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Deputy prime minister

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“green alliance…

Green liberalism: a local approach to the low carbon economy

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Green Alliance
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Foreword

Rt Hon Nick Clegg MP

Deputy prime minister

Over the past three years in government, Liberal Democrats have assembled a proud record of achievement on green growth. £29 billion has been invested in renewable energy: that's £1 million every hour. Our reforms will bring in £110 billion of investment by 2020, and our landmark energy market reform lays the foundations for a low carbon future right up to the 2030s: and we've done all that while still simplifying tariffs for consumers and helping keep bills down.

"We need to devolve power to local communities and enable them to provide investors with the certainty they need that the UK is, and will continue to be, one of the best places in the world to grow a green business"

There are now over a million people working in green industries in the UK, and energy market reform alone will create 200,000 more jobs. We've launched the world's first Green Investment Bank, channelling money to schemes like the conversion of Drax power station to biomass. We've delivered the biggest investment in Britain's railways since Victorian times and launched the Green Deal to improve people's homes and cut their energy bills while creating thousands of jobs.

The UK is a market leader in offshore wind and we have a research base that is the envy of the world. We have grown the anaerobic digestion sector, now powering 800,000 homes using energy from waste, and we have ended the ban on councils selling the renewable energy they create back into the national grid, incentivising them to invest further.

Localism is in my party's DNA, and we have shifted power away from Whitehall and into the hands of local communities through mechanisms like city deals. In the first wave of city deals we can see the local appetite for environmental policies: Birmingham and Bristol are piloting the Green Deal and Manchester is developing a low carbon hub.

Of course, we haven't got our coalition partners to agree to everything we wanted, or solved every problem in the last three years. That's why this pamphlet is such an important contribution to my party's thinking: raising the question of what we need to accomplish next, and confirming how essential it is that Liberal Democrats remain in government after 2015 to deliver on the green growth agenda.

This pamphlet comes at an important time and I would like to thank everyone who has contributed. As our economy recovers, even more opportunities for green growth will emerge. We need to devolve power to local communities and enable them to provide investors with the certainty they need that the UK is, and will continue to be, one of the best places in the world to grow a green business.

Introduction

Duncan Brack
Vice chair, Liberal Democrats Federal Policy Committee

This collection of essays builds on two Liberal Democrat core beliefs: environmentalism and localism.

As David Howarth argued in *The green book: new directions for Liberals in government* (Biteback, March 2013), Liberalism is not only compatible with environmentalism, it requires an environmental approach. In the UK, the Liberal Party, and then the Liberal Democrats, have consistently shown themselves to be the greenest of the three major political parties.

Equally, British Liberals have always been strongly decentralist: we believe that citizens should exercise the greatest degree of control possible over the institutions that affect their lives, which requires decentralised government. If communities have a degree of control over energy decisions, rather than having schemes imposed on them from above, they are likely to be better decisions with a greater chance of successful implementation.

The views expressed here demonstrate the need and the potential for local and regional low carbon developments. Simon Roberts argues powerfully for the consent and involvement of the public in delivering a low carbon, reliable and affordable energy system: simply asking people "how can we best make our contribution to a low carbon future around here?" is a good start. Juliet Davenport similarly highlights the need to engage communities in the transition from a centralised fossil fuel powered energy system to a dispersed renewable network, recognising that, as with any significant infrastructure change, some will object.

“Liberalism is not only compatible with environmentalism, it requires an environmental approach”

Lord Shipley, a former leader of Newcastle City Council, sets out the potential of the city deals introduced in 2012 in eight major English cities, with more to come. The new freedoms to experiment and innovate that these deals bring have led to low carbon developments such as Birmingham’s local authority led Green Deal, Manchester’s joint venture company with the Green Investment Bank and Newcastle’s drive to secure private investment in marine and offshore renewables. What is particularly encouraging is that each of these cities now sees carbon reduction as an embedded policy, underpinning their planning and investment decisions.

Keith House, leader of Liberal Democrat Eastleigh Council, shows what even small local authorities can achieve, given leadership and vision; the simple policy of not charging planning application fees for renewable energy schemes, for example, has helped to encourage solar photovoltaic and combined heat and power schemes. Christoph Harwood outlines the ways in which local authorities can attract finance for the local low carbon economy, by setting targets, convening the right partners, using their assets to de-risk projects and providing enabling finance.

The relationship between the private sector and local authorities, city deals and Local Enterprise Partnerships (LEPs) is crucial. Companies, both existing and new, will develop and adapt faster with a supportive framework to help them understand the policy environment and grasp the opportunities available.

Merlin Hyman argues that most LEPs lack the expertise and the capacity to understand these markets; he and Colin Skellett demonstrate how regional agencies are bridging this gap and providing specialist local support to enable local businesses to realise low carbon opportunities. The experience of Regen SW and the Bristol city deal in supporting innovative technologies, training and apprenticeship programmes, renewable energy investments and local transport solutions is hugely encouraging.

Duncan Hames is more optimistic about the potential for LEPs, pointing in particular to the New Anglia LEP’s actions as a ‘green economy pathfinder’, but also calling for LEPs to work together, as well as with local authorities and the private sector.

Julian Huppert focuses on the need for local low carbon transport, not only to reduce carbon emissions but also to improve health and quality of life, while Martin Garratt highlights the potential for companies to work together, citing the experience of the high tech and cleantech clusters around Cambridge.

"These essays draw a compelling picture of how localism and low carbon development can be combined to create a vibrant local economy"

These thoughtful contributions also start to set out an agenda for future Liberal Democrat policy development: the need, for example, for a Regional Growth Fund focused on long term support, not short term ad hoc initiatives; for a partnership structure for LEPs and the private sector; and, for the means to spread best practice from city deal and LEPs' low carbon experiments. Taken together, these essays draw a compelling picture of how localism and low carbon development can be combined to create a vibrant local economy.

Local Enterprise Partnerships and low carbon development: what works and what doesn't

Duncan Hames
MP for Chippenham

A one size fits all policy, devised at a distance, imposed on local communities and implemented rigidly, is unlikely to rise to the environmental challenges we face today. That's why we should give Local Enterprise Partnerships (LEPs) the freedom to grasp this challenge in a different way to traditional bodies, such as central government and Regional Development Agencies (RDAs).

