growing national gap between energy needs and energy production. “We need to generate another 25-40GW by 2020/30 to keep the lights on.” He explained the challenge of achieving this against a legally binding commitment to cut carbon emissions by 80% by 2050. This Government has clearly stated that it's policy will concentrate on three main strands: low carbon energy production, electrification of many things – transport, heating etc, and continued improvements in energy efficiency.

Alan explained that we need to get behind this approach, using the natural advantages and strengths that Kent already has. We already have the largest offshore wind farm at Thanet, with the next even larger starting construction at London Array, but he warned, “we need to find a better way of capturing investment and jobs into Kent from these projects”. Kent also has the opportunity to become the market leader in solar PV and solar thermal – given its solar resources

- and their supply chain, and Biomass technology, where Kent should concentrate on exploiting the opportunities that might come out of the Green Deal. Because of Kent's proximity to London, he argued that there are significant opportunities in energy from waste and waste recovery and recycling markets, and that Kent already has a number of companies and facilities in this area. Opportunities will also arise from Carbon Capture and Storage (CCS) and Carbon Capture and Conversion (CCC), as we in Kent are geographically adjacent to the second largest cluster of carbon emitters in the UK - along the Thames estuary. "There will need to be a £2 bn investment to create a pipeline to transport captured carbon to either the North Sea or to businesses as raw material."

For the opportunities afforded by this to be successful as we move out of economic difficulties, more support will need to be directed towards SMEs as more than 90% of Kent's clean technology and renewable energy companies fall into this category. Alan concluded by describing the critical help SMEs required, including support for prototyping and commercial demonstration, achieved through large company relationships and access to development finance.

Alan also suggested that Kent, of the Kent/Essex LEP, could catalyse the creation of a public/private development fund targeted at SME's.



Peter Mills, New Earth Solutions

Peter's focus was on how his company was recovering value from waste, either in the form of energy, recyclables or an organic compost product. whilst reducing the impact on the environment of that waste that could not be recovered. Current strategies to deal with waste are unsustainable; land fill is not really a long term option any more. New Earth Solution receives untreated waste, recovers increasingly larger fractions of high value waste for recycling (plastic & metals), and then converts the remainder to usable products such as compost or a replacement fuel.. "Our facility in Kent currently treats 50,000 tons pa, of waste on behalf of local authorities and we have the necessary permissions to significantly expand our capacity. Further opportunity exists to incorporate renewable energy generation technology".

He explained that the specific composting process they used returned the biogenic carbon to the soil, providing vital nutrients and trace elements and in turn helped the natural disease suppression and moisture retention properties of the soil whilst mitigating against soil erosion. All of the recycled compost output from the facility is currently utilised by local agricultural and horticultural customers.

In future a new potential use for their products would be in manufactured top soils for landscaping, rather than stripping top soils from other sites. By utilising the 'woodier' elements

from the process to produce energy, “we estimate we can produce enough energy at our Blaise farm site to enable the facility to be self sufficient.”

Peter finished by explaining that the company is developing small modular renewable energy units, utilizing advanced thermal conversion technology to convert selected waste streams to energy, that provide an opportunity to de-couple waste treatment facilities from energy production. This enables the energy plants to be located closer to demand (ie commercial or residential developments) thus improving the viability of combined heat & power opportunities and the acceptance of end users.



Elias Dencker, DONG Energy

Elias reflected that in a free market economy Kent businesses will need to work hard to attract supply chain business from the large offshore wind farm projects. “It will be up to us to grab the opportunities as they arise.”

He explained that the growth projected for the wind energy sector over the next few years will be significant. The London Array project which is being developed between a partnerships of DONG Energy, EON and Masdar, will become the largest offshore wind farm in the UK, significantly overtaking Thanet Offshore, the current largest wind farm. London Array is investing Euro 2.2 bn, to build 175 turbines that will generate up to 630 MW of power, with an option to continue and develop to 1 GW of supply. “The pedigree of skills being developed as we continue to build wind farms in Kent is of great significance for the future scope of the industry nationally as the growth forecast develops. Kent can take a national lead.”

