AGENDA

SELECT COMMITTEE - RENEWABLE ENERGY

Tuesday, 1 June 2010 at 1.30 pm Ask for: **Christine Singh/Sue Frampton**

Wantsum Room, Sessions House, County Hall, Maidstone Telephone: **(01622) 694334 or 694993**

Tea/coffee will be available before the meeting

Membership

Conservative (7): Mr K A Ferrin, MBE (Chairman), Mr C Hibberd, Mr D A Hirst, Mr R E King, Mr C P Smith, Mrs P A V Stockell and Mrs E M Tweed

Liberal Democrat (1): Mr T Prater

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

Item No		Timings*
1	Robin Haycock, Arup (Pages 1 - 4)	1.30 pm
2	John Newington Senior Pollution Officer and Jennifer Hunt, EMS Project Manager Maidstone Borough Council (Pages 5 - 6)	2.30 pm
3	Laurienne Tibbles, Sustainability Manager, Ashford Future and Simon Cole, Senior Planning Officer, Ashford Borough Council (Pages 7 - 8)	3.15 pm
4	Additional Documents are included as background reading for the meeting (Pages 9 - 42)	

At the end of the public session Members of the Committee should remain in the meeting room for 15 minutes for summing up

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Peter Sass
Head of Democratic Services and Local Leadership
(01622) 694002

Friday, 21 May 2010

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ARUP

Robin Haycock

Profession

Auto Industry and Sustainable Transport Specialist

Current Position

Associate

Joined Arup

2006

Qualifications

MSc Design Systems for Engineering (Warwick University, part-time)

BSc (Hons) Mechanical Engineering (Bath University)

Four Year Mechanical Engineering Design Office Apprenticeship (Rutherford Appleton Laboratory at AEA Harwell)

Key Data

Robin Haycock is an Associate based in Arup's London office.

Robin has spent the last two years working on secondment to the UK government. He was in the Office for Low Emission Vehicles (OLEV) since its formation. This focused his activities towards realising government's vision of "placing the UK at the global forefront of ultra-low carbon vehicle development, demonstration, manufacture and use". Before OLEV, Robin was with Dept BIS working with the auto industry on future opportunities.

Robin started his career as an apprentice with AEA Harwell. He then graduated from Bath University and began work as an automotive engineer at Jaguar Cars. Robin then worked at specialist consultancies including Cosworth and AVL (Austria) where he finished his auto career as design and analysis manager for AVL in the UK. During his automotive career he also completed a part-time MSc at Warwick University.

Robin then moved from the automotive sector into energy consulting and transport planning roles within Arup. During this time he has worked with a diverse range of clients to establish economic routes for sustainable transport in both retrofit environments and new eco-cities.

Relevant Experience

Office for Low Emission Vehicles (OLEV)

Robin helped to develop the policy documents and justification for the formation of this cross-Whitehall office. He then worked as the industrial lead within the team, while remaining involved in future strategy development as the group moved forward on the electrification of transport. With the complexity of issues involved in displacing liquid fossil fuel from transport, a great deal of time was spent building new relationships across sectors, developing common plans for electrification and building consensus as to how these plans can offer medium term business opportunities for UK industry.

Department for Business Innovation and Skills (BIS)

Working within the Automotive Unit of BIS, Robin spent significant time with industry as the government representative on the New Automotive Innovation Growth Team (NAIGT). This included looking at the key drivers of change for the automotive industry over the next 25 years, and developing plans to decarbonise to meet the UK government's long term commitment to an 80% reduction in CO_2. The roadmaps of technologies and vehicle propulsion solutions that have emerged from this NAIGT work have been developed into business plans and also worked into TSB support to new product development in the vehicle sector.

Vehicle Design Group, Arup (2006–2008)

With a significant knowledge of how the auto industry works and what is possible in vehicle technology, Robin worked with clients on vehicle energy consumption trends and technologies. He has undertaken various tasks within Arup, but the majority focus around finding routes to the lowest energy consumption or tailpipe emissions of vehicles, for transport master plans or fleets of vehicles.

The balance between costs, technology, demographics, and energy reduction, as well as per person CO_2/km, are a frequent and difficult set of conflicting criteria, which need to be analysed to enable an uptake of any transport solution, and Robin's work involves using future roadmaps for vehicle technology and a strong knowledge of what is possible to deliver solutions to clients within any given project time horizon.

Prior to joining Arup:

- AVL UK Ltd, Design and Analysis Manager (1999–2005)
- Perkins Engines, Concept Design Leader (1995–1999)
- Cosworth Engineering, Team Leader (1992–1995)
- Land Rover Ltd, Senior Engineer (1988–1992)
- Jaguar Cars, Graduate Apprentice (1986–1988)
- Rutherford and Appleton Laboratories, Design Office Apprentice (1979-1983)

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Robin Haycock – ARUP

(Biographical info awaited)

1. The EU New Cars CO_2 Regulation sets a target of 130g/km CO_2 by 2015 and 95g/km by 2020 – please could you outline the main ways in which the motor industry is responding to this. What are the types of low or ultra-low carbon vehicles that are 'in the mix'- please could you outline their relative merits and the associated challenges?

2. Can you tell us about the infrastructure that is currently planned for electric vehicles through 'Plugged in Places' (and the timescales) – and about the 'Plug in Car Grant'/any other incentives for consumers.

    - Do you believe the incentives will be enough, on their own, to shift motorists towards buying electric vehicles.
    - What, in your view, could KCC and other local authorities do, in the face of challenging financial constraints, to contribute to the development of electric vehicle infrastructure?

3. The average distance an electric car can travel on a charge is 100km and the average UK journey is said to be 14km – how can those shorter journeys be targeted – is there any focus on, for example, taxi companies?

4. Could you comment on the challenges facing planners on national, regional and local scale (including the role of developers) in planning infrastructure for sustainable transport, in the light of rapidly developing technologies. Are we in danger of 'putting all our eggs in one basket?'

5. Oxford University's report: Future of Mobility Roadmap concluded that aims to decarbonise transport would not be met (in the shorter term) by hydrogen fuelled vehicles due to the high cost of platinum (which is needed as a catalyst) or electric cars, because of limited battery life. Given these limiting factors:

    - what, in your view, are the key issues that the government should be focusing on to bring about carbon reductions from road transport in the short as well as longer term?
    - what are the key issues (including behavioural changes) that KCC should be focusing on to achieve these aims in Kent?

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Maidstone Borough Council

John Newington, Senior Pollution Officer

John is the Senior Pollution officer for Maidstone Borough Council which involves co-ordinating the Council's statutory responsibility under Local Air quality Management, Environmental Permitting and Contaminated Land. He previously worked as an Environment Officer with the Environment Agency and spent several very enjoyable years carrying out international collaborative research with the NERC/Imperial College research facility in Ascot called the Ecotron. The topics investigated and published on ranged from the effects of elevated CO_2 levels on ecosystem function to the effects of climate change on soil biodioversity.

Jennifer Hunt, Environmental Management Systems (EMS) Project Manager

(biography to follow)

Suggested Themes and Questions

1. Please could you outline the renewable energy/sustainability schemes that you are involved with in the Borough and the policies or plans they relate to.

2. Maidstone is identified as a Transport Hub in the South East Plan, what scope is there for renewable and low carbon technologies to be employed and what are the challenges to this?

3. Could you please outline some of the possibilities for electric vehicle charging and the issues you are aware of with regard to Maidstone.

4. What opportunities are there to reduce carbon emissions from public transport in the borough – what are the issues to be addressed and what, if any, are the constraints to progress?

5. Please could you outline how pollution control legislation impacts on the use of biomass for heating at different sites and at different scales?

