

REPORT TO: Cabinet Member – Environmental
Cabinet Member – Technical Services
Cabinet Member – Regeneration
Cabinet

DATE: 18th November 2009
18th November 2009
23rd November 2009
25th November 2009

SUBJECT: The Development of Low Carbon Economy in response to Climate Change

WARDS AFFECTED: All

REPORT OF: Alan Moore - Strategic Director of Regeneration and Environmental Services
Andy Wallis - Planning and Economic Regeneration Director

CONTACT OFFICER: Mark Long - 3471
Dave Packard - 2100
Mo Kundi - 3447
Neil Ash – 3473

**EXEMPT/
CONFIDENTIAL:** No

PURPOSE/SUMMARY:

To advise Members of the likely impact of current and planned climate change legislation and regulations, the implications of developing a low carbon economy in Sefton, and make recommendations for the strategic management of change.

REASON WHY DECISION REQUIRED:

Current and planned climate change legislation will impose requirements on local authorities, which requires a pro-active and co-ordinated approach to tackle climate change, which can only be achieved by changing current modus operandi across almost all economic sectors and moving to the development of a low carbon economy.

RECOMMENDATION(S):

That Cabinet Members for Environmental, Regeneration and Technical Services :-

1. Note the report, and that

Cabinet:-

2. Recommend to Sefton Borough Partnership that the coordinated response to the Climate Change and Low Carbon Economy agenda is made a highest level community strategy objective in the drafting of the required Sustainable Community Strategy, and is practically delivered through the Economic Development and Sustainability Thematic Group of the Sefton Borough Partnership
3. That the low carbon economy development objective is asserted in the next revision of the Council's Corporate Plan
4. Nominate the Cabinet Member - Regeneration as the Low Carbon Economy Champion
5. Reconfirm the Cabinet Member - Environmental as the Climate Change (Adaptation)

Champion

6. Nominate the Cabinet Member - Technical Services as the Corporate and Community Energy Champion
7. Recommend that the Economic Development and Sustainability Thematic Group of the Sefton Borough Partnership be a focus of coordinating wider community activity
8. Recommend that progress on developing and delivering a comprehensive Climate Change Response Strategy and Action Plan be overseen by the Cabinet Member Performance through the Council's performance management procedures
9. Request further progress reports

KEY DECISION: No

FORWARD PLAN: N/a

IMPLEMENTATION DATE: After the call in period

ALTERNATIVE OPTIONS:

Central Government legislation will impose a statutory duty on local authorities to take action to address the adverse impact of climate change. Not to act would result in Sefton being in breach of that statutory duty. In addition taking a pro-active and co-ordinated approach would enable Sefton to develop a low carbon economic base, thereby creating new job opportunities.

IMPLICATIONS:

Budget/Policy Framework:

Financial: There are no financial implications as a result of this report.

<u>CAPITAL EXPENDITURE</u>	2006/ 2007 £	2007/ 2008 £	2008/ 2009 £	2009/ 2010 £
Gross Increase in Capital Expenditure				
Funded by:				
Sefton Capital Resources				
Specific Capital Resources				
<u>REVENUE IMPLICATIONS</u>				
Gross Increase in Revenue Expenditure				
Funded by:				
Sefton funded Resources				
Funded from External Resources				
Does the External Funding have an expiry date? Y/N	When?			
How will the service be funded post expiry?				

Legal: N/A

Risk Assessment: N/A

Asset Management: N/A

CONSULTATION UNDERTAKEN/VIEWS

Technical Services, Environmental Services, Leisure and Tourism, Legal

FD212 – The Finance and IS Director has been consulted, and his comments have been incorporated in this report.