Elias explained that a single turbine in the London Array is exposed to a load of 138 tonnes per second –when the wind blows at 10 m/s. This energy is great for green energy generation. The key issue being that the constant supply of wind 'fuel' cannot be guaranteed, therefore a mixture of low carbon energy generation technologies will always be required. Wind generated electricity therefore cannot be consumer matched to align with consumption due to reasonably random wind patterns. Energy storage will always be a problem and this is where the development of smart grid metering will help, as consumers will know when there is a surplus of energy. The habits of energy users will need to adapt to smart metering as we continue to demand more renewable energy.

Over the last 30 years the size and scale of new turbines has increased 100 fold from 50 KW to 5000 KW. VESTAS may be developing a new even larger turbine of 7000 KW in Kent, and therefore the impact for Kent businesses who get involved on the supply chain will be significant. Already there is a company in Gravesend exporting turbine spare parts to California.

In conclusion Elias reiterated his comment that Kent businesses will need to work hard to compete with the already established European markets supplying goods and maintenance. There is plenty of work to bid for, and potential low cost due to proximity should give local Kent businesses an advantage to exploit. To this end Kent has established a website at www.kentwindenergy.co.uk for prospective businesses to register with. Larger contractors can find local operators for their supply chain operations using this site.

Q and A session with speakers

Q. Has any thought been put into resolving the energy storage issues with wind production, to cover the times when the wind doesn't blow?

A. Geographical topography has a significant role here. Where it is feasible to utilize pumped storage hydro electric systems, as in Norway, this is ideal. High quality research in the UK is also looking at geo thermal techniques; producing Hydrogen, for subsequent use; compressing air, and freezing nitrogen. Across Europe there is a proposition to build a high capacity 'spine' to enable energy production to be more easily shared, as now happens between Scandinavia and Germany.

Q. What advice can the panel give manufacturers in Kent, who would like to move into the Wind energy market?

A. It is important to investigate and have a good understanding of the way the industry operates, e.g. to install a small turbine on your site to understand thoroughly its operation and reliability. The biggest issue with off shore turbines is reliability; access off shore is only possible if the weather is fine, and turbines can cost the company £1,000s in lost production when they fail. If the product you have enables reduction in downtime, the wind industry will want to know about it - so start your sales process.

There have also been a series of networking events organised by the industry and the evidence from these is that local businesses will have to work hard to meet the qualification requirements as a new suppliers. Companies that 'buddy up' with existing supply chain companies – many of whom are from continental Europe - might be better placed to win contracts, if they can offer a more complete service.

Q. How can local Kent people have a real opportunity to get jobs, skills and training? Are the colleges responding to these needs?

A. KCC has looked very closely at the skills offered in schools and FE as a lever to attract inward investment in the sector. Projects have already started to raise awareness of this new industry to young people in schools. KCC has also developed one of its existing skills centres, at Swale, and has converted it with new equipment to specifically teach new sustainable energy technologies, and courses. It will be offering apprenticeships in wind turbine technologies from September 2011.

Table Discussions

1. What do you think are the key issues to address to unlock potential - what are your top ten?

- The top issues mentioned by almost everyone were; skills, planning, communications, procurement, and simplified business support.
- There were some suggestions on educating SMEs about the business benefits of going 'Low Carbon' and how this can benefit the 'bottom line'.
- It was suggested that publicly owned estate should be exemplars in reducing carbon emissions, and for example, producing their own energy.

2. How could we achieve a mixed market in low carbon energy supply to support industry in the County?

- There was a view that the public sector should stimulate the market by procuring only low carbon solutions in their ongoing maintenance budgets, establishing a series of pilot projects to test new technologies, which can then be commercialised.
- The Kent Development Fund, once formulated could be used to commercialise good research projects, championing their business potential.
- The retrofit market is still small, and will necessarily need to expand if as a nation we hope to meet some of the carbon emission targets. Success will depend upon funding a skilled workforce and result may result in a stimulation of the economy.