6. MBC were early adopters in Kent of renewable biomass heating technology – having experience problems initially - can you now offer any positive experience or guidance in relation to this?

7. In your view, what are the key actions that should be taken by the County and District/Borough councils in order to achieve the carbon reduction targets for the organisations, and for the County.

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Dr Laurienne Tibbles – Sustainability Manager, Ashford's Future Themes and Questions

Simon Cole – Senior Planning Officer, Ashford Borough Council

(biographies awaited)

1. Could you please provide for us some background to local planning policy in Ashford, including the policy development process as it relates to sustainable homes.

2. Could you tell us about LDF policy CS10 and the delivery of zero carbon growth in Ashford:

    - The performance standards required to deliver more efficient use of resources
    - The incorporation of sustainable energy
    - Carbon offsetting

3. Could you please tell us about the Code for Sustainable Homes and BREEAM standards

4. What can you tell us from your work to assess the feasibility of sustainable energy for different types and sizes of development

5. What are the technology options that have been investigated and what additional costs are incurred by incorporating these technologies into an urban extension – what are the issues for developers?

6. What considerations are given to sustainable transport methods when planning new developments?

7. Could you please tell us about the North Ashford pilot scheme and your work with KCC to deliver an energy and water retrofit project –

    - what is the current status of the scheme and
    - what are the desired outcomes?
    - What is the type and number of households involved and what methods have been or will be used to engage participants and involve the wider community?

8. What delivery options have been considered with regard to the incorporation of renewable energy technologies in new developments?

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Renewable Energy Select Committee

Supplementary Evidence - Peter Rosevear, Kent Highway Services, Maidstone and Tonbridge & Malling Transportation Team

Sustainable Transport Strategy - The Role of Kent County Council in Supporting Maidstone Borough Council's Local Development Framework

Introduction

1.Maidstone Borough Council, as the local planning authority, is required to prepare a Local Development Framework to set a blueprint for growth within the Borough for the period up to 2026.

2.The LDF must fulfil the targets and policies adopted in the South East Plan, which was adopted in May 2009. Kent County Council, as local highway and transport authority, is required to work with planning authorities to facilitate the delivery of the housing and employment targets in their LDFs.

3.Kent Highway Services is working with Maidstone Borough Council to formulate a transport strategy that will achieve the objectives of both the LDF and the County's Local Transport Plan. Maidstone is identified as a transport Hub in the South East Plan, so the measures that will eventually form the Hub Transport Package will address issues that range beyond the boundaries of the Borough. The measures will fit within a study of the M20/M2 Corridor between London and Dover/Channel Tunnel that is currently being carried out under the government's "Delivering a Sustainable Transport System" initiative.

4.The overall transport issues and challenges for the County of Kent are described in its Integrated Transport Strategy "Growth Without Gridlock", which has recently been the subject of consultation with all the Districts and Boroughs.

5.The challenge for the LDF transport strategy for Maidstone is to evolve a package of measures that supports the required growth, and lies within the national, regional, and local policies and guidelines, and also within the practical constraints of the expected low level of future funding from both the public and private sectors.

6.The LDF Core Strategy and the supporting transport proposals are currently being formulated, and are due to go out to public consultation in the late summer of 2010.

Maidstone Context

7.Maidstone Borough has Growth Point status, and is expected to deliver 11,080 new homes in the period from 2006-2026, and stimulate 10,000 new jobs. This development will be mainly centred in and around the town itself.

8.The principle challenge will be to facilitate the required growth over the next 15 years, which will take place on a road network that already suffers severe localised congestion at peak times, leading to lengthy queuing and poor air quality.

9.Government policy is looking for a hierarchy approach that starts with reducing the overall need to travel, improved management of the existing network, the management of future demand, and the promotion of all forms of sustainable transport (walking, cycling, buses, and trains) . The construction of schemes that increase highway capacity are seen as a last resort.

10.KCC and MBC are therefore working together to prepare a package of measures that we believe would support the expected growth and follow the above principles. We recognise that this will be a considerable challenge, and we are keen to explore any innovative measures that might be beneficial.

11. These innovations will come from a variety of sources, including the evolution of technology, partnership working between the KCC/MBC and beyond with the Highways Agency, neighbouring planning authorities, and public transport operators.

April 2010

HM Government

Department for Transport
Department for Business, Enterprise and Regulatory Reform
Department for Innovation, Universities and Skills

Ultra-Low Carbon Vehicles in the UK

Ultra–Low Carbon Vehicles in the UK

The challenge

Our transport system connects people to places and businesses to markets. As such it is fundamental to our economic strength and quality of life. However, the only sustainable future for transport lies in a transformative shift to low carbon. Our ambition must be twofold, to reduce the environmental impact of transport and for UK business to benefit from this transformation.

The internal combustion engine has dominated road transport over the past century. The automotive sector now faces huge changes: an oil crisis last year, a financial crisis this year and a climate change crisis for many years ahead. It is clear that there is an environmental and an economic imperative to do things differently.

> “The automotive industry is a pivotal part of the UK manufacturing sector, adding value of £9.5bn to the UK economy and directly employing around 180,000 people.”

The automotive industry is a pivotal part of the UK manufacturing sector, adding value of £9.5bn to the UK economy and directly employing around 180,000 people[1].

This includes around 74,000 people in vehicle and engine manufacturing, and 106,000 people in the automotive supply chain.

In addition, it is estimated that a further 200,000 people are employed in the supply chain in metal forming, plastics manufacture and other manufacturing industries. We need to ensure that this strength is translated into global leadership in the development and manufacture of ultra-low carbon automotive technology such as hydrogen powered, plug-in hybrid and fully electric vehicles.

This is a big challenge for government. It must send the right signals and provide the right frameworks for business. And it must supply the necessary support to industry and workers to ensure that the market in the UK

1 ONS ABI 2007 data, Published November 2008

19%

of the UK's domestic CO_2 emissions come from road vehicles

shifts rapidly and decisively to low carbon. The UK is committed to such a transition and will continue to press for a clear long-term regulatory framework at the European level, building on the recently agreed New Car CO_2 regulation, to maintain the momentum for a transformation of the industry (see Box 1).

Box 1: EU Regulation on New Car CO_2

Regulation can play a critical role in the transition to low carbon vehicles by establishing a clear, long term framework for action by industry.

The Government has supported the EU's New Cars CO_2 Regulation, helping to negotiate a solution which will stimulate innovation across all segments of car production, large and small, and which respects the diversity and competitiveness of the industry and markets across Europe.

A stretching target of 130g/km CO_2 by 2015 and 95g/km by 2020 has been set which provides a clear and accelerating trajectory for the deployment of low carbon vehicles and adaptation of new ultra-low carbon technologies. This enables industry to make strategic planning decisions and investments for the future.

The winners will be those companies which respond most effectively with a rapid evolution of new and attractive low and ultra-low carbon products.

Maximising the benefits of the transition to ultra-low carbon vehicles is a prime example of what a more active public policy for equipping UK businesses and workers for a changing global economy means in practice. It involves the public sector acting together to create and further economic opportunities for the private sector, while meeting the needs of society as a whole.

An industry renewed

The transition to a low carbon world will transform our whole economy. Lord Stern's landmark Review in 2006 set out the economic case for action on climate change and for investment in a low carbon economy.

Recognising this imperative, through the Climate Change Act the UK has become the first country in the world to adopt a legally binding target to reduce carbon emissions – by at least 26% by 2020 and 80% by 2050. The UK is taking a global lead by setting Carbon Budgets which will sit along side the financial Budget. Transport will be part of this, with emissions from road vehicles accounting for 19% of the UK's domestic CO_2.