CORPORATE OBJECTIVE MONITORING:

Corporate Objective		Positive Impact	Neutral Impact	Negative Impact
1	Creating a Learning Community	/		
2	Creating Safe Communities	/		
3	Jobs and Prosperity	/		
4	Improving Health and Well-Being	/		
5	Environmental Sustainability	/		
6	Creating Inclusive Communities	/		
7	Improving the Quality of Council Services and Strengthening local Democracy	/		
8	Children and Young People	/		

LIST OF BACKGROUND PAPERS RELIED UPON IN THE PREPARATION OF THIS REPORT

'Actions with regard to Climate Change within Sefton' – Cabinet Member Environmental, 17th December 2008

'Actions towards compliance with National Indicator 188 – Adaptation to Climate Change' – 8th May 2009

'Adaptation to Climate Change on the Sefton Coast' – Cabinet Member Environmental, 29th July 2009; Cabinet, 6th August 2009

'The Economic Impact of EU and UK Climate Change legislation on Liverpool and the Liverpool City Region' – TMP/Regeneris Consulting, June 2009

'The UK Low Carbon Industrial Strategy' – DBIS/DECC, July 2009

'Changing Work in a Changing Climate: Adaptation to climate change in the UK – new research on implications for employment' – TUC, April 2009

'Creating Green Jobs: developing local low-carbon economies' – LGA, January 2009

'Low Carbon Economy: exploring low carbon projects throughout the region' – NWDA, November 2008

'Final Impact Assessment on the Order to implement the CRC Energy Efficiency Scheme', - DECC, October 2009

'Consumer Power: How the public thinks lower-carbon behaviour could be made mainstream' – IPPR, September 2009

Position paper for SBP Board – Climate Change, October 2009

1.0 Background

- 1.1 There is mounting concern in government that targets for reducing CO₂ emissions are not being met.
- 1.2 The UK government is committed to reducing carbon emissions, establishing the Department of Energy and Climate Change (DECC) in October 2008 to co-ordinate the commitments, and passing the Climate Change Act in November 2008, which set out a framework for moving the UK to a low carbon economy and established legally binding targets to reduce carbon emissions by 80% on 1990 levels by 2050, and 34% by 2020.
- 1.3 DECC and the Department for Business Innovation & Skills (DBIS) launched the UK Low Carbon Industrial Strategy and the Low Carbon Transition Plan in July 2009. A quote from the Strategy puts the task into perspective:

“To meet Britain’s climate change targets – to reduce greenhouse gas emissions by at least 80% below 1990 levels by 2050 – each unit of economic output in Britain will need to be produced using on average one tenth of the carbon dioxide emitted today. This simple but compelling fact is going to transform our whole economy. It will change our industrial landscape, the supply chains of our businesses and the way we all live and work.”

- 1.4 Local authorities will be expected to play a major role in tackling climate change by introducing low carbon policies and practices in housing, transport, regeneration, environmental protection, planning and other key services, as well as through day-to-day activities. Local authorities are also expected to play an important role in raising awareness and influencing behaviour change more widely by working with its partners and stakeholders.
- 1.6 This report sets out the legal and policy framework impacting Sefton, then identifies priorities for action to minimise the transition costs to a low carbon economy, and to maximise the benefits. A briefing note on the background to climate change legislation is included as Appendix A for members who want to refresh their knowledge on current and forthcoming requirements.

2.0 The Impact of Climate Change Legislation on Merseyside

- 2.1 In June 2009 The Mersey Partnership commissioned a report from Regeneris Consulting called ‘The Economic Impact of EU and UK Climate Change Legislation on Liverpool and the Liverpool City Region’.
- 2.2 The report highlighted the facts that the LCR currently has below national and regional average CO₂ emissions, and does not have too much heavy industry that needs major structural change to adapt. It does have considerable natural assets for renewable energy generation, already having several on-shore and off-shore wind turbines, and having undertaken research to harness the power from the tidal ranges of the Mersey and Dee estuaries.
- 2.3 There is a thriving environmental technologies sector (ETS) employing over 9,000 people (1.5% of total employment), generating wealth in excess of £1.1 billion. The TMP report states there could be a further 6,000 to 15,000 ETS jobs available to the LCR by 2015. Of the estimated 400 firms in the LCR engaged in ETS the most significant opportunities are in –
 - ❑ Waste Management and Recycling (currently 3,800 jobs in 210 firms) – scope to diversify into Energy from Waste.
 - ❑ Renewable Energy (800 jobs in 41 firms) – scope to specialise in servicing off-shore wind and future tidal energy schemes.