LEPs are characterised by their variety. Most contain local enterprise zones, but others do not. Some receive local authority funding in addition to government grants, but others have set up as limited companies, enabling them to fund themselves. This diversity is echoed in their approaches to green growth: several have set out as trailblazers; while others would do well to follow that lead.

An economic development policy that creates room for these organisations, individuals and businesses to find their own way towards a low carbon economy will result in greater diversity and, in some cases, more innovation.

We have seen before that a tick box approach whereby non-departmental bodies are set tasks by, and receive funding from, a number of government departments, each imposing its own set of demands, crowds out innovation. It forces each organisation to spread itself too thinly across a whole range of initiatives and is, therefore, not conducive to suitably ambitious low carbon initiatives. I'd argue a more hands-off approach is better, allowing LEPs to make their mark in ways that work for them, instead of requiring them to do a little of everything.

Of course, some RDAs really did seek to take sustainable development seriously and come up with creative solutions, as I know from my experience on the board of the South West of England RDA. It can be proud of its legacy, having played a central role in the inception of Regen SW, which is now leading the transition to sustainable energy in the region (see Merlin Hyman's piece on page 14). But the RDA system, consisting of only nine bodies each under pressure to fulfil its list of tasks, provided less opportunity for innovation than the new landscape of 39 LEPs does now. We must, therefore, be careful not to stifle this potential for creativity by centrally prescribing what they must do to promote low carbon development.

Some initiatives have already been forthcoming: the New Anglia LEP, for example, has become a 'green economy pathfinder'. In June 2012 it launched a green economy manifesto to showcase how businesses and other organisations in Norfolk and Suffolk are growing the low carbon sector, from research at the Norwich Research Park to a sustainable housing development in the village of Wortham, as well as identifying the challenges they still face. This serves a dual purpose: on the one hand, highlighting the opportunities in the region is a powerful way of encouraging green investment in East Anglia. At the same time, it promotes initiatives that are working well so that other organisations in East Anglia and beyond can learn from and, where appropriate, emulate them.

But, while the LEP model brings great advantages, it also has drawbacks that must be overcome. One is the challenge of scale that comes with operating at the local level. It can be difficult for LEPs to acquire sufficient expertise, and a single LEP may not be able to effectively implement certain projects. To benefit from a greater knowledge base and economies of scale, LEPs should be encouraged to co-operate and work together, seeking partnerships with local authorities and businesses.

"LEPs should be encouraged to co-operate and work together, seeking partnerships with local authorities and businesses"

This is already happening on a range of projects, such as in the West Midlands: six LEPs are working together with Birmingham City Council on the Green Bridge Supply Chain Programme using Regional Growth Fund money to support small and medium supply chain companies and expand the green sector.

Of course, the freedom they are granted means that not every LEP will successfully engage with this agenda. That is the price we pay to enable innovation, but it can be mitigated: for example, by encouraging and facilitating the sharing of best practice, so that fruitful initiatives developed in one LEP are cross-pollinated to others.

It is too early to judge how well LEPs have risen to the challenge of fostering a green economy, or to predict how they will do in future. But the appetite and ambition is clearly there, in certain areas if not all, and we can hope that, in time, their successes will inspire others to follow.

Building local consent for the low carbon transition

Simon Roberts OBE
Chief executive, Centre for Sustainable Energy

Unless we secure a new level and quality of public consent for the transition to a low carbon society we will fail to achieve that goal. So we need a different approach which starts by trusting people to understand the challenges and opportunities and to make decent choices for their localities.

To deliver a low carbon, reliable and affordable energy system, we need an energy policy and associated programmes which have the meaningful consent and purposeful involvement of the public. Without this, the policies and programmes are destined to fall short of their objectives, because:

- People pay for it through their bills and taxes, and will increasingly resent and react against initiatives which ramp up costs without delivering benefits they value.
- People host much of it in their communities, on their landscapes, in their businesses and homes, and will resist having things 'done to them' on the basis of decisions taken without their involvement, which demonstrate little by way of local benefit.
- People need to do it. The transition to a low carbon, reliable, affordable energy system requires changed behaviours and investment decisions from everyone, and they will need to accept being convinced, cajoled, or controlled into these changes.

While this need for involvement and consent seems to be understood politically, it has not been clearly embedded in the approaches of successive UK governments to policy development, programme design and delivery, and regulatory formulation.

The dominant approach can be characterised as technocratic. Centralised and expert led, it has established renewable energy targets, energy efficiency programmes, energy market reforms and smarter system programmes; all with barely a nod to public involvement and the crucial process of establishing meaningful public consent.

“This approach is decentralised, involving, conversational and negotiating. It is designed to establish the understanding and consent required for any plan to have a chance of sustained success”

Of course, even without consent, this technocratic approach works for a while. For example, nationally determined renewable energy targets and regional planning policies can drive through wind power developments, often on appeal. But only for a while. Without consent these approaches lose traction: undercut by the abandonment of regional spatial strategies and shifting national guidance, or undermined by local antipathy to specific projects. Or they just drift, ignored by a public unimpressed and not engaged by energy saving programmes that the technocrats insist have removed the barriers to participation.

The meaningful consent required is not the desiccated version of consent granted, occasionally, in the determination of a planning application. Instead, consent embraces a much richer sense of the concept borne of:

- a sense of involvement in, and understanding of, decisions being taken locally;
- a connection with the proposals being made and the purposes they serve;
- a feeling for the character and value of the local landscape and built heritage and what protecting it means in its broadest, long term sense;
- an appreciation of the way in which a locality can contribute to cutting carbon emissions, the options available and the trade-offs; and
- an understanding of who pays for, and who gains from, projects being considered.

Achieving this consent requires a new approach which can complement a more technocratic understanding of the key features and components of a low carbon energy system. But this approach is decentralised, involving, conversational and negotiating. It is designed to establish the understanding and consent required for any plan to have a chance of sustained success. This has never been done for carbon emission targets, renewable energy or energy saving.

The approach starts from the premise that every community has a duty to make a contribution, appropriate to their locality, to the collective national effort to cut carbon emissions and change the energy system. Because all those cuts and that change have to happen somewhere, in localities. There is no ‘somewhere else’.