This level of change brings with it opportunity.

In recent years, both the Committee on Climate Change and the King Review of Low Carbon Cars have suggested that a significant decarbonisation of road transport is possible. A wide range of solutions are required (for example through introduction of sustainable biofuels and changes in patterns of mobility), and improvements to existing vehicle technology have a critical role to play.

To achieve this, the way we build and power cars needs to change. In the short term we need improvements to existing technologies – continued advances in the efficiency of internal combustion engines, for example through improved fuel injection systems, light weighting or drag reduction. To achieve the longer-term cuts in carbon emissions, we need the new, cleaner technology that is only now emerging or almost within reach.

We are also acting to decarbonise our electricitiy generation to maximise the potential for CO_2 reduction from electric and plug-in hybrid vehicles. While electrically powered vehicles will increase demand for power, through smart management of our networks we can minimise the need for new power stations and maximise the benefits these vehicles can bring in the creation of a greener grid. Our early demonstrations of electric vehicles will involve some of the UK's leading power companies so that we can learn how best to manage this transition.

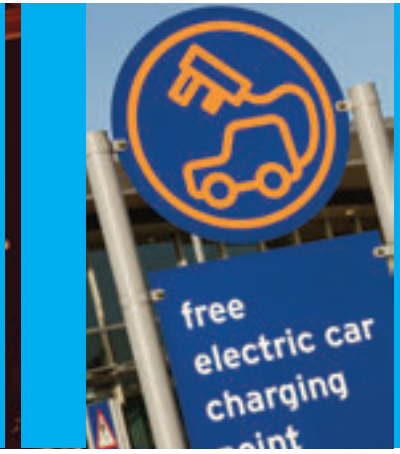
> "By acting now there is real potential for the UK to take a lead in this sector."

By acting now there is real potential for the UK to take a lead in this sector. While there is a great deal of investment globally in low carbon technologies such as hybrid cars, the market for the next generation of ultra-low carbon cars remains wide open. If UK firms and workers can adapt to the shift in production to ultra-low carbon vehicles, the potential market in the UK and abroad is huge.

The UK automotive industry has reached a consensus as to how this opportunity can be seized and the challenges answered. This co-operation has been fostered through the New Automotive Innovation and Growth Team (NAIGT), which will publish its report in the

CASE STUDY: Ford ECOnetic engine -- designed and built in the UK

Developed by Ford at the UK's Dunton Research and Engineering Centre and now in production at the wind-powered Dagenham Diesel Engine Centre in Essex, the range of Duratorq TDCi turbo diesel engines are providing affordable technology solutions for everyday driving. These high technology diesel engines power the most fuel efficient versions of the Ford Fiesta, the Ford Focus and the Ford Mondeo and are the result of a £130m investment programme. ECOnetic brings leading-edge green technology to mass market applications. The powertrain combines with other developments such as optimised rolling resistance tyres, low friction oil, enhanced aerodynamics and a "green shift" indicator light to deliver best in class CO_2 performance – the Fiesta 1.6l variant achieves 98g CO_2/km whilst the Focus 1.6l achieves 115g CO_2/km. Ford intends to extend the ECOnetic brand across its full range of vehicles.



coming weeks. In planning for a low carbon future they have agreed a technological roadmap from now to 2050 (see Box 3). The NAIGT will also recommend that government takes ownership and works with the industry to provide strategic direction for the development, production and use of vehicles in the UK.

As a Government we accept there is a role to be played and have made this a core priority. We have already committed around £400 million of support to encourage development and uptake of ultra-low carbon vehicles. Further, the £2.3bn package of support for the automotive sector in the downturn has been tailored to support its long-term future as a world leading low carbon industry.

> “We have already committed around £400 million of support to encourage development and uptake of ultra-low carbon vehicles.”

This document sets out how we will coordinate public sector activity and work with industry and academia to:

- Build on the R&D activities of the automotive industry to make the UK a leading place in the world to develop, demonstrate and manufacture ultra-low carbon vehicles.
- Accelerate market penetration of ultra-low carbon cars which will contribute materially to the overall national target on emissions for greenhouse gases and air pollutants.
- Maximise the benefit to UK operating firms and supply chains of this accelerated market penetration and continue to attract inward investment for the development and production of ultra-low carbon vehicles.

Industry, Government and the regions working together can enable the UK to become a world leader in low carbon transport, at the forefront of the development, demonstration, manufacture and use of ultra-low carbon automotive technology.

While there is a clear recognition that technology will continue to evolve, it is also clear that we must ensure that prohibitive costs or a lack of supporting infrastructure do not hold back companies and individuals from making ultra-low carbon cars a part of everyday life.

Box 2: The shift to low carbon vehicles

Short term (next 5 years)

- Incremental improvements to efficiency of new cars.
- Increased take-up of new model hybrids.
- Interested cities and regions developing electric vehicle charging infrastructure solutions to provide a ‘core’ of electric car cities.
- Gradual emergence of early market ultra-low carbon vehicles.

It may take some years before we see ultra-low carbon cars being used on a large scale but automotive firms are deciding now where to locate their production and are looking for clear government leadership and a potentially strong domestic market. Now is the right time for us to take bold action.

Medium term (5–10 Years)

- Continued improvements to efficiency of new cars.
- Continued take-up of new model hybrids.
- Increased coverage of electric vehicle charging infrastructure enabling wider use of ultra-low carbon vehicles.
- Ultra-low carbon vehicles enter large scale production.

Longer term (10 Years +)

- Combinations of hybrid vehicles, downsized powertrains, and lightweight vehicles become dominant.
- Continued rollout of charging infrastructure.
- Mass market development of ultra-low carbon vehicles leading to significant market penetration.

Ultra–low carbon vehicles in the UK

Our strategy for making the shift to ultra-low carbon vehicles in the UK is based on five goals. These recognise the vital way in which supply and demand for ultra-low carbon vehicles will have to interact in the next few critical years. Government will actively encourage consumer uptake of ultra-low carbon solutions, their development and manufacture here in the UK by:

- Supporting the automotive industry through the downturn for a successful transition to a low carbon future.
- Securing the future competitiveness of the UK industry by enhancing its reputation as a leading location for research, development and demonstration of ultra-low carbon vehicle technology.
- Creating a viable environment to support the adoption of ultra-low carbon vehicles in lead cities and regions, including investment in the skills base.
- Making ultra-low carbon vehicle solutions competitive for consumers by helping to reduce the upfront costs of these vehicles.
- Clear and strategic leadership by Government and a smarter coordination of public sector activity.

Supporting the automotive industry through the downturn

The automotive industry has been hit quickest and hardest of all UK manufacturing

The **£2.3bn**
Automotive Assistance Programme
opened for business on
27 February 2009

sectors by plummeting domestic and global demand. The economic crisis is forcing car manufacturers around the world to restructure and consolidate. Even before the financial crisis, the UK's ability to compete on a 'cost per unit' basis in the automotive sector has been eroded by rising skills bases and improving infrastructure in many of the emerging economies. UK companies must shift from competing on a purely cost basis, to competing on a cost and innovation basis and playing to the strengths of our innovative and dynamic automotive sector.

This combination of factors accelerates the need for a transformation of the automotive industries in the UK and elsewhere. Only by redirecting toward a low carbon foundation and creating a stable investment framework to encourage long-term investment in the UK can there be a viable future for the sector.

The UK Government will assist the industry to access support for this transformation from all available sources. We helped secure the €4bn annual budget for the European Investment Bank's (EIB) new clean transport facility which is particularly targeting the automotive sector, and are supporting UK automotive companies in accessing EIB loans. Nissan and Jaguar Land Rover have already received EIB approval in principle for loans worth more than £500m.