- ❑ Energy Management (800 jobs in 22 firms) – combined heat and power installation, energy efficient lighting, and insulation are all likely to benefit from need to be more energy efficient across all sectors.
- ❑ Microgeneration – 6 identified installers of microgeneration systems in the LCR, 2 of whom manufacture units. Not particularly well placed in this sector, although it is felt that opportunities lay in the installation of solar thermal and ground source heat pumps.

2.4 Sectors identified where it is expected to see employment growth when moving to a low carbon economy include:–

- ❑ Professional Services – architects, consultants and planners in relation to building design, specialist finance and legal skills.
- ❑ Management and Administration – billing, procurement and customer service for renewable energy and low carbon products and services.
- ❑ Construction and Maintenance – old building conversion and upgrading to meet new energy efficiency standards, and maintenance of renewable energy systems.
- ❑ Manufacturing – existing manufacturing base in products that reduce carbon emissions such as glazing, insulation and building control systems.
- ❑ Transport – sustainable transport systems will provide potential employment growth.
- ❑ Research & Development Skills – opportunities in pure and applied research that cut through limitations placed on change by current technology.

2.5 The report also identified 15 potential intervention areas:

- ❑ Tidal Energy Centre of Excellence
- ❑ Innovation & Technology Transfer
- ❑ Develop Off-Shore Wind Supply Chain
- ❑ Sector Development for Environmental Technologies
- ❑ Skills Capacity in Sustainable Construction
- ❑ Plan to achieve sustainable construction standards at low cost
- ❑ Energy efficiency in social rented housing
- ❑ Energy efficiency in private housing
- ❑ Expanded business support for energy efficiency
- ❑ Expand on-shore wind installations
- ❑ Expand use of biomass and energy from waste
- ❑ Low carbon transport city
- ❑ Low carbon port
- ❑ Low carbon airport
- ❑ Communication of report

2.6 The report proposed that local authorities work closely with businesses to ensure that the economic and employment potential of carbon reduction is fully encouraged, placing Merseyside at the forefront of low carbon market development.

2.7 On the basis of this report and the acceptance of its principal recommendations, the Merseyside local authorities and their public, private and voluntary sector partners signed up to a Multi-Area Agreement (MAA) in September 2009. Within the Economy policy of the MAA, Low Carbon Economy is named as one of four transformational actions with the strategic potential to drive the city region's economic renaissance.

3.0 Implications for Sefton

- 3.1 Responding to climate change is both an urgent and an important policy for all tiers of government. Central government can lead through the creation of a legislative and policy environment in which decarbonisation becomes more attractive to carbon emitters. Sefton Council has a specific additional responsibility to lead by example, and to facilitate change where it is best placed to act:
- ❑ To raise awareness of the carbon reduction targets in the wider community
 - ❑ To reduce carbon emissions in its own estate
 - ❑ To facilitate low carbon solutions in service areas for which it is responsible
 - ❑ To provide incentives and support for individuals, communities, businesses and organisations to tackle their carbon footprint
 - ❑ To co-ordinate local area-based initiatives and maximise their effectiveness
 - ❑ To ensure synergy with other key policies for housing, transport, regeneration and sustainable communities.
- 3.2 Action is also needed to minimise the costs of climate change, in particular the cost of meeting the Carbon Reduction Commitment and Landfill Tax.
- 3.3 The Carbon Reduction Commitment Energy Efficiency Scheme (CRC) is a new cap and trade scheme to be introduced from April 2010 that draws into an emissions trading scheme private and public sector organisations whose energy consumption is not as large as those covered by the EU's Energy Trading Scheme, and that fall outside the Climate Change Agreements. Local authorities will fall under the CRC.
- 3.4 The CRC will have a three-year transition phase during which allowances to emit CO₂ will be purchased via a simple auction at a fixed price of £12/tCO₂. The price of carbon is only likely to rise with the true price, based on the polluter pays principle, being £28 per tonne. Sefton will have to purchase allowances in the first year based on an energy bill (including water). The impact of the CRC will be very significant, the scale of which is currently being assessed. Parallels can be drawn with Landfill Tax, which was introduced initially at a low level, but over the years has increased significantly.
- 3.5 Other avoidable costs include the rising cost of energy. Indications are that both gas and electricity bills will increase by between 15 and 25% over the next ten years. Significant interventions will be needed to increase energy efficiency in homes and workplaces, in schools and public buildings, to restrain heating costs.
- 3.6 Sefton is already doing some excellent work in the areas of recycling and waste management, coastal and habitat protection, environmental education work with young people, and energy efficiency advice. However, given the scale of the challenge facing us, this is not sufficient. More needs to be done.