How does it work in practice? A project we have been running at the Centre for Sustainable Energy, called PlanLoCaL, has been trying it out. It starts with trusting people to make sensible, decent choices and engaging them in human-scale local meetings rather than 'national conversations'.

Using a large model of an urban, suburban and rural landscape with renewable energy options in it, we help people think about their choices. And, through our framing of the central question, we quietly confront them with the need to consider how what happens in their locality is addressing global challenges.

"It starts with trusting the people and involving them in a meaningful process. And it ends, we hope, with people making informed, sensible decisions"

Instead of the usual "What are you going to do about cutting carbon emissions?" which often prompts a defensive response, bringing up the government's need to act, China's growing emissions and, often, Jeremy Clarkson, we ask "How can we best make our contribution to a low carbon future round here?" which provokes a completely different response.

People start exploring options and understanding impacts, costs and benefits. They discuss their own perspectives of local landscapes and built heritage. They talk about the trade-offs, such as between, put very simply, exploiting a renewable energy resource and preserving a view. They start talking about how they can make sure that more of the benefits of change accrue locally.

This is what we've been calling 'low carbon localism' and it could be triggered by a step as simple as putting low carbon issues on the 'must do' part of the Neighbourhood Planning agenda.

We think it's the first piece in the jigsaw of establishing the deep, meaningful consent that is necessary to sustain the transition to a low carbon society. It starts with trusting the people and involving them in a meaningful process. And it ends, we hope, with people making informed, sensible decisions which reflect local opportunities and a shared sense of purpose and collective endeavour.

For more information about PlanLoCaL see:
www.cse.org.uk/projects/view/1145

Low carbon development, the Eastleigh way

Cllr Keith House
Leader, Eastleigh Borough Council

An international airport where two major motorways bisect may not, at a first glance, be the obvious place to start when looking for a council committed to the green economy. Add in support from the council for the managed growth of the airport, and the story becomes more complicated. Eastleigh is different.

The borough council has a record of climate action that stands tall in Hampshire and beyond. Eastleigh was an early beacon council on the theme of tackling climate change, with a range of policy initiatives on both adaptation and mitigation. It was the first council in England to roll-out alternative weekly waste collections, driving up recycling rates and reducing the mileage of waste vehicle fleets.

But there has been a driving economic edge to Eastleigh's actions on carbon reduction, moving towards the elusive low carbon economy alongside traditional liberal positions on the environment and social welfare.

The area had seen rapid economic growth and inexorably rising demands for housing, with many commuting to neighbouring cities in South Hampshire and further afield to London. Taming demand for carbon in Eastleigh is necessary for long term economic success.

The evidence is that the market alone will not deliver change. It could need a nudge but, more likely, it requires a strong prod with financial inducement.

Take energy. Eastleigh's approach is to use policy to promote change. Hence the unusual practice of not charging planning application fees for renewable energy schemes. This has encouraged solar PV installation, new combined heat and power schemes and, at the margin, wind turbine applications. Not for Eastleigh the approach of Hampshire County Council which, to appease the right, has banned wind turbines on county owned land. Solar farms have started to spring up in Eastleigh as a result, looking much like polytunnels from a distance. That's in addition to the council's own PV retrofit programme which has taken full advantage of feed-in tariffs to create green energy, while at the same time giving a rate of return to protect services from funding cuts. We will achieve a 50 per cent reduction in CO_2 emissions by 2020. And we do not build anything that is not at least excellent by BREEAM standards.

"What is needed most is effective leadership, a degree of courage to stand out from the crowd and to get the messages right"

At a domestic level, and increasingly in partnership with local authorities along the M27 corridor, Eastleigh's Liberal Democrat council has taken the lead with the Green Deal. The potential to retrofit housing to reduce energy consumption and address fuel poverty hand in hand appears initially to be straightforward. Job creation and business development of Green Deal installers, and the supply chains behind them, has the potential to grow a green sector of the economy. Yet the Green Deal will require substantial local authority commitment. Experience with poor uptake of projects giving away home insulation demonstrates consumer resistance to change, and residents' lack of confidence in energy suppliers makes the strong reputation of councils an essential ingredient to implementation.

It is at this level that sub-regional partnerships come into their own. Even an ambitious council like Eastleigh lacks the capacity to turn its own vision into reality. Tough targets for carbon reduction will not be achieved in isolation, and climate change knows no boundaries. Eastleigh has always been prepared to work with others. B&Q has its headquarters in the borough; it is a local firm with a strong environmental record. From the Green Deal to coastal erosion, work with the borough's neighbours is not optional. With LEPs being the national flavour of the month for regional growth funding, developing a green economy plan gives economies of scale and helps to encourage others to raise the bar.

In conclusion, our experience shows that change can happen. What is needed most is effective leadership, a degree of courage to stand out from the crowd and to get the messages right. We have proved that communicating climate change well can bring people along. Doing the right thing almost always has a strong business case. Time for take-off?

Backing green businesses for a low carbon economy

Merlin Hyman
Chief executive, Regen SW

Investment in renewable energy is creating exciting opportunities for local businesses. In recent months, for example, Marine Current Turbines has established a new tidal energy development and assembly facility in Bristol bringing the total employed to over 50; New Earth Solutions Group has created 50 jobs at a new 13MW advanced thermal conversion facility in Bristol and R&D centre in Dorset; and the recently launched Communities for Renewables CIC, a not for profit community interest company, has raised £400,000 for community renewables.

The case for specialist local support to enable more businesses to seize these opportunities is powerful: national agencies do not have the local knowledge or relationships to help, and Local Enterprise Partnerships (LEPs) do not have the have the expertise to support business in new markets.

Regen SW is a successful not for profit organisation based in the south west of England whose aim is to grow the renewable energy sector. Regen SW's model is based around a membership of over 250 companies and local authorities. We champion the sector, provide a network to enable co-operation, and work to de-risk investment by tackling barriers and supporting investment in infrastructure. Over 10,000 people are now employed in renewable energy in the south west, more than double the number from three years ago, and our job is to keep accelerating this growth.