The £2.3bn Automotive Assistance Programme (AAP) opened for business on 27 February after receiving State-Aid clearance and Government continues to promote this programme to core automotive businesses. Over 50 companies have since asked for further information on the programme with a number providing full expressions of interest.

The aim of the AAP is to support automotive companies in the continued delivery of investment that will create or sustain jobs, develop cutting edge technology, bring special economic value, maintain R&D in the UK automotive industry and support the development of green technologies to develop solutions for carbon reduction, all of which have to offer value for money to the taxpayer.

Alongside the launch of the AAP the Government announced that a further £35m of Train to Gain support would be available through the Semta sector compact to meet the automotive industry's specific skills needs. This is an opportunity to reposition the UK workforce at the leading edge of rapidly developing technology.

The Government is investing in science, technology, engineering and maths (STEM) subjects within our universities to provide the higher level skills that the industry needs in the future. The Higher Education Funding Council for England (HEFCE) have undertaken a £250m programme to support subjects that are strategically important and vulnerable, and this includes STEM subjects. Furthermore, recognising the cost of science subjects, from 2007/8, £100m will be invested over four years to maintain provision in science subjects including physics and engineering.

The next generation of researchers and engineers will have the skills to continue the transition to low carbon through the Research Councils' support for doctoral training. Since December the Engineering and Physical Sciences Research Council (EPSRC) has announced over £290m in awards for Doctoral Training Centres and other training, a proportion of which will support sustainable transport objectives.

When we publish our Low Carbon Industrial Strategy this summer we will set out the wider actions we will take across the skills system to support innovation in lead cities and regions and deliver a successful transition to a low carbon economy.

Making the UK a world leader in research, development and demonstration of ultra-low carbon vehicles

There are still huge technological challenges to meet in the transition to low and ultra-low carbon vehicles. The UK's automotive sector has a global reputation for research and development, design engineering and manufacturing[2].

We can also draw on a world-class science and research base and a superb reputation for innovation. We've already established two independent centres of excellence in the areas of low carbon technologies/fuel cells (CENEX) and Intelligent Transport Systems (innovITS).

Furthermore, the Technology Strategy Board's Low Carbon Vehicles Innovation Platform, worth over £120m, brings together funding from the Technology Strategy Board, Department for Transport, Advantage West Midlands, One North East and the EPSRC, with a view to:

- Accelerating industry investment in low carbon vehicle commercialisation.
- Building new partnerships to address technical challenges including between academia, innovative SMEs, mid size companies and large original equipment manufacturers, to address technical challenges.
- Increasing the UK-sourced products offered to the market as a result of that research, development and demonstration (R, D & D) investment and the introduction of new UK participants in the supply chain, and
- Delivering benefit to UK Gross Value Added (GVA) and to the UK's contribution to the achievement of national and international CO_2 emissions reduction targets.

CASE STUDY: Zytek – globally leading, innovative SME

Zytek is now one of the few companies worldwide producing electric vehicle powertrains, and the only one manufacturing vehicles (the Smart Fortwo ED) for a major car manufacturer, Mercedes Benz. The Zytek electric engine is a complex assembly of many high technology products tightly packaged into a single unit. This technology is also being applied into Motorsport – Zytek is developing a hybrid electric drive for a leading Formula One team that has already run competitively in the 2009 season.

2 Investigation into the Scope for the Transport Sector to Switch to Electric Vehicles and Plug-in Hybrid Vehicles, CENEX, Arup, October 2008

Up to **£20M**

to support the development of lead cities and regions, bringing together consortia of cities and companies to start the processes of building infrastructure

> "Internationally leading numbers of ultra-low carbon vehicles on UK roads, driven by real consumers."

Projects to be funded within the Technology Strategy Board's recent £10m competition, under this platform, for the development of enabling system and sub-system technologies will seek to deliver more efficient, cost effective ultra-low carbon vehicles for mass market applications. Some of the technologies developed for electric and plug-in hybrid cars could also filter through to conventional cars.

A further R&D competition under the Innovation Platform will open in June, to reinforce the development of the supply chain for these new vehicles. This will build on the enabling system and sub-system technologies competition, which demonstrated the breadth and capability of UK companies, but have a wider remit and will build up the capabilities of companies of all size in this area.

We are signalling the strength of our intent by ensuring that there are ground-breaking numbers of ultra-low carbon demonstrator cars on the road in the UK. To do this Government will capitalise on the immediate opportunities for supporting research, development and demonstration through the:

- Immediate scaling up of the Technology Strategy Board's ultra-low carbon vehicle demonstration competition, more than doubling the planned 100 vehicles, most of which will be on the road within the next 18 months. This will put the UK at the global forefront, with internationally leading numbers of ultra-low carbon vehicles on UK roads, driven by real consumers. This competition has proved highly successful and the scaling up of the number of demonstrator vehicles is a direct result of the number and quality of the bids received. The competition has demonstrated the depth and level of expertise in the UK and has attracted significant international interest.
- Showing public sector leadership in our procurement decisions to help demonstrate the potential of electric and low carbon vehicles, for example through the DfT's £20 million Low Carbon Vehicle Procurement Programme, which currently focuses on vans. We plan to announce the winning companies in May.

Creating a viable environment to support the adoption of alternatively fuelled ultra-low carbon vehicles in lead cities and regions

Beyond demonstration, there are considerable challenges that will have to be met before the scale of deployment of ultra-low carbon vehicles on the UK's roads can increase dramatically. Key to these is the need to ensure that the initial infrastructure that is required to make ultra-low carbon vehicles viable is in place. This will allow economies of scale to reduce the costs of new technologies.

Reduce the price of electric and plug-in hybrid cars by around

£2000–£5000

for consumers

CASE STUDY: Elektromotive – electric vehicle charging stations

Elektromotive is a UK based company founded five years ago that specialises in the research, design and manufacture of electric vehicle charging stations. Its "Elektrobay" recharging station has been successfully trialled in London by Westminster City Council since December 2006. By the end of May 2009 Elektromotive will have 100 charging stations operating in London and a further 68 around the UK. Elektromotive also have Elektrobays operating in Sweden, Holland and Germany and are working on projects in Ireland, Spain and the Middle East. Their new 3 Phase Dual Elektrobay is due to be launched in May 2009.

As part of doing this Government is committed to supporting the development of lead cities and regions, bringing together consortia of cities and companies to start the processes of building infrastructure and increasing consumer confidence, thus growing the market for ultra-low carbon cars. This will take the number of ultra-low carbon vehicles on the roads from the hundreds to the thousands.

- To support those who are ready to meet this challenge we will provide access to seed money worth up to a total of £20m to those consortia committed to establishing themselves at the heart of this market in the UK.