4.0 Actions Required to move towards a Low Carbon Economy

- 4.1 Additional activity is needed in the short, medium and long term:
- ❑ Short term – more research & intelligence; awareness raising & engagement; prepare for the CRC; policy; energy efficiency programme; skills development and employment; supply chain development; business support; and community engagement
 - ❑ Medium/long term – sustainable transport infrastructure; critical mass of demonstration projects; integration and co-ordination

Research & Intelligence

- 4.2 Sefton needs to fully assess the likely areas of opportunity and risk presented by transition to a low carbon economy. The forthcoming Local Economic Assessment provides a structured method for documenting the carbon footprint of Sefton's economy, and identifying priorities for action.

Awareness Raising and Engagement

- 4.3 Individuals are responsible for almost 50% of emissions. It is, therefore, not possible to cope with the impact of climate change if people are not convinced of the soundness of measures which will affect their cultural habits and perceived quality of life. Fostering education at all levels and raising awareness campaigns become essential. The key challenge is to change individual behaviour, which will require extensive social marketing and attitude shift in school, the community, at work and at home.

Policy

- 4.4 There is an ever increasing range of EU and UK legislation. Our MAA and LAA now have climate change targets incorporated into them. National Indicator 185 relates to reporting on CO₂ reductions in the local authority's own emissions; NI 186 to CO₂ reductions per capita in the community; and NI 188 aims to incorporate into local government services the management of climate change risks and opportunities, which must be assessed and prioritised, and an action plan created.
- 4.5 The Supplement to Planning Policy Statement 1 (planning and climate change), and PPS 3 & 22 provide the framework to allow climate change issues to be fully taken into account in planning policy. Sefton's Local Development Framework Core Strategy will have energy policies that form the basis of energy planning frameworks.
- 4.6 All new buildings will have to be carbon neutral by 2016, and currently stamp duty is waived for zero-carbon homes. However, zero-carbon homes are presently virtually non-existent, but there will be many homes built between now and 2016. The LGA would like to see councils to require Code for Sustainable Homes level 3 in all new housing from 2010 as an interim measure to raise standards.

Carbon Reduction

- 4.7 The Carbon Reduction Commitment must lead to a reduction in CO₂ from buildings within the Council, workplaces, and the domestic housing stock across social and private rented sector plus owner occupied.
- 4.8 Energy efficiency measures will be extremely important as they can account for up to 40% of the required CO₂ reduction targets. If just home energy efficiency programmes are included there is currently £7 billion available between 2008-11 in the UK for programmes. These include:
- ❑ Energy supplier/generator obligations of the Carbon Emissions Reduction Target (£2.8 billion)
 - ❑ Community Energy Saving Programme (£350 million)
 - ❑ Additional Energy Efficiency Obligation (£560 million)
 - ❑ Warm Front (£874 million)
 - ❑ Decent Homes (£2.2 billion)
 - ❑ Social Housing Energy Saving Programme (£84 million)
 - ❑ Winter Fuel Payments for older people (£2.7 billion per year).
- 4.9 Sefton's Energy Team, Housing and Renewal, OneVision, Social Housing sector and others have been pro-active in developing an energy reduction plan that is attractive to funders. Currently, Sefton is a partner in a sub-regional bid to NW Operational Programme for a £22 million energy efficiency project. Sefton's contribution is likely to involve the installation of solar water heating systems. Efforts are being made to link this project with the utilities schemes under the Community Energy Saving Programme, reported to Cabinet on 29th November 2009. More information will be provided as part of the 'Funding Opportunities' report update to Cabinet Member for Regeneration.