A key aspect of our work is to send a clear signal to industry that this part of the world is committed to developing the renewables sector. For example, we recently launched the south west renewable energy manifesto, bringing together 21 MPs and four LEPs in a commitment to build a world leading renewable energy industry. Our initiatives to tackle barriers include the South West Marine Energy Park, a DECC endorsed initiative to promote the marine energy sector. We work on the ground, for example on an EU-funded programme to support over 400 construction companies to develop the skills needed to deliver the government's Green Deal. We can also act as an incubator for new initiatives, such as Communities for Renewables CIC mentioned above.

One key to the success of our model is that Regen SW is an organisation with a long term commitment to the sector and our region, not simply a programme that runs for a year or two and then disappears. In this way we can build knowledge and capability, and learn from previous work.

The current framework of the Regional Growth Fund (RGF) for ad hoc short term initiatives suffers from a lack of any strategic framework and, I believe, leads to poor value for money for the taxpayer. For example, the government is using the RGF to fund a two year programme to support the offshore wind sector. Whilst all new resources are welcome, this programme suffers from a short time horizon in a long term sector. It largely ignores a decade of experience in developing the sector around the UK and has no link with other work, however closely related, such as support for the wave and tidal sector.

Another key to Regen SW's model is working closely with both the public and private sectors. The organisation is owned by its members, who are primarily renewable energy companies, and has a business board. This brings a private sector focus into the heart of the organisation. However, renewable energy requires suitable planning policies, an electricity grid that is fit for purpose and infrastructure, such as ports; all of which the public sector has a central role in providing. Our close connections with LEPs and local authorities are, therefore, vital.

Central government now needs to take a more strategic approach to local, low carbon business opportunities. To compete in a fiercely global market, our experience shows that we do need to actively support the renewables sector at the local as well as national level. It is possible that other initiatives, like Regen SW, will emerge from local priorities with no central government engagement. However, it took eight years of core funding from the public sector for us to build up our expertise and become independent of public funding.

One model would be for government to invite bids from partnerships of LEPs and the private sector to establish specialist local organisations with the expertise and energy to drive the sector forward. The geography could be self-defining but should be large enough to register with international energy businesses. These organisations would be seen as key partners for new government initiatives, so that expertise and knowledge is retained and built upon. One thing is certain: our industrial future in critical sectors cannot be left to depend on a series of ad hoc initiatives.

Regional business support in action: developing Europe’s leading cleantech cluster in Cambridge

Martin Garratt

Chief executive, Cambridge Cleantech

Cambridge Cleantech is a membership organisation, established in 2011 to support the growth of environmental goods and services, or cleantech, companies in the Greater Cambridge area and beyond. Our vision is to develop the area into a leading cleantech cluster in Europe and, in so doing, foster economic success for our members and UK plc. Our main focus is business support, assisting company growth by co-ordinating, supporting and promoting commercial opportunities for our members and helping them to engage with and influence government policy and regulation where it affects their business. Growth has been rapid with membership now exceeding 250 companies.

In 2012 Cambridge celebrated 50 years of high tech growth, predominantly in the ‘Silicon Fen’, the region around Cambridge that is home to a cluster of high tech businesses. In *The Cambridge phenomenon*, published to mark the anniversary, Charles Cotton says: ‘Arguably, entrepreneurial behaviour has been part of the Cambridge scene for eight hundred years, since the first monks undertook the trek from Oxford to establish what became the colleges and University of Cambridge… But none of these prepared the region for the emergence in the past fifty years of today’s vibrant community of entrepreneurial companies. Founded in 1960 by two Cambridge graduates to “put the brains of Cambridge University at the disposal of the problems of British industry”, Cambridge Consultants was the catalyst for what is indisputably the UK’s if not Europe’s leading technology cluster.’

There are now around 1,000 technology companies in the local high tech cluster; 1,400 when providers of services and support organisations are included. Innovas, appointed to map local cleantech companies and assess the sector's contribution to the broader economy, found that Cambridge: 'has already been at the forefront of numerous technology waves including ICT and biotech, both key areas in the future development of a cleantech sector strength. The cleantech sector provides the sub-region with the opportunity to be a world leader once again, in the next wave of technology and industry development.'

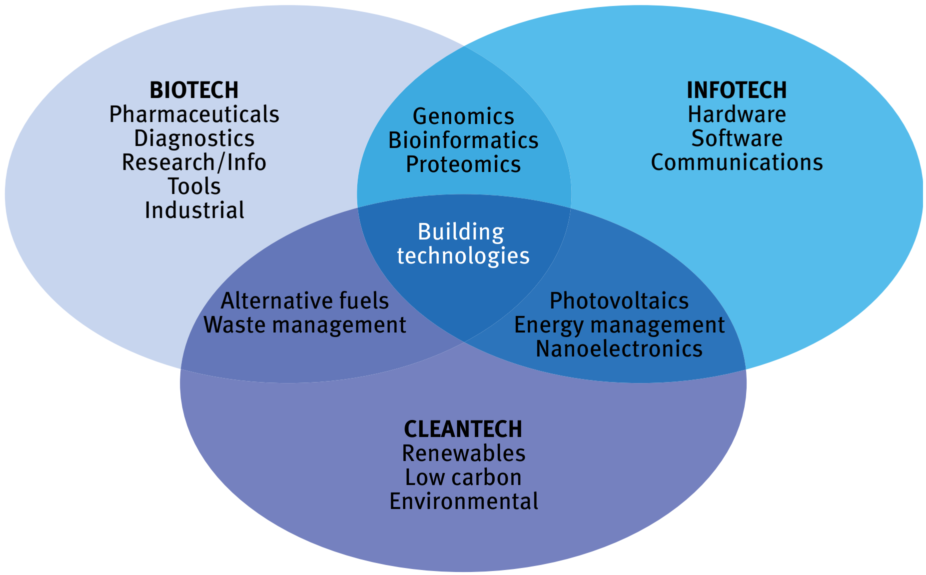
Specifically, they stated that the cleantech sector, if supported, could constitute the third wave of the high tech cluster, following on from ICT and life sciences, as demonstrated in the table below.

"Our vision is to develop the area into a leading cleantech cluster in Europe and, in so doing, foster economic success for our members and UK plc"

Innovas saw that Cambridge had the potential for a world leading competitive advantage, with commercialisation taking place where the three key sectorial waves of the high tech economy are overlapping, as demonstrated in the Venn diagram overleaf on page 18.