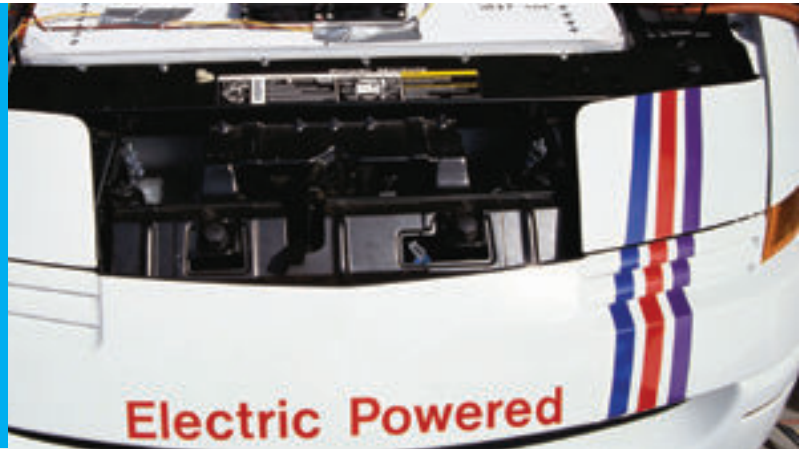
The aim is to ensure the development of a network of electric vehicle infrastructure across the UK that will lead to the linking of cities and regions. Central government will take an overall lead in the development of this programme, drawing on the work of the Energy Technologies Institute and pioneering local authorities, like the City of Westminster, in this area. Although government has a role in helping support the minimum infrastructure to make the transition to ultra-low carbon vehicles viable, we expect that the private sector, either in the form of electricity suppliers and distributors or other third parties, will ultimately take the lead in infrastructure provision.

Making ultra-low carbon vehicle solutions competitive for consumers

Consumers have not yet had the opportunity to see many ultra-low carbon cars on the roads. Mass market electric and plug-in hybrid cars are not yet available in significant numbers and the first of these to market will be more expensive than their conventional counterparts.

- The majority of the £250m recently announced by the DfT will be used to create a scheme to reduce the price of electric and plug-in hybrid cars by around £2000-£5000. We will begin discussions with the automotive and finance industries on how this reduction can best be delivered and coupled with the existing benefits for low emissions cars, such as exemptions from Vehicle Excise Duty. We aim to make these cars an attractive choice for consumers.

- Eligible cars will need to meet strict safety standards, not exceed a maximum CO_2



ceiling and be designed for the mass market. We will work closely with our key stakeholders in the coming months to agree the parameters of the scheme and the appropriate delivery mechanism. The scheme is likely to be operational in 2011 and more details will be announced later in the year.

Clear and strategic leadership and coordination across Government and beyond Whitehall

The development of a strong ultra-low carbon vehicle market in the UK will require a coordinated and strategic focus to Government activity. This fast paced agenda cuts across departmental responsibilities and activities and through all levels of government.

This revolution in road transport envisioned by Government and others will require new ways of working together. The NAIGT have agreed a research and development roadmap to 2050 which if met would provide the technologies for this vision, recognising the need for flexibility as innovations come to market (see Box 3).

Over this period government, cities, utilities, the automotive industry, consumers and infrastructure providers will need to work together to increase the number of ultra-low carbon vehicles on our roads.

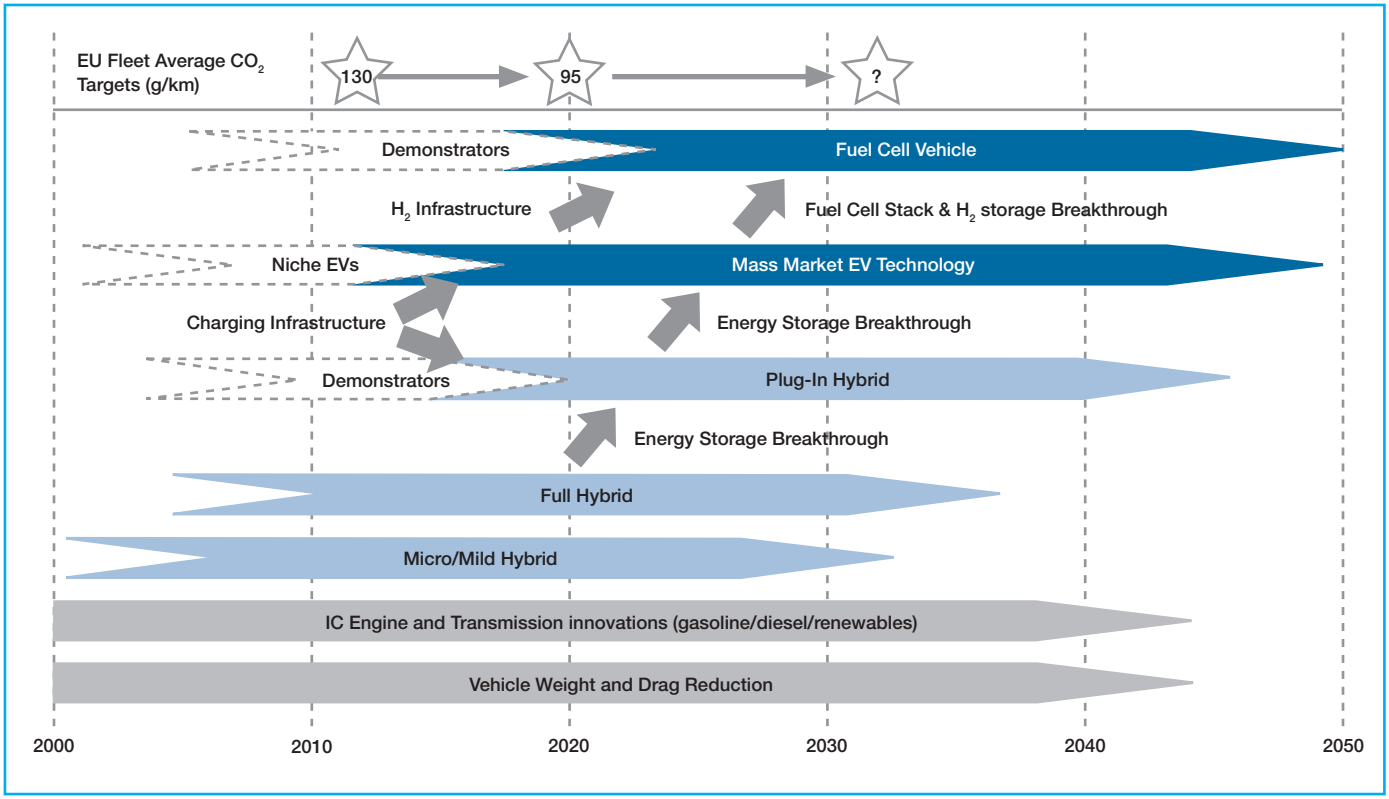
CASE STUDY: International Conference of Electric Vehicle Experts

Last October the UK hosted an international meeting of experts on low carbon cars to explore the challenge of bringing electric cars to market. Some 140 delegates from more than 15 countries representing government, industry, the automotive research community and academia attended. This event has firmly established the UK as a leading player in the work on low carbon cars.

As this collaborative activity intensifies, global suppliers and manufacturers will be drawn to the UK as the leading location to trial and develop vehicles and technologies. This point of critical mass will establish 'Test bed UK', the NAIGT's concept of how the UK can nurture a dynamic and growing ultra-low carbon automotive industry in a competitive global market.

Delivery is key. Business has said clearly that we need to be better at providing a co-ordinated and strategic focus to Government activity and this is one of the recommendations of the NAIGT report. We have heard this message and taken it seriously. The Low Carbon Industrial Strategy will respond with an answer in the summer.

Box 3: High-level technology roadmap for the UK's decarbonisation of road transport



The future

The Government's aim is for the UK to be a world-leader in ultra-low carbon vehicles. We will do this by backing industry to develop the best technological solutions, and cities and regions to partner industry in creating the initial infrastructure that will make them viable. It will also help consumers make the choice to make the transition to green transport.

Our demonstration projects will put hundreds of ultra-low carbon vehicles on the UK's roads over the next year. We expect vehicles numbers to rise to the thousands in the early part of the next decade, with ultra-low carbon cars being a common sight on our roads by the end of the decade. Over the longer term these vehicles have the potential to provide the dominant form of road passenger transport as we move to a radically lower carbon transport system.