Skills development and local employment

- 4.10 Delivering major energy efficiency programmes runs the risk of being frustrated by the lack of skills and businesses in the Sefton area to undertake the volume of work. The development of a new skills base for a low carbon economy is therefore crucial. Without them contracts will be lost to outside businesses and there will not be opportunities for local people to get local jobs. Practical installation, maintenance, and repair skills will be needed for such activities as –
- ❑ domestic insulation and micro generation systems
 - ❑ small commercial and retail systems
 - ❑ ground source heat pump installations
 - ❑ combined heat & power installations
- 4.11 There is an important skills and recruitment gap which Sefton will address through its Employment & Skills Strategy, and sub-regionally through the Employment & Skills Board.
- 4.12 Sefton also has the expertise to engage with the local construction sector and promote adaptation to the new requirements in the marketplace. Action on construction supply chains will remove a significant obstacle to the roll-out of energy efficiency investments.

Supply Chains

- 4.13 The offshore and onshore wind energy industry will need a wide range of skills and firms to undertake the huge expansion of servicing and repair required. The supply chains involved with the maintenance and repair of wind farms is regarded by the TMP report as an area where Merseyside has an advantage. This should be the immediate focus of activity. Sefton led the Merseyside response to the discovery of oil and gas in Liverpool Bay fifteen years ago. Sefton can be amongst the leaders once again as it applies its supplier development expertise to the task of attracting fabricators and their first and second tier suppliers to a Merseyside onshore base.
- 4.14 Low carbon supply chains and sustainable procurement will become more and more important within both the Council and the wider economy. Basically, final price will be much more sensitive to distance travelled as distribution costs increase to reflect the true cost of carbon. At the same time, quality and specification will be more critical as legislation and regulations become more stringent.

Business support

- 4.15 Businesses need help and support to switch out their carbon fuels and find renewable alternatives; they also need help to minimise waste and make the best use of natural resources. Their markets will also change as customers become more demanding, and purchasers cascade more stringent environmental standards down the supply chain. Some work has already been undertaken with businesses on environmental management systems and meeting environmental standards. Much more remains to be done. The NWDA has recently renewed ENWORK's contract to supply support and advice to local companies, and Business Link has a key diagnostic and brokerage role. Officers are also investigating whether there is a need for additional complementary services better geared up to capturing local demand and delivering integrated solutions.

Community involvement

- 4.16 The most direct involvement of communities in the low carbon economy is when individuals and neighbourhoods take an active part in altering their energy use. The Low Carbon Communities Challenge fund 2010 – 2012, offers £10 million for up to 20 communities spread across the country. It is an action research fund designed to provide data for central government on how much local communities will actually be able to contribute towards the CO₂ reduction targets set

for 2020 and 2050. Council officers are currently working up a potential bid with Formby Parish Council to be submitted towards the end of December.

Transport

- 4.17 Transport technologies, transport networks, transport management and user travel behaviour will all need to change to meet carbon reduction targets. Two policy choices mentioned in the TMP report are balancing the needs of freight with those of communities, and raising the profile of the logistics sector within local communities to make it more attractive for recruitment and skills.
- 4.18 The TMP report highlights development of a low carbon transport city, a low carbon port, and a low carbon airport, in all of which Sefton has an interest and a role. The report suggests in the medium term a breakthrough will be achieved in the production of electric vehicles with sufficient speed and distance between charges to make them more marketable. If this proves to be the case, then charging points in convenient locations must be provided.