Cambridge Cleantech was born out of a specific recommendation in Innovas' report to form a cleantech membership organisation to support the

	1971	1981	1991	2001	2009
High tech jobs	20,200	25,100	34,900	46,200	48,000
	Scientific Instruments	Computing Industrial inkjet Scientific Instruments Software	Telecoms Computing Industrial inkjet Scientific Instruments Software Biosciences	Telecoms Computing Industrial inkjet Wireless communications Scientific Instruments Software Biosciences	Nanomaterials Drugs delivery Sensors/actuators Alternative fuels Cleaner processes Medical engineering Photovoltaics Drug modelling Biomass Sentient computing



growth of the sector in a way that similar organisations have supported the life science and telecoms sectors.

Cambridge Cleantech is developing a vibrant community of like-minded companies in the cleantech arena and is one of the fastest growing cleantech clusters in Europe. We provide business support services to help our members grow, including:

- access to finance, eg grant alerts, pitching for investment events and finance brokerage;
- supply chain opportunities, eg contract, tender and competition alerts, and meet the buyer events;
- communicating government regulation simply, eg government cleantech legislation summaries; and
- influencing government policy using our members' expertise and insight.

Cambridge Cleantech also organises events to inform members, share information and, in particular, aid the development of the supply chain for local companies.

Members can join any of nine special interest groups which provide a forum for in-depth information sharing from sector experts and at the same time enable networking, debate and the potential for exploring joint commercial opportunities.

We have also been actively promoting the area in the international arena with events in Hong Kong, Russia and Eastern Europe, a trade mission to India and inward investment successes, such as that of the Solar Cloth Co, specialising in thin film solar PV technology. We also publish the latest cleantech news and job advertisements from across the community on our website.

Whilst the focus for Cambridge Cleantech is understandably on business support, there are clear benefits for the environment and the climate change agenda including:

- direct environmental improvements through the use of environmental goods or services that do less harm to, or improve, the environment;
- green corporate social responsibility attitudes which are prevalent amongst the cleantech business community: the businesses practice what they preach and are careful to operate in a sustainable manner with care for the environment; and
- the promotion of cleantech and a leading European cleantech cluster from a local base, acting as an exemplar for other groups and companies, in the UK and internationally.

“Whilst the focus for Cambridge Cleantech is understandably on business support, there are clear benefits for the environment”

This can be illustrated by looking at one of our member companies. The David Ball Group plc, based in Cambridge, has developed a new ‘no cement’ concrete to address the fact that cement is traditionally produced using an energy and water intensive process, responsible for five to seven per cent of CO_2 emissions. This new concrete is based on an industrial by-product and has a significantly reduced carbon legacy, with a 95 per cent reduction in CO_2 emissions, low water requirements and reduced energy consumption.

A local approach to sustainable transport

Dr Julian Huppert
MP for Cambridge

A sustainable and low carbon transport system is something which UK governments have historically struggled to achieve, thanks to years of poor forward planning and systems which revolve heavily around cars, a highly inefficient mode of transport. But mobility patterns are changing, especially amongst young people, and sustainable transport systems are much more effective at meeting local social and economic needs.

A 2010 Department for Transport report found that 66 per cent of trips made in the UK were less than five miles, yet more than half of these were made by car. Twenty two per cent of trips were less than one mile, around a 20 minute walk, but 20 per cent of these journeys were also made by car.

These figures are shocking but not surprising: we currently have one of the lowest rates of trips made by bicycle, at two per cent, and the second lowest walking levels of all EU countries. A fundamental change in our travel behaviour and habits is needed.

A successful switch to an 'active transport' model, in which it is easier to walk or cycle, particularly in our heavily congested cities, will take time and planning, but the social, environmental and economic benefits to our country would be considerable.

Encouraging the public to trade in car journeys for those by foot or bicycle is possible but, to achieve it, we have to make the switch attractive, viable and safe. With our city roads designed for vehicles it can often be daunting, even for experienced cyclists and confident pedestrians. In fact, the perceived danger is often considerably higher than the actual danger, but it is enough to discourage people from walking and cycling.

By designing towns and cities for sustainable modes of transport first, we will make sustainable choices the default option for people. And the best way to achieve this is through a bottom up localist approach.

The good news is that for many young people, owning a car is no longer a priority, and we may be approaching the point of peak car ownership. It suggests that the demand for local sustainable transport systems will continue to grow, particularly in town and cities.

Although most of the discussion is about modal shift, one key change that could be made is for travel not to be needed. In particular, greater use of IT, such as video conferencing, which is now readily available and high quality, can act as a good alternative to face to face meetings, saving time for businesses as well as reducing congestion, pollution and carbon emissions.

A liberal and local approach to travel would allow citizens to travel where they want or need to go affordably and with ease, whilst having the least impact on the environment and others around them. An active transport model would achieve this, redesigning our cities and towns to revolve around public transport, walking and cycling, encouraging and facilitating people to make car journeys only when necessary.

Obesity, poor health, congestion, accessibility and the environment are all big issues for government to tackle. In times of austerity, it becomes even more of a priority, as we have to make progress with less resources and money. Introducing a liberal minded transport system would help to combat all of these issues, killing many birds with one stone.

"By designing towns and cities for sustainable modes of transport first, we will make sustainable choices the default option for people. And the best way to achieve this is through a bottom up localist approach"

Integrating walking and cycling programmes into Local Transport Plans is something which can be done in the shorter term, by local authorities, who know the needs of their residents and area better than those in Whitehall. Involving members of the community in these plans would mean many of those affected by these changes would be engaged early on, further encouraging them to take advantage of the benefits the changes would bring.

A 2012 study by medical journal *The Lancet* reported that if people worldwide cycled around three kilometres a day, and doubled the amount they walk, it would have a substantial effect on diseases including dementia, type 2 diabetes and heart disease, as well as colorectal and breast cancer.

Figures have shown that nearly three million people in the UK suffer from diabetes, whilst around a million people are suffering from undiagnosed type 2 diabetes: the potential benefits of active transport are huge. The same report found that, in the UK, this could amount to savings of around £17 billion over a 20 year period. This could be reinvested into the NHS, or be considered a saving at a time when the public purse strings are tight.