The next five years for consumers

2009 and 2010 will see:

- The Government put cutting-edge demonstration cars on the road in a combination of high-profile fleets and general usage. These will prove the concept, and demonstrate the potential of these cars in real-world settings.

2010 to 2012 will see:

- A small number of urban centres emerging as the UK's electric car cities.
- Help from government that will make ultra-low carbon cars cheaper by in the region of £2000 - £5000 per vehicle.

2012 onwards will see:

- Electric and plug-in hybrid cars will become increasingly common in the UK's electric car cities and will begin appearing elsewhere. These cars will be easy and fun to drive. Refuelling them and paying to refuel them will become an increasingly straightforward part of life for their drivers.

The next five years for industry

2009 and 2010 will see:

- Publication of the complete NAIGT analysis on how the UK will position itself to attract investment in for research and manufacturing of ultra-low carbon vehicles.
- Government showing leadership by committing to incentives for low carbon transport.
- Government creating an extensive demonstration network in the UK and expanding it to make the UK the most visible place on the map for trials of ultra-low carbon prototypes.

2010 to 2012 will see

- The UK established as an attractive location for investment through a structured approach to demonstration and R&D.
- The emergence of locations in the UK for new markets.
- Consumer incentives in place to stimulate demand.
- Industry bringing models to market, moving to mass production, and lowering the costs of core technologies such as batteries.

2012 onwards will see:

- Critical mass in selected locations developed from coordinated action of the automotive industry, infrastructure and energy providers and cities.
- Better understanding of the business models that work here in the UK.

www.hmg.gov.uk/lowcarbon

Department for Transport
Department for Business, Enterprise and Regulatory Reform
Department for Innovation, Universities and Skills
First published April 2009.

Alternative Fuels Infrastructure Grants Programme

Guidance for Applicants

The Alternative Fuels Infrastructure Grant Programme (AFIGP or IGP for short) provides funding for the installation of re-charging or re-fuelling systems to facilitate the uptake of low emission vehicles in the UK.

The IGP is funded by the Department for Transport and is managed by Cenex – the UK Centre of Excellence for Low Carbon and Fuel Cell Technologies. A total of £1 million has been made available for projects.

The programme will run initially until the 31st March 2011 and applicants can apply for a grant up to 50% of the eligible cost, payable upon completion of the project or following the delivery of key phases of large projects, where overall project completion by the end of 2010 can be guaranteed

All projects will be assessed against 5 key criteria by an independent programme board. Applicants should note that value for money is one of the assessment criteria and they are encouraged to maximise investment into the project before applying for a grant.

The IGP is a window-based application process and funding bids should be submitted by the following deadlines:

- 30th September 2009
- 9th December 2009
- 31st March 2010
- 30th July 2010

For help with filling in the application form contact **igp@cenex.co.uk**

Table of Contents

1. Introduction

This guidance has been laid out to follow the format of the application form.

Applications for IGP funding are invited in call windows, each with a specified deadline. At the end of each window, applications that have satisfied gateway criteria (see sections 3 and 4) will be scored by an independent programme board against **5 key assessment criteria**, reflecting the overall programme objectives.

All projects must initially satisfy the following gateway criteria:

- Project site must have planning permission at time of application
- Vehicles must be available to use the facility either upon project completion or be awaiting delivery
- 3rd party access to the facility must be provided

In following the guidance, applicants should consider how best to demonstrate that their project will satisfy the assessment criteria shown in the table below. Details of the evidence asked for is provided in the sections referred to in the table.

Factors	**Assessment Criteria**	**Evidence being sought**
Infrastructure	Technology Proposition	See Section 5
	Implementation Plan	See Section 6
Vehicles that will use the Infrastructure	Vehicle Related Outputs	See Section 7
Overall Project Outputs	Strategic Deliverables	See Section 8
	Value-for-Money	See Section 9

The guidance below aims to help the applicant by identifying the types of evidence sought for the assessment process. Whilst encouraging applicants to provide sufficient detail to allow a full and proper evaluation of their funding bid, applicants, in following the guidance, are prompted to address only the relevant issues that will be considered in due course by the programme board, thus maximising opportunity for a successful outcome.

Should applicants require any clarifications they should contact the Cenex Infrastructure Grant Team at **igp@cenex.co.uk**

2. Application Details

Project title: Give the project a name that reflects what the project sets out to do.

E.G HYDROGEN FUEL CENTRE_LOUGHBOROUGH

After your completed application is received by Cenex, the project will receive a project reference code.

Lead Organisation Name: The applicant for funding

Contact Name: For the lead organisation, the best person for Cenex to contact for information requests related to an application. It is preferable that the contact is the person who has submitted the application form.

Telephone Number: Of the person who is the lead contact for information requests (the person named above).

Email: Contact name

3. Timing

Cenex needs to be informed about the anticipated project start date (breaking ground) and end date (commissioning, such that the fuelling station is operational)

Cenex recognises that applicants to the programme will have different sizes of projects with differing levels of complexity. To aid the assessment process Cenex wishes to differentiate between short duration, low cost projects and more complex projects with longer lead times and higher associated costs.

Expected timetable for the project: If your project duration is **greater than 6 months** then the project will need to be broken down into phases. All phases of the project will need to be completed by the **end of December 2010**

For short duration projects (less than 6 months) it is satisfactory to refer to the delivery phase as a single “implementation phase.”

For longer duration projects (> 6 months), please provide details of anticipated phases of the project (site works, equipment installation, commissioning)

The project must be capable of being delivered within the proposed timescales of the Infrastructure Grant Programme

The maximum grant request for any single project will be **50%** of total project costs.

4. Gateway Questions

What type of infrastructure are you applying for? You will need to select the specific type of infrastructure that you are applying for:

- **Electric** including roadside or off road (work place or public car park)
- **Gas (Methane)** including natural gas, bio-methane or natural gas/bio-methane blend. Infrastructure will be supplying methane in either a compressed or liquefied form. Infrastructure grants can be applied for both temporary and permanent installations
- **Hydrogen** including pure hydrogen and hydrogen/methane blends. Infrastructure grants can be applied for both temporary and permanent installations

Does the site provide 3rd party access? *If the proposed infrastructure site does not provide 3rd party access, the application will be ineligible for grant funding*. In the project abstract please detail whether the site will be open or accessible by appointment only. 3rd party access does not necessarily mean 'open to the public' – it can mean by prior appointment or for suppliers/visitors accessing a restricted access facility

Does the proposed site have planning permission? If the project needs planning permission to go ahead, this should already obtained prior to application, *if planning permission is necessary and has not be obtained prior to submission, your application will not be accepted for further assessment*. If you are still awaiting planning permission, please explain its status. If you believe that you don't require planning permission, please explain why.

Proposed location(s) for the refuelling station(s) The location(s) of each refuelling/recharging station should be clearly addressed, with postcode and map grid reference required. A site plan of the proposed area(s) may be appended to the application, where it is available.

Owner(s) of the site(s) This will be the owner(s) of the infrastructure site(s)

Infrastructure Operator(s) This will either be the end user or in some cases, it may be specially trained staff operating the infrastructure on behalf of its owner and/or end user (please specify).

Have you applied for funding from another government source? Please note applicants will not be able to get funding under the IGP for a proposal which has already received funding from another government source. This may be directly, or having been considered as part of a consortium bid. For example if a utility pledged to install infrastructure as part of a consortium bid to the Technology Strategy Board (TSB), it could not then seek additional funding from the IGP to further reduce costs which has been assumed at the time of the TSB award. (*cont'd*)

This would be the case even if the TSB was not providing the infrastructure itself, as the money was offered on the basis of contributions promised from different consortia members. Some public funds are acceptable, if government funds are being used to match the grant element, the applicant should explain the funding model for the project in the box provided.

