

RISING TO THE CHALLENGE

A Climate Change Action Plan for England's Northwest 2010-2012

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**CLIMATE CHANGE
IT'S TIME TO ACT.**

FOREWORD

Our transition to a low carbon economy and a well adapting region will be one of the defining issues of the century, it will transform our everyday lives and how we do business. The science has delivered the certainty on the need for action, and the Climate Change Act has delivered the scale of action required.

The Northwest has made significant progress since the publication of the first Climate Change Action Plan. Businesses, communities and individuals are all taking action to reduce emissions and assess the risks of future climate change. Our carbon emissions are now declining as new approaches to low carbon energy generation, consumption, buildings and travel start to take hold.

'Rising to the Challenge – A Climate Change Action Plan for England's Northwest', first published in 2006, was a groundbreaking plan outlining the approach to the challenges and opportunities in our transition to a low carbon, well adapted region. The objective of this revised Climate Change Action Plan is not to replace, but to strengthen, in light of progress made to date and developments at national and international level. The plan will be reviewed once the region's strategic priorities are confirmed through the development of the Regional Strategy.

Our mission since 2006 to become 'the leading region on climate change' continues to be delivered. The region has been designated as the national lead on nuclear power generation; Liverpool city

region is seeking to be the first to deploy tidal energy; Cheshire has one of largest networks of low carbon communities in the country; Manchester city region is taking a national lead on low carbon in the built environment; Cumbria is developing the Energy Coast; Lancashire is leading on adapting to the impacts of climate change; and every Northwest council has committed to tough climate change and energy targets.

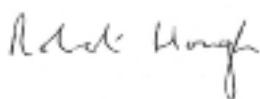
We are also realising the opportunity to deliver the new products and services required to make the low carbon transition at home and abroad, building on our industrial heritage and strength in innovation to deliver a new low carbon industrial revolution.

This Action Plan continues the work to rise to the challenge of achieving sustainable growth within a carbon reduction of 80% by 2050. No region is better equipped to deliver the innovation required for the global transition.

The challenge we face is significant and the actions contained within this plan do not constitute the totality of activity across the region on climate change. This plan aims to highlight the key areas of opportunity and focus. Meeting this challenge will require innovation and acceleration of activity within all sectors of our economy, most important will be how the public sector can provide the strong signals required to release the energy and leadership of businesses across the region.

A brief summary of progress on the plan to date is contained within the sections below and further information is available at


www.climatechangenorthwest.co.uk



Robert Hough
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Northwest Regional
Development Agency



Liz Meek
Regional Director
Government Office
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Sir Richard Leese
Chair
4NW



Tony Dean
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THE CHALLENGE

FOUR KEY ISSUES:

Our Carbon Trajectory

Although regional carbon emissions have declined since 1990, the underlying trend is for a growth in emissions related to population growth and the increased use of industrial, domestic and transportation fuels. Keeping emission reductions on track to deliver our fair share of national targets will require an acceleration of innovation and resourcefulness akin to the pace of change experienced during the Northwest's first industrial age, affecting energy generation, homes and industry, transport, farming, land use and waste. The region will also need to have regard to the carbon budgets within the UK Low Carbon Transition Plan, ensuring that future delivery of the Climate Change Action Plan contributes to the objectives of the forthcoming Regional Strategy. It is key that we achieve carbon reduction as quickly as possible, reducing the cumulative effect of carbon in the atmosphere and reducing the severity of climate impacts.

Secure and Affordable Energy Supplies

The success of the Northwest's transition to a low carbon economy and future growth depends upon continued access to secure and affordable energy supplies. The region is now a net importer of gas and oil and, as our energy demand grows, so too will our exposure to global energy price fluctuations and supply constraints. Our transition to a low carbon economy, which reduces the amount of carbon required for economic activity and diversifies our energy supply, will be a key factor in reducing these risks.