"It will take political will to change the deep-seated, road vehicle heavy, way that we approach transport in our cities and towns, but the environmental, social and economic benefits speak for themselves"

We are already making some progress, with trials of Dutch style roundabouts that separate cyclists and drivers and lessen the danger of collisions. Successful park-and-ride schemes in cities such as in my constituency, Cambridge, effectively interconnect the public transport and cycling/pedestrian aspects of an active transport model. The 'cities fit for cycling' campaign by *The Times* and the All Party Parliamentary Cycling Group's *Get Britain cycling* report are also making headlines, and positively influencing public opinion.

The key now is to push these improvements forward, and not just in London. Whilst the bike hire scheme and the cycle 'superhighway' have been great for cyclists in the capital, similar schemes should be rolled out across all UK cities. Giving local authorities greater powers to make their own decisions, and continuing funding streams such as the Local Sustainable Transport Fund would enable this. The recent announcement of the Cycle City ambition grants will allow some cities to show what is possible; Cambridge is aiming for 40 per cent of trips by bike within ten years.

It will take political will to change the deep-seated, road vehicle heavy, way that we approach transport in our cities and towns, but the environmental, social and economic benefits speak for themselves. A recent e-petition calling on the government and prime minister to focus on reallocating transport investment, to create safer road design, lower speed limits and provide strong political leadership, gained over 65,000 signatures. It suggests that a localised approach to active, low carbon transport would enjoy huge public support.

How local authorities can help to attract finance for the local low carbon economy

Christoph Harwood
Partner, Marksman Consulting

Local authorities have a major role to play in nurturing the low carbon economy. The Committee on Climate Change estimates that 30-60 per cent of carbon emissions are influenced by local authorities, and financing the solutions is one way that they can have an impact.

Local authorities' influence means that they can help to facilitate the delivery of a range of low carbon measures, for example energy efficiency retrofit, not just on their own estates but on all buildings within the community, both domestic and non-domestic. They can support the creation of community renewable programmes, helping to emulate Germany, where 51 per cent of renewable energy is owned by citizens rather than large power companies; and they can support the delivery of district heat networks. Finally, they can introduce sustainable transport programmes, for example improving public transport infrastructure and encouraging low emission vehicles.

Local low carbon investment not only helps to deliver the UK's carbon budgets but is a huge opportunity to attract funding into local communities to grow the local economy and create and retain local jobs. Research by the Centre for Low Carbon Futures suggests that the Leeds City Region could attract £4.9 billion, and Birmingham and its wider economic area £3.6 billion, whilst reducing carbon emissions by 10-15 per cent and making sensible returns for investors. In fact, it is this economic development story that is currently very attractive to local authorities.

However, these funds do not just turn up on their own: local authorities have to create the conditions for attractive solutions to emerge and flourish. Investing firms need an acceptable level of risk for the promised return. These returns are often determined by national policy, but risks can be managed locally, through an efficient planning process, by using local authority brands, or by judicious use of contracts. However, perhaps the most important issue to address is the creation of an acceptable pipeline of investible projects. This is something that local authorities are in a strong position to facilitate, thanks to their local knowledge and convening power.

So what can local authorities do to attract finance for this development? First is to recognise that finance and delivery models are emerging which provide the required mix of public and private sector resources, with the private sector acting in both finance and delivery roles. Local authorities need to consider their potential for leadership through four activities, requiring both investment of resources and action on identified risks:

1. Set credible targets and voice suitable aspirations for local regeneration, welfare, revenue generation and emissions reduction. Local authorities articulating that they are investing for the long run, in a way that will result in a viable project pipeline, is critical and needs to be able to survive changes in local politics.

2. Use their strong convening powers, bringing together the right parties to create the necessary business models. This can be through soft relationships, promoting low carbon programmes to LEPs, or the procurement of private sector partners.

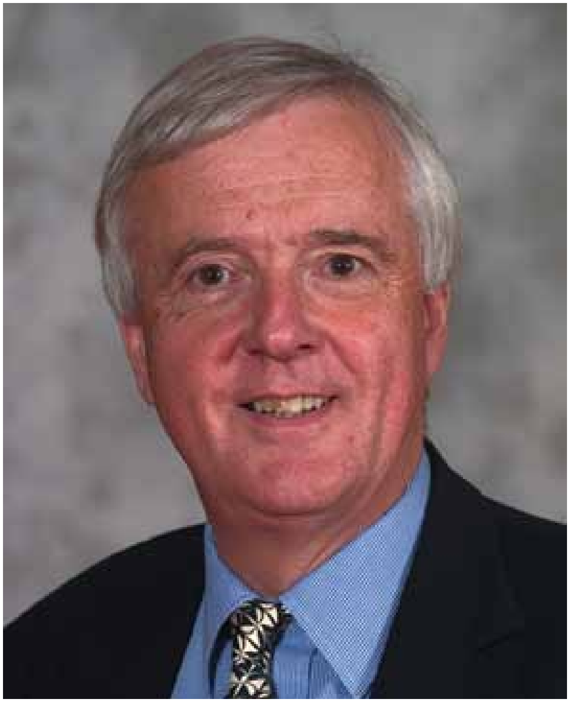
3. Use their assets to de-risk projects, providing clarity on early projects for investors and so reducing their start up risks. This can be done by including their own physical assets, buildings and land in the delivery pipeline, through contract design or the use of intangibles, such as the local authority brand.

4. Use enabling finance to support an investment programme, potentially covering start up costs even whilst revenue accounts are stretched. In addition, given a local authority's ability to borrow, capital budgets can be used alongside private sector funds, providing the benefit of creating future revenue payments for the authority.

What models are emerging to attract investment? There are already a number of them around the country, from Green Deal models led by Birmingham to address domestic retrofit, to joint working with the Green Investment Bank in Manchester, to renewable energy generation in Peterborough.

Often these models require local co-operation across councils of different political hues to create strategic programmes that benefit from economies of scale. Thought is also being given to how a variety of low carbon sectors can come together, through the creation of local low carbon delivery units: self-financing teams that turn low carbon from a cost centre to a revenue generator. All of these examples and others use the tools described above. By doing so, they create an attractive investment environment that not only reduces CO_2 emissions but also creates jobs, saves money and helps to grow the local economy.