If you are applying for funding for a project that has previously received public funding or you are applying for other public funding, you are advised to seek guidance from Cenex and the other relevant funding body as to the potential impact of combining grant funding.

Failure to disclose accurate information related to the public finances supporting your project could result in a grant offer being withdrawn.

5. Abstract

The abstract should provide a thumbnail sketch of the overall project. It should have a technology proposition that outlines:

- Who is delivering the project and if the applicant is part of a consortium, please outline the roles of all partners.
- What the fuel type will be infrastructure be providing.
- What the project aims to do and what will be the end result.
- Who is the technology provider for the refuelling/recharging infrastructure
- When the project will commence and culminate.
- Where the project will be based and the limits (if any) to third party access

6. Implementation Plan

The implementation plan looks for evidence of clear preparation and planning related to the installation and subsequent operation of the infrastructure for which a grant is being sought. The implementation plan should clearly explain how the project is proposed to be carried out and should refer to the **Project Plan (see Annex A)**, which all applicants must provide.

Factors to take into consideration are:

- What planning has been done to date:
    - Planning permission
    - Intended site selection

  - Site planning
  - Quotes for technology supply from technology providers

- What planning still needs to be undertaken (uncertainties to be resolved) before the project could commence
- The timescales for the project (installation of infrastructure), and when the project is anticipated to be completed
- How the project budget will be allocated to each phase of the project
- The amount of financial commitment being put in (please specify where investments are coming from and if from multiple partners, who is putting in what resource).
- How will the infrastructure be managed once it is installed and operational
- Any other measures that are going to be taken to make this project successful.

The project must show that it is credible with appropriate planning and budget allocation and that it can be delivered within the timescales specified.

7. Vehicle Related Outputs

Once the infrastructure is in place, there will be vehicles that are using the refuelling / recharging infrastructure. The vehicle related output should indicate:

- The prospective types of vehicles that will be using the infrastructure. This includes any “captive fleets” being supported by the infrastructure and/or vehicles expected to use the infrastructure based on 3rd part access.
- Vehicle types being specifically procured to use the infrastructure and their rollout dates
- Proposed timescales for vehicle deployment
- Anticipated growth in numbers of vehicles (on an annual basis, no more than 3 years ahead)
- Types of operation (haulage, refuse collection, city bus, etc) associated with the project

The project must show that when the infrastructure is in place, it will be used and by whom.

8. Strategic deliverables

The introduction of alternative refuelling infrastructure aims to aid the reduction in carbon dioxide (CO_2), other green house gas emissions from road transport, as well as delivering other environmental benefits, particularly the achievement of Air Quality Regulation Targets. The application must show evidence of how the project will deliver environmental benefits. Evidence is also sought as to how the project will deliver against other strategic objectives for the organisations involved in the grant application.

In this section of the application form the lead applicant should seek to provide the following information:

- What positive environmental outputs are being sought from the project and how will they contribute to the project partners' environmental and sustainability implementation plans?

In terms of how the project will deliver against organisation objectives, evidence of the following types would assist the application:

- For local authorities, is the infrastructure supporting vehicle deployment as part of a Local Transport Plan, Local Implementation Plan or a Low Emission Scheme? Will it be located within an Air Quality Management Area or is it part of an Air Quality Action Plan? Will it help towards achieving Local or Multi Area Agreement Targets?

- For private sector applicants, is the project contributing to organisational environmental plans (please provide evidence of plans and/or Corporate Social Responsibility Reporting)? Is the project part of a Low Emission Scheme or Green Transport Plan?

- Is the project contributing toward the achievement of other economic or sustainability objectives [please provide evidence of applicability of the investment to an organisation or (Regional Development Agency) Regional Economic Strategy?

9. Value for Money

An explanation should be provided, highlighting value for money from the project. This should include:

- How the benefits weigh up against the costs
- The cost effectiveness of the new infrastructure

The project must show how funding from the programme will add value. Please note that the IGP was not established to fund projects which would happen anyway. The exception to this is where the funding adds additional value, by enabling a more cost effective deployment (i.e. prices for construction/equipment are reduced due to buying in bulk) or the funding increases the scope of the project that would otherwise be undertaken without funding (e.g. the project is opened to third party access, whereas without IGP funding it would be closed to third parties).

Grant intervention levels are capped at 50% for projects due to be up and running before end of December 2010. The remaining costs for the project need to be met by the project participants. Given the anticipated competition for funding from the programme and given the desire of the DfT and Cenex to maximise the outputs achieved for the level of funding available, applications requiring lower levels of intervention (grant %) will be assessed more favourably than those seeking higher intervention rates.

State aid rules apply. For more rules on match funding and eligibility please email igp@cenex.co.uk

10. Lead Applicant and Partner Details

This section of the form provides space for the applicant to provide details as to the full list of partners involved in the project. Partners' names and addresses should be included with (if applicable) contact email addresses/phone numbers. They should be accurate and up to date.

11. Tips on completing the Application Form in MS WORD

Due to the restrictions on editing the document, **you cannot spell check** the text within the grey areas used for applicant's entries. If you require spell checker, we advise all applicants to prepare their responses on a new MS Word document, spell check and then cut and paste the text into the application form.

Your final submission should be in **MS Word** or **PDF** format only.

If you have any problems with the application form in MS Word or require further help or support please contact Cenex at IGP@cenex.co.uk

12. Project Breakdown

All projects will need to calculate the costs of undertaking the project, taking into account which costs are **eligible for grant support**. The text below gives guidance on what elements are eligible for support and what is excluded.

The cost estimate must include the costs of the total project. Programme funds will be paid out on the basis of audited actual eligible costs incurred. The following headings show the main costs that the Programme is prepared to support.

Eligible costs

- Electrical components
- Civil engineering works
- Labour costs
- Hardware costs
- Compressors
- Fuel storage
- Dispensers
- Fuel management systems

Ineligible Costs

- Input VAT
- Interest charges, bad debts, profits, advertising, entertaining.
- Project management costs
- Advertising and marketing costs/activities
- Profit earned by a subsidiary or by an associate undertaking work subcontracted out under the project.
- Inflation and contingency allowances (as an overall arbitrary percentage) additional to eligible costs – however reasonable inflation rates can be included in labour and material cost estimates.
- New/Additional land required for the proposed infrastructure
- Alternative fuel production facilities. E.g. Anaerobic digesters, wind turbines, electrolysers, etc.
- Labour at charge out rate (eligible at cost rates only)
- Fuel (e.g. hydrogen, gas from pipeline)
- Software (other than intrinsic to fuelling management systems)
- Reporting

I. Annex A. Project plan

The project plan can be completed in MS Project, excel or any other programme. The preferred presentation format is as a Gantt chart. The project plan should show a detailed breakdown of the operation of the whole project until completion. The plan should include milestones and lead times and dates for vehicle introduction should also be given.

If your project plan has been prepared in Microsoft Project or any other programme, you may cut and paste the plan onto the MS Word application form (if you wish to submit the Project Plan as a separate document, please submit in PDF format only).