3. Where do you think the key opportunities for growth lie in this sector – how can business support be targeted to encourage growth?

- Procurement process must be speeded up and simplified to enable 'tariffs' to be exploited.
- SME's would benefit from actively collaborating with larger companies to smooth and channel innovative products to the market.
- Companies should take up the offer of utilising the skills of undergraduates and college students through internment schemes.
- Wood from sustainable sources should be used as Bio Fuel. Kent has a huge untapped resource in underdeveloped coppice, but are the skilled managers available or trained?
- Potential use public sector investment to stimulate the market for electric vehicles and solar generation.

4. What are the three key actions you can identify to maximise job creation for this sector in Kent?

- Take the longer term view on procurement; maintenance and running cost should be considered when awarding contracts.
- Appoint an ambassador for Low carbon in Kent and launch an initiative to build the energy infrastructure of the future.
- Communicate about what is available to business and the public in new low carbon technology thereby creating demand.
- Build up a key resource of skilled labour to attract new businesses.

Summing Up



Kevin Lynes, KCC Cabinet Member for Regeneration and Enterprise

Kevin Lynes commented that the aim of these meetings is to establish how the public sector can help business to grow in Kent, by working together and then addressing the issues that will unlock growth.

Paul Carter began by saying we needed to have an honest conversation with business, to promote the economic success of the county. Alan Banks pointed out that the sector had 1700 sub sectors and that if we as a county hoped to capitalise we would need to pick the right winners. He also spoke of the supply chain potential, and that this might be a rich seam for local business. Peter Mills spoke of how 50,000 tons of organic waste was treated and converted in usable bio mass, saving the use of chemical soil treatment. Elias Dencker excited us with the potential from wind energy, with the £2.2 bn investment in London Array. As consumers of energy all our behaviours will need to change, as we move to a low carbon economy.

We need to get the message over to our younger generation that the renewable energy sector is a brand new industry, high tech, exciting and moving forward. We have a number of leading edge companies working in this sector and based in Kent. We have the second largest number of installations in the South East under the Feed in Tariff scheme in Kent at 577. KCC owns and runs 8 bio mass boilers on its estate, with 2 more at the planning stages. This is leading to reduction in running costs and reduced carbon emissions. KCC converted all its traffic signals to LEDs, saving 57,000 tons of CO² annually.

This is a shifting agenda however, and we will need to constantly be 'upping our game' to stay on target. He ended by thanking everyone for attending and sharing ideas freely in order to help KCC formulate policy.

Conclusions / Action Points

Investment.

There was general agreement that Local Authorities should consider championing access to finance, both for research and development and to encourage the take up of new technologies. The development of the Kent Developers Fund might be key to moving this forward. Electric vehicles require charging points and the public sector should be investing in this. Bio fuels using coppiced wood have great potential in Kent, however, investment will be needed to exploit this potential.

Communications.

There was a whole raft of suggestions here, which ranged from organising networking meetings, developing a new 'Guild', and promoting economic benefits to both consumers and developers. There were a number of delegates who were keen to continue to engage on this, and they might form the core of a networking group, moving this agenda forward.

With the development of the 'Green Deal' local business, with LAs help, should be looking to capitalise on this for business growth.

Skills and Training.

There was concern that in order to take full advantage of the 'Green Tariffs' or Feed in Tariffs, the workforce would require re skilling and up skilling. The low carbon agenda and retrofit programme could soon become delayed through a lack of trained staff at all levels. This might be a particular worry in the area of higher skills which take so much longer to develop. Policy should recognise this and ensure that the local providers are aware of these needs.