Government policy in action: the contribution of city deals to carbon reduction



Lord Shipley OBE
Adviser to Rt Hon Greg Clark MP, minister for cities

Liberal Democrats have a strong devolutionist instinct. When Nick Clegg announced the plan for a first wave of city deals in December 2011, for eight of the largest cities in England, it was a milestone in reducing central control from Whitehall.

Whitehall's strengths are in developing policy and not in implementation. England is too big. Local people are much better placed to provide the leadership needed to deliver change in their areas.

In addition, the abolition of regional development agencies and government offices after the last general election left a vacuum which had to be filled by local councils and Local Enterprise Partnerships.

The detailed city deals, with Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield, were agreed after a process of negotiation during 2012. All eight are now underway. All have common themes, but each has its own unique proposition for devolving powers.

A further wave of city deals is now being negotiated. Twenty other cities and city regions are bidding for their own deal and, by the end of this year, they will know the outcome. At that point, some two thirds of England could have a city deal in place. More areas will potentially follow during 2014, if the single local growth fund proposals are effectively implemented.

The new freedoms cities have from Whitehall present an opportunity for carbon reduction to be central to all city deals, in a way that works for them.

In many cases it is. In the light of ambitious national climate change targets, cities have to think of the impact of their proposals on carbon reduction, whether in transport, housing design, energy efficiency and the Green Deal, or in planning. At the same time, featuring low carbon ambitions in the deals offers cities economic and social benefits, such as job creation, attracting new industries and lower household energy bills.

> **"The new freedoms cities have from Whitehall present an opportunity for carbon reduction to be central to all city deals, in a way that works for them"**

The common core of city deals relates primarily to skills, transport and housing and how they can drive growth and regeneration. In the first wave, the following examples may give a flavour of what low carbon elements have been agreed to help meet these central objectives:

Birmingham will deliver the UK's first local authority Green Deal, providing energy efficient improvements to 15,000 houses and 40 public buildings, creating 8,000 jobs and kick starting a £1.5 billion investment programme. This will include trialling new approaches, such as a community Green Deal pilot for domestic and non-domestic buildings in selected 'eco' neighbourhoods and a tower block Green Deal pilot.

Leeds plans to carry out over 2,000 Green Deal assessments and deliver energy efficiency interventions to 650 homes through the 'go early' pilots. Nine public buildings will be retrofitted under the government's RE:FIT programme, resulting in savings of 11,500 tonnes of CO_2 per annum.

Newcastle is established as a low carbon pioneer city, with an ambitious target to reduce carbon emissions by 34 per cent by 2020. The city will work with UK Trade & Investment and the Centre for Offshore Renewable Engineering to secure a further £500 million in private sector investment into the marine and offshore sector, with the potential to create 8,000 jobs across the north east.

Greater Manchester is developing a low carbon implementation plan to reduce carbon emissions by 48 per cent by 2020. As part of this Greater Manchester and UK Green Investments plan to establish and fund a 50/50 Joint Venture Company, responsible for developing a portfolio of low carbon investment propositions.

Bristol City Region is implementing energy efficiency and renewable projects worth up to £140 million, including elements of the Green Deal.

Liverpool City Region is running a 'red tape pilot' that will reduce regulatory burdens and streamline local planning processes, accelerating over £100 million of investment in offshore wind and other low carbon infrastructure.

Sheffield City Region will be designated as a Better Bus Area which will enable the city to promote a modal shift to public transport.

Nottingham and the government are working together on its Green Deal, including an expansion of district heating.

Of course, each of these cities has other carbon reduction projects in place which are not formally part of the city deal process, but can be brought together as part of a wider vision. What is particularly encouraging in the first wave is that each city sees carbon reduction as an embedded policy which underpins their planning and investment decisions. In addition, each informs neighbouring authorities in the 'city region' area of good practice so that the city deals will end up influencing change at a wider level.

"Each city sees carbon reduction as an embedded policy which underpins their planning and investment decisions"

It remains to be seen what the second wave of city deals will contain. It is evident, however, that carbon reduction will form an important element and that there is an appetite for this amongst those negotiating the deals.

The Liberal Democrats in government have paved the way for cities to see a dramatic increase in power, free from Whitehall control. This shift will continue over the coming months as the wave two deals are finalised and as we take forward the Heseltine review's recommendations to further stimulate local growth, including via the single local growth fund. Already, many local areas are seeing these new powers and freedoms as an opportunity to develop and strengthen their low carbon ambitions; now it's time for others to do the same.

City deals in action: low carbon economic development in the west of England

Colin Skellett OBE

Chairman,
West of England Local Enterprise Partnership

In 2012, the City of Bristol and the West of England Local Enterprise Partnership (LEP) region found itself uniquely placed to capitalise on opportunities for low carbon development via the Bristol city region's city deal, with three factors in particular contributing to the potential:

- an embedded culture of innovation, as well as the skills, research and development infrastructure to support it;
- formally established and successful sustainability networks, linking businesses, the public sector, SMEs, the voluntary and charity sectors, and community groups; and
- a high degree of social and political consensus supporting the sustainability agenda in the city and the wider region.

The five key elements of Bristol's city deal were tailored to take advantage of these factors.

The 'growth incentive' element allows local retention of 100 per cent of the increase in business rates raised from the Enterprise Zone and Enterprise Areas across the four local authorities in the city deal region. Bristol's Temple Quarter Enterprise Zone (TQEZ) is being configured to drive inward investment in the design and engineering of sustainable technology, as well as digital and creative media. Avonmouth Severnside Enterprise Area is already home to a waste and recycling centre which is leading internationally in sustainability, developing onshore wind turbine technology, and a potential testing site for new hydroelectric technologies. The Emerson's Green area, including the Bristol & Bath Science Park, continues to develop sustainable advanced technology engineering. All the

Bristol areas included in the growth incentive package require high environmental standards in relation to proposed developments. This multi-tiered activity has also been successful in conceiving and implementing initiatives such as Bristol's newly announced community energy strategy and its Solar City project.