Internal Council structures to co-ordinate and ensure delivery

- 4.19 The low carbon economy agenda cuts across departmental responsibilities, making it important that coordination of efforts takes place. Regeneration, environmental protection, technical services, education, health, communities, housing renewal and planning all have crucial roles to play. The agenda needs to be embedded in the LSP as a major strand of the Sustainable Communities Strategy, and as a major component of the new Local Economic Assessment requirement. In order to ensure that this agenda can be successfully delivered, it is proposed that:-
- ❑ The coordinated response to the Climate Change and Low Carbon Economy agenda is made a top level community strategy objective in the drafting of the required Sustainable Community Strategy and is practically delivered through the Economic Development and Sustainability thematic group of the Sefton Borough Partnership.
 - ❑ The low carbon economy development objective is asserted in the next revision of the Councils Corporate plan
 - ❑ The Cabinet Member Regeneration be nominated as the Low Carbon Economy Champion
 - ❑ The Cabinet Member Environmental be reconfirmed as the Climate Change (Adaptation) Champion
 - ❑ The Cabinet Member Technical Services be nominated as the Corporate and Community Energy Use Reduction Champion.
 - ❑ The Economic Development and Sustainability Group of Sefton Borough Partnership (on which the three Cabinet Members above participate) be a focus of coordinating wider community activity

Appendix A – Background to UK policy on Low Carbon Economy

Why low carbon?

- A.1 The excessive emission of greenhouse gases into the atmosphere causes global warming. Carbon, in the form of carbon dioxide (CO₂), accounts for approximately 76% of total global emissions from the six greenhouse gases, with methane and nitrous oxide accounting for almost all of the remainder. The three main sources of CO₂ in all developed economies are emissions from power production, transport and buildings. Global CO₂ emissions are currently around 47 billion tonnes of carbon-dioxide-equivalent, but without the current global economic slowdown these were anticipated to exceed 50 billion tonnes. By 2020, it is expected that under normal economic growth conditions emissions will rise to between 55 and 60 billion tonnes. Current international proposals are planned to reduce emissions to around 49 billion tonnes.
- A.2 The most important study, the Stern Review 2006, on the Economics of Climate Change concluded that the costs of tackling climate change were around 1% of global GDP. This amounts to approximately £200 million for the Liverpool City Region (LCR). Not taking action could result in an average loss of between 5% and 10% of global GDP every year. To have a reasonable chance of cost-effectively limiting any rise in global average temperature to no more than 2°C, above which scientists regard as too dangerous to go, annual emissions should be reduced to below 44 billion tonnes by 2020, to well below 35 billion tonnes in 2030, and well below 20 billion tonnes by 2050.
- A.3 In terms of per capita CO₂ emissions, today's global average is around 7 tonnes of carbon-dioxide-equivalent per capita, but with big variations between countries. For example, the USA emits about 24 tonnes per capita, while India is below 2 tonnes per capita. By 2050, global population is projected to rise to 9 billion, so to meet the 2050 emission targets, average per capita emissions would have to be around 2 tonnes per capita.
- A.4 In the Liverpool City Region (LCR), CO₂ accounts for approximately 96% of greenhouse gas emissions. The industrial and commercial sectors account for almost half of total emissions, the domestic sector for a third, and transport the remaining fifth. The carbon footprint of the LCR in 2006 was 11.2 million tonnes of CO₂ or 7.6 tonnes per capita. Sefton, Liverpool and Wirral have CO₂ emissions of between 6 and 7 tonnes per capita, whereas Knowsley, St. Helens and particularly Halton have emissions of between 8 and 16 tonnes per capita.
- A.5 This differential is explained by the location of major industrial sites. Ineos Chlor (chemicals) and Pilkington (glass) in St. Helens, together with associated power suppliers account for 14% of emissions of the whole LCR, with Ineos Chlor in Runcorn using a similar amount of energy in its manufacturing processes to that of the whole of Liverpool. Public and private investment in a £400 million Energy from Waste plant, to be operational in 2013, will produce 20% of Ineos Chlor's energy needs from renewable sources, while reducing the need for landfill.
- A.6 Overall, the LCR has relatively low emission levels compared to the regional (8.6 tonnes per capita) and UK (8.7 tonnes per capita) average. This is largely explained by the relatively low economic activity rate within the LCR, having 7% fewer residents in employment than the UK average, indicating the close link between increased economic activity and increased emissions, a link that needs to be broken (decoupled) as an essential part of a low carbon economy.
- A.7 Amongst the key findings of the first annual report (October 2009) to Parliament by the Committee on Climate Change was that a step change in the pace of CO₂ reductions was needed. In the 5 years between 2003 and 2007 reductions averaged 0.5 %, but annual reductions of 2-3% would be required in the future. Economic recession is likely to have cut emissions in 2008 by 2%, but recession induced reductions must not be confused with underlying progress. Progress had to be made in 3 main areas – electricity generation,

commercial and residential buildings, and road transport.