If you have any questions or require further support please contact IGP@cenex.co.uk

II. Annex B. Electric Vehicle Recharging

Electric charging infrastructure can be broadly categorised into 2 different types:

- **On road –** The infrastructure is located at the side of a public carriageway
- **Off Road –** The infrastructure is located in a car park or commercial use area

Both types of infrastructure are eligible for grant funding. Costs that will be funded in the case of all recharging infrastructure is:

- Electrical components
- Civil engineering works
- Labour costs

III. Annex C. Gas and Hydrogen Vehicle Refuelling

Gas and hydrogen refuelling infrastructure options are very similar in terms of equipment required. This section requires that all components should be clearly listed in the relevant section. The components that are eligible for funding are:

- Electrical components
- Civil engineering works
- Labour costs
- Hardware costs
    - Compressors
    - Fuel storage
    - Dispensers
    - Fuel management systems

13. Application dates

The IGP is a window based application process. The applications will be considered in 'calls' every **3** months. The bid submission deadlines throughout the programme will be as follows:

- **30th September 2009**
- **9th December 2009**
- **31st March 2010**
- **30th July 2010**

Completed applications should be sent to igp@cenex.co.uk

Or via post to

Alternative Fuels Infrastructure Grants Programme
Cenex
Holywell Park
Loughborough University
Ashby Road
Loughborough
LE11 3TU

As we are a committed low carbon organisation please submit your application electronically if at all possible.

Renewable Energy Review – Supplementary evidence provided by Richard Feasey with regard to Planning

In answer to the point raised by the individual who has written in to the review
'The Merton Rule'

1. The 'Merton Rule' is the groundbreaking planning policy, developed by London Borough of Merton and adopted in 2003 as part of its statutory development plan which requires the use of renewable energy onsite to reduce annual carbon dioxide (CO2) emissions in the built environment. The policy states:

"The council will encourage the energy efficient design of buildings and their layout and orientation on site. ***All new non residential developments above a threshold of 1,000sqm will be expected to incorporate renewable energy production equipment to provide at least 10% of predicted energy requirements****.*

2. The justification sets out that where the incorporation of renewable energy equipment would make the development unviable it will not be expected. It also sets out the means of generating renewable energy to be photovoltaic energy, solar-powered and geo-thermal water heating, energy crops and biomass, but not energy from domestic or industrial waste.

3. The impact of the 'Merton rule' has been widespread. It t was adopted by the Mayor of London and many other councils, and has also become part of national planning guidance (PPS22 Renewable Energy)

Policy applicable in Kent

4. Following the demise of the Kent Structure Plan in 2009 there is no mechanism or process for statutory development plan policies applied on a county wide basis. However its successor the regional plan (South East Plan) which has replaced it does include a region wide policy (NRM11) which requires that districts , in preparing their Local Development Frameworks , set local targets for 'ambitious but viable' proportions of the energy supply for new development to come from decentralised and renewable or low carbon energy . In advance of local targets being set new developments of more than 10 homes or 1000 sq m of non residential floorspace should secure at least 10% of their energy from decentralised and renewable or low carbon sources unless this is not 'feasible or viable'. This is a de facto application of the 'Merton rule' to the South East region as a whole.

5. The South East Plan also incorporates regional and sub regional (Kent) targets for 2010 and 2016 for land based renewable energy , encourages local collaboration to undertake more detailed assessments of local potential, encourages small scale community based schemes and raised awareness, ownership and understanding of renewable energy. (South East Plan Policy NRM14). The policy targets for Kent are 111MW of installed renewable energy capacity at 2010 and 154 MW by 2016.

Local Policies

5. As District Councils bring forward their individual Local Development Frameworks (LDFs) district based policies are emerging. To date these have mainly reflected, and replicated the provisions of the regional policy rather than identify locally based bespoke targets. Moreover policies are often focused around more broadly based

policies addressed to achieving higher sustainable construction standards and lower carbon performance based on national rating systems (Code for Sustainable Homes in the case of residential development or BREEAM standards[1] in the case of non residential buildings) (see for example the Ashford Borough and Dover District Core Strategies. The Code for Sustainable Homes (CSH) is a 6 category code reflecting progressive levels of improvement in carbon performance – Code 6 = zero carbon). The CSH covers a range of factors in addition to energy usage e.g. water usage, materials, waste, surface water run off. Government is introducing the Code's energy and water standards on a national basis through stepped changes to the Building Regulations (Code 4 from 2013 and Code 6 from 2016) .Attainment of higher Code levels requires the incorporation of renewable energy production.

Recent Developments in National Policy

6. In 2007 a national Planning Policy Statement [2] placed tackling climate change at the heart of planning. PPS22 currently provides guidance on Renewable Energy. In early 2010 the previous Government published for consultation new draft guidance[3] setting out a framework of planning policy and guidance for securing progress against the UK's targets to cut greenhouse emissions and to use more renewable and low carbon energy. This reflects the strengthened emphasis on delivery of renewable and low carbon energy arising from:

- ***The Climate Change Act 2008*** which introduced a statutory target of reducing carbon emissions by 80% below 1990 levels by 2050.
- ***EU Directive 2009/28/EC*** where the UK is committed to sourcing 15% of its energy from renewable sources by 2020.
- ***The Planning Act 2008*** which introduced a new duty for regional and local policy to include climate change policies to ensure they contribute to the mitigation of, and adaptation to, climate change.

7. This guidance has yet to be confirmed and may change as a result of the change in Government. It nonetheless portends of a more proactive, enabling approach to planning for renewable energy and a rebalancing of the weight attached to other planning considerations e.g. landscape. townscape and protection of the Green Belt where these are potentially in conflict with renewable energy proposals

8. The draft guidance exhorts local planning authorities (lpas) to:

- '*Support, and not unreasonably restrict'*, renewable and low carbon energy developments;
- Ensure that local policies, including those for protection of the landscape and townscape, do not preclude the development of specific technologies other than in ' *the most exceptional circumstances';*
- Support opportunities for community led renewable and low carbon developments;

- Local requirements for decentralised energy, based on an assessment of local opportunities, should be set out in LDFs and relate to identified development areas or specific sites.

[1] BREEAM – Building Research Establishment Environmental Assessment Method
[2] Supplement to PPS1 on Planning and Climate Change.
[3] Draft Planning Policy Statement ' Planning for a Low Carbon Future in a Changing Climate'

- Local targets for the use of decentralised energy in new development should be expressed as either a percentage reduction in CO2 emissions, or an amount of expected energy generation.

9. At the same time local requirements relating to decentralised energy, building sustainability etc must not make the development financially unviable; i.e. the viability test embedded in earlier guidance is retained.

10. The draft PPS emphasises the need for planning authorities to look favourably on innovative proposals for well designed sustainable buildings. Incompatibility with existing townscape should not, of itself, warrant refusal of planning permission. Refusal should only occur if the development would cause material harm or removal of an *'internationally or nationally designated heritage asset'*.

11. This is a contentious provision. In particular, visual amenity and design quality are material planning considerations of substantial weight in planning decisions, irrespective of setting or location, and arguably should not be set aside or overridden simply because there is a current need to raise the profile of low carbon technology. If the intention to ensure that low carbon factors outweigh all other planning considerations, then a significant rebalancing of the planning system is implied.

12. The draft guidance goes on to say that planning authorities should:

- Expect applicants to have taken appropriate steps to mitigate any adverse impacts;
- Give significant weight to the wider environmental, social and economic benefits of renewable or low carbon energy projects whatever their scale;
- Not require applicants to demonstrate overall need for renewable or low carbon energy;
- not question the energy justification for why a renewable/low carbon energy proposal must be sited in a particular location;
- not refuse proposals because a regional renewable energy target has been reached;
- 'take great care' to avoid stifling innovation;
- recognise that many renewable energy projects will comprise inappropriate development when in the Green Belt and the need for developers to therefore demonstrate '*very special circumstances'* to outweigh any harm whilst acknowledging that the wider environmental benefits associated with increased renewable energy production may constitute '*very special circumstances'*

Richard Feasey
Integrated Strategy and Planning
Environment, Highways and Waste Directorate
May 2010.

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