"The decision to target inward investment towards the sustainability sector was financially, as well as ethically, justifiable"

The Bristol and Bath region's specialisation in innovative technologies is well established and naturally complements low carbon development: the city area has the highest number of patents and businesses, high level qualifications, and highest gross value added (GVA) per capita of any UK core city. The decision to target inward investment towards the sustainability sector was financially, as well as ethically, justifiable, given that it has performed well historically and is projected to have significant future growth. As a result, the Regional Growth Fund (now via the Going for Growth initiative) has been a powerful catalyst for economic growth, providing joint public-private funding.

Under the 'transport devolution agreement' in the deal, local authorities and the LEP have pledged to deliver a Greater Bristol Metro system, a West of England Bus Rapid Transit scheme and enhanced cycling and rail facilities. This will enable more efficient movement around the city, linking employment and training opportunities in the low carbon sector as well as moving the city's transport infrastructure further still from a car-based model. This not only improves current arrangements, but allows the city and region to plan new business and housing developments with a greater degree of confidence in future low carbon transport modes.

Under the 'people and skills programme' in the deal, post-16 training and apprenticeships programmes will contribute to addressing low carbon objectives. For example, the implementation of the Green Deal at a sufficiently ambitious level will require a significant level of investment in training supply-side contractors.

The government's seed funding via the city deal of a 'city growth hub', located in the heart of the TQEZ, provides a direct business marketing ability alongside a single point of contact for all inward investment into the region. Whilst this is of significant value in itself, it also places inward investment in the low carbon and zero carbon context across the TQEZ. This will effectively allow all development in the region to be 'greened' at inception.

A public property board, established through the city deal, combines property held by the Homes and Communities Agency, the Government Property Unit and the local authorities into a single management portfolio. The potential for low carbon development in this move is highly significant, as a rationalisation of assets creates opportunities for development and re-purposing of buildings. This will allow for an unprecedented increase in new low carbon developments and retrofit schemes.

Bristol's city deal was conceived through engagement with formal and informal networks comprising local authorities, businesses, key infrastructure operators, such as the airports, universities and utility companies, and representatives of SMEs, the third sector and community organisations. As a result, not only was the number of low carbon opportunities significantly increased but, also, there was more potential for imaginative and innovative ways to deliver them. Together, this ensures the maximum possible buy-in to the city and region's strategic goals. The complementary nature of each element of the deal enables each to have a multiplier effect on the others.

"Bristol continues to demonstrate that innovative sustainable low carbon development is a successful driver of economic growth"

In 2015, Bristol will be the Green Capital of Europe. The city's status as a centre of excellence for low carbon development demanded an ambitious city deal that plays to the city's past and future strengths. Bristol continues to demonstrate that innovative sustainable low carbon development is a successful driver of economic growth. The city deal, in giving Bristol the freedom to realise its low carbon ambitions, will enhance that growth in the city and beyond.

How to bring local communities with you

Juliet Davenport OBE

CEO & founder,
Good Energy

If British liberalism is about seeking local solutions to address the tensions between the individual and the market, the UK's energy market is one that falls short.

The economics of traditional, fossil fuelled energy supply has created a market that is highly centralised and built around the efficiency of a relatively small number of power plants.

That market may be liberalised, but it leaves people and communities disenfranchised. Run by a partnership of government and large energy companies, individuals, households and businesses are treated simply as consumers who have little care where their energy comes from, so long as they can use it.

But, just as a carbonised market has created this status quo, then a decarbonised one can help to dismantle it. New energy technologies like renewables are enabling those households, businesses and communities to interact with the market in a different way. And the dispersed and accessible nature of this technology means that, for the first time since the Industrial Revolution, communities are coming into more direct contact with the market.

This creates huge, new opportunities for what we can and should expect from it. Renewable technology has the revolutionary potential to be to the energy market what the internet has been to the way in which we consume and disseminate information and knowledge. In terms of the challenges the market faces today, its accessible nature can help to attract new market participants, deliver greater transparency, drive down costs and tackle consumer distrust of traditional energy companies.

But, if we simply apply the business as usual approach to that technology then we could miss out on all of these benefits. Worse still, without a fresh approach that opens up new opportunities, we risk worsening the sense of distrust and disillusionment that many feel towards energy companies and the government. We need to bring communities: individuals, households and businesses, along with us.

To achieve it, we have to do three things. First, as a society we need to expect more from our politicians, both locally and nationally, and ask them to democratise the energy market by making it simpler to access. They need to recognise that our energy policy shouldn't just be about replacing large traditional fossil fuelled plants with large scale renewables plants. It should also be promoting a revolution in access, by simplifying market rules and lowering the barriers to entry for small generators and suppliers. This is vital for those companies and community organisations for which electricity generation falls outside of their main area of business, meaning they have limited administrative and financial resources available to develop projects.

Second, we need to engage communities properly. Harnessing renewable energy resources naturally entails using technology that is more dispersed and decentralised than traditional sources. That means more communities will come into contact with energy market infrastructure for the first time. This may be unpopular, as we would expect from any significant infrastructure change. But, if approached right, it can also create a huge range of opportunities for the local community. Those of us who are the strongest proponents of renewable technology must also acknowledge that there will always be those who do not immediately share that enthusiasm. We may need to go the extra mile to engage with communities and demonstrate the potential for a long term positive legacy.

Industry has to ensure that it engages fully and openly with local communities to establish this dialogue, both to address concerns and ensure that proposals take into account local feedback.

Finally, there needs to be more of an emphasis on a partnership approach between government, industry and communities, in terms of sharing the economic benefits of schemes. Local and national government should both ensure that projects act as a vehicle for social and economic opportunity: through community investment funds, local electricity discount schemes, and investment and ownership opportunities.

Placing these three principles, of simplicity, commitment to dialogue and shared benefit, at the heart of energy policy is important to delivering a truly local approach to the development of our renewable energy resources. If we follow these principles and the example of other countries, like Germany, where they have already been put into practice, then there is a huge opportunity to reform our energy market in a way that puts local communities at the heart of the decarbonisation agenda.

“We haven’t got our coalition partners to agree to everything we wanted, or solved every problem in the last three years. That’s why this pamphlet is such an important contribution to my party’s thinking”
Rt Hon Nick Clegg MP, deputy prime minister

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