What does a low carbon economy mean?

- A.8 A low carbon economy relates to both a local geographical economy where adaptation and mitigation measures counteracting climate change have both been undertaken successfully by all sections of the community, and to the economic sector for low carbon products and services that forms part of overall GDP or GVA.
- A.9 A local geographical low carbon economy is one where the manufacture, delivery and consumption of products and services are undertaken in ways that reduces net CO₂ emissions to the minimum possible. Consideration of net CO₂ emissions is important because it relates to the overall carbon footprint of products and services, where sourcing materials, purchasing, and transportation components are taken into account. It is vitally important that the local geographical economy also restructures to ensure that the economic infrastructure is in place to allow for the expansion of market share in low carbon products, services, and jobs, sometimes termed 'green jobs'.
- A.10 Transition to a low carbon economy raises significant challenges to the industrial workforce and their families. The Department for Business Innovation & Skills has stated that, "As with previous structural changes to the economy, the move to a low carbon economy will affect each business, worker and family differently. Previous economic structural shifts have had huge social impacts, with some workers and communities being left behind as industries are restructured by change."
- A.11 The Low Carbon Industrial Strategy has 3 basic principles –
- Long term strategic approach e.g. commitment to nuclear and renewable energy
 - Intervention to accelerate transition e.g. support for R & D in new low carbon technologies
 - Ensure companies and people are equipped to compete for the new demand created by climate change policies e.g. skills development, and supporting the development of supply chains
- A.12 The strategy also recognises the need to build on local and regional strengths in order to make the most of the future economic benefits. For this reason the strategy introduces the concept of 'low carbon economic areas'. The first of these will be located in the South-West of England focusing on the development of marine energy demonstration, servicing and manufacture. It will have a Wave Hub with up to £60 million funding attached.
- A.13 To meet government's energy generation targets of 15% from renewable sources by 2020 will require a massive increase in renewable electricity generation from the current 5% level to 30% in 2020. Offshore wind is expected to make up a large part of this increase. An increase of this size would bring economic opportunities. The Carbon Trust has calculated that the UK offshore wind industry alone will generate net economic benefit of £65 billion and create 220,000 jobs over the next 40 years. The Institute of Public Policy Research (IPPR) believe that with strong government support up to 70,000 long-term jobs could be created in the UK offshore wind industry.
- A.14 One of the reasons estimates vary so much is that it is not yet clear how many supply chain jobs will be located in the UK. Currently most components for the UK's off-shore wind farms are imported, with the only manufacturing done in the UK at Skykon's tower plant in Scotland. In 2008, Germany employed more people in the renewable electricity generation sector than in conventional carbon-intensive electricity generation, and has the engineering infrastructure, including the skills base, to immediately respond to both current and future demand. It is recognised amongst potential investors in this sector that the UK does not necessarily have the skills base, and other gearing, to attract the investment into any really significant manufacturing of components. This will make it more important to ensure jobs growth in those areas of the supply chain where we might have competitive advantage. These include consultancy, installation, operation, maintenance, legal and financial services.

A.15 The transition to a low carbon economy is likely to mean –

- The creation of more jobs than are lost
- New markets for low carbon technology and therefore new jobs
- Markets created in one country will create jobs in other countries
- A stronger policy response makes net benefits more likely
- Low Carbon employment increases might be short-lived if not based on comparative advantage
- Many low carbon jobs will be created outside of manufacturing sectors

A.16 There is clearly a very significant prize at stake for economies that can move into low carbon products and services and one, which presents benefits for early movers.