Unavoidable Climate Change

Past emissions mean that some climate change effects are inevitable and already visible in the Northwest. The impact of this unavoidable climate change includes warmer drier summers, milder wetter winters, rising sea levels and stormier weather. In the region's urban areas, higher temperatures and increased exposure to flood risk are beginning to have direct consequences for spatial decision-making, health, logistics and the management of people and property. Water shortages could have direct impacts on the security of food, agriculture and utility sectors. Wetter weather during the spring and winter periods, alongside rising sea levels, could give rise to more frequent, large-scale storm surges. Overseas, threats to the resilience of international supply chains upon which the Northwest relies may continue to grow.

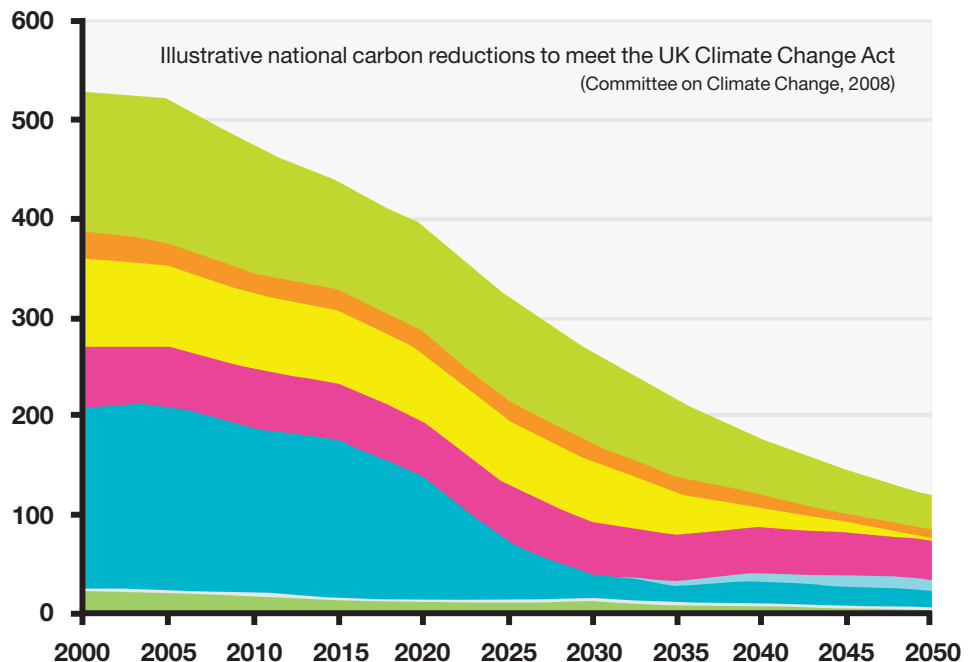
Impacts on Growth

Although regional businesses have begun to explore the new opportunities that climate change presents, the impacts to growth of not taking action are significant. The Stern Review identified climate change as the biggest market failure ever known and demonstrated that cost-effective, early action can prevent its worse excesses. Translated to a Northwest context this could amount to a cumulative opportunity cost in excess of £70bn, making a rapid transition to a low carbon economy an imperative for sustainable growth. Responses to these opportunities and impacts will also need to reflect the diversity of economic activity across the region, through being embedded within Local and Multi-Area Agreements.

REDUCTIONS BY 2050 – 80%

CO₂ emissions by sector
(Millions of Metric Tonnes)

- Transport
- Services
- Residential
- Industry
- Hydrogen
- Electricity
- Agriculture
- Land Use & Other



CHANGING PRECIPITATION*

The impact of changing precipitation levels in the Northwest in 2080

- Summer precipitation**
- Decrease of 10% and 20%
 - Decrease of 20% and 30%
- Winter precipitation**
- Increase of between 0 and 10%
 - Increase of between 10% and 20%
 - Increase of between 20% and 30%



2080 decreased summer precipitation

- Reduced stream flow and water quality
- Increased drought
- Subsidence
- Decreased crop yields
- Serious water stress