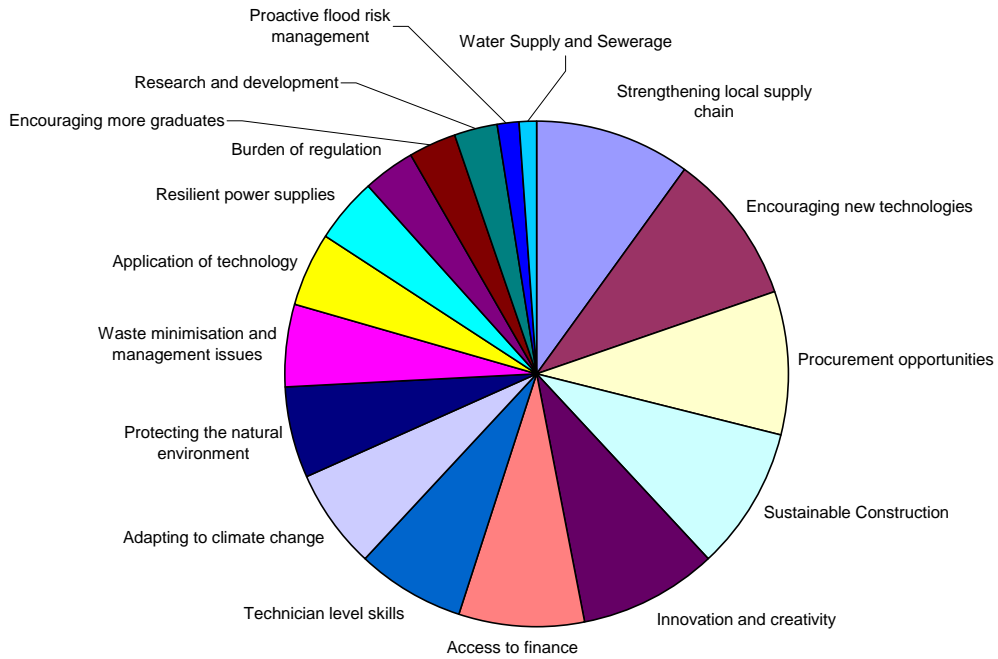
Public Sector Assets.

Delegates were concerned over the lack of commercial attitude in the public sector when considering new projects. E.g. the reduced running costs and low maintenance of some of the low carbon solutions to heating and lighting were not taken into account when awarding capital projects.

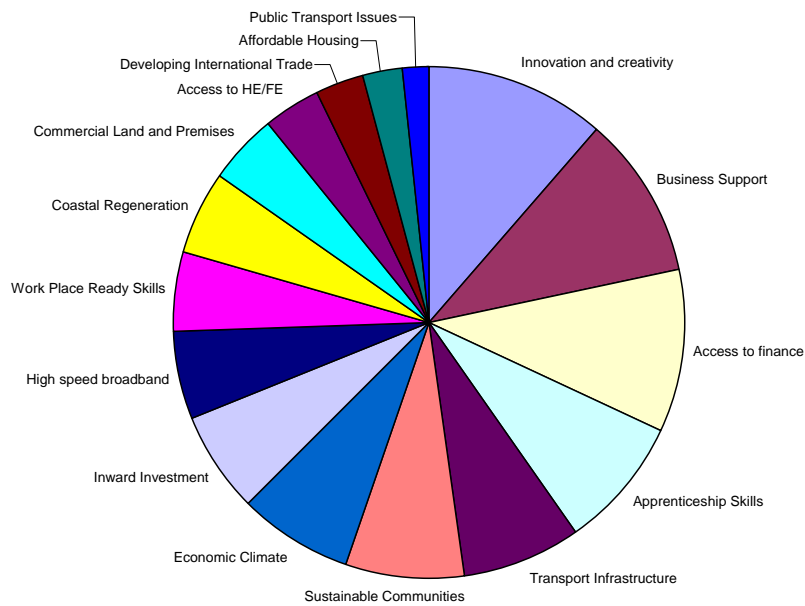
The retrofit market offers huge economic possibilities which Kent should be market leading on skills, development and supply chains.

Summary of key points from the feedback forms

Delegates were asked to choose their six most important priorities from a short list. Below is a pie chart indicating these choices:



Delegates were asked to consider some priorities that Kent Economic Board might consider for future events. Below is a pie chart indicating these choices:



Other Suggestions

- Waste Infrastructure
- Innovation and technology R & D.