-21%

2080 increased winter precipitation

- Increased winter flooding
- Increased subsidence
- Risks to urban drainage
- Severe transport disruption
- Risks to critical infrastructure

+16%

CHANGING TEMPERATURE AND SEA LEVELS*

The impact of changing temperature and sea levels in the Northwest in 2080

2080 increased summer temperatures

- Increased heat stress
- Infrastructure risks
- Risks to biodiversity
- Heat related deaths
- Risk to food security

+3.7°C

2080 relative sea levels

- Liverpool +32cm
- Blackpool +30cm
- Barrow-in-Furness +30cm

+30 to 32cm

*Reference: Based on the 'Central Estimate, Medium Emissions' scenario (UK Climate Projections 2009), which equates to scenario 'A1B' of the Intergovernmental Panel on Climate Change (i.e. an average global warming of 2 degrees Celsius by 2080). The illustrated impacts assume no adaptation planning or interventions in the period preceding.

VISION

A low carbon and well adapting Northwest by 2020.

OBJECTIVES

Reduce greenhouse gas emissions

Adapt to unavoidable climate change

Capitalise on opportunities for economic growth

Transport

We will be on the way towards a low carbon transport system. The emissions from our new vehicles have almost halved through innovative technologies and sustainable fuels, and we are developing the infrastructure needed for ultra low carbon vehicles and to adapt to climate change. Walking, cycling and public transport are making a valuable contribution to carbon reduction, supported by land use planning, improved local services and increased use of digital connectivity which reduce the need for travel. We have better inter-city services and direct links to the European rail network to reduce unnecessary car and air travel.

Carbon Capture and Sequestration

Our emissions from land use changes are controlled, and the potential for natural carbon sequestration has been realised through improved forestry, soil management and green infrastructure practices. The region has a growing expertise in carbon capture and storage technologies for power generation.

Low Carbon Energy Technologies

We have a world class low carbon technologies sector, driven by the innovation of our knowledge industries. Our key business sectors have capitalised on the opportunities for growth through developing low carbon approaches to advanced engineering, construction, aviation, automotive and professional services.

Energy Supply

We are moving towards a clean, diverse and secure energy supply. Renewable energy is powering almost a third of the region's electricity use, with a marked increase in the use of biomass and our coast being harnessed for wind and tidal. Our power sector is trading its emissions and preparing to deploy carbon capture, and the region is a leader in civil nuclear, capitalising on next generation schemes. We see the emergence of significant numbers of local energy schemes providing power and heat to communities and businesses, utilising biomass, anaerobic digestion, micro-hydro, combined heat and power, solar, wind and heat pumps.

Monitoring and Research

Nationally and regionally, we have developed a robust evidence base and datasets to effectively monitor progress and influence the strategic direction of the region, and to ensure that responsible authorities are achieving targets for both mitigation and adaptation.

Energy Efficiency and Demand

We have reduced overall carbon emissions by at least a third since 1990. There is acceptance of the environmental and economic benefits of energy efficiency and sustainable consumption practices across businesses, public sector and communities. All new buildings are zero-carbon, and existing buildings are being retrofitted with low carbon technologies, microgeneration and smart meters to reduce emissions and eliminate fuel poverty. Low carbon and resource efficient goods and services are becoming standard, driving growth in our low carbon technology businesses. The public sector is leading the way through sustainable procurement and strategies to reduce the impact of their estate and services.

Risks and Opportunities

Regional and local risk assessments of the impacts and consequences of future climate change will have been undertaken and acted upon. Our businesses and public service providers understand the consequences of local, regional and global climate change impacts and have embedded climate resilience within their business planning process. We have reduced any potential adverse risks to our economy during the transition. Our existing and future infrastructure, communities and businesses are prepared for future climate change impacts. Actions are being taken to help to maintain the connectivity of the region's habitats and increase the ability of our biodiversity to adapt to changing climate conditions. Our businesses are responding to the potential domestic and international business opportunities that may be identified with future climate change, including the region's agricultural sector and visitor economy.

Raising Awareness of and Support for Practical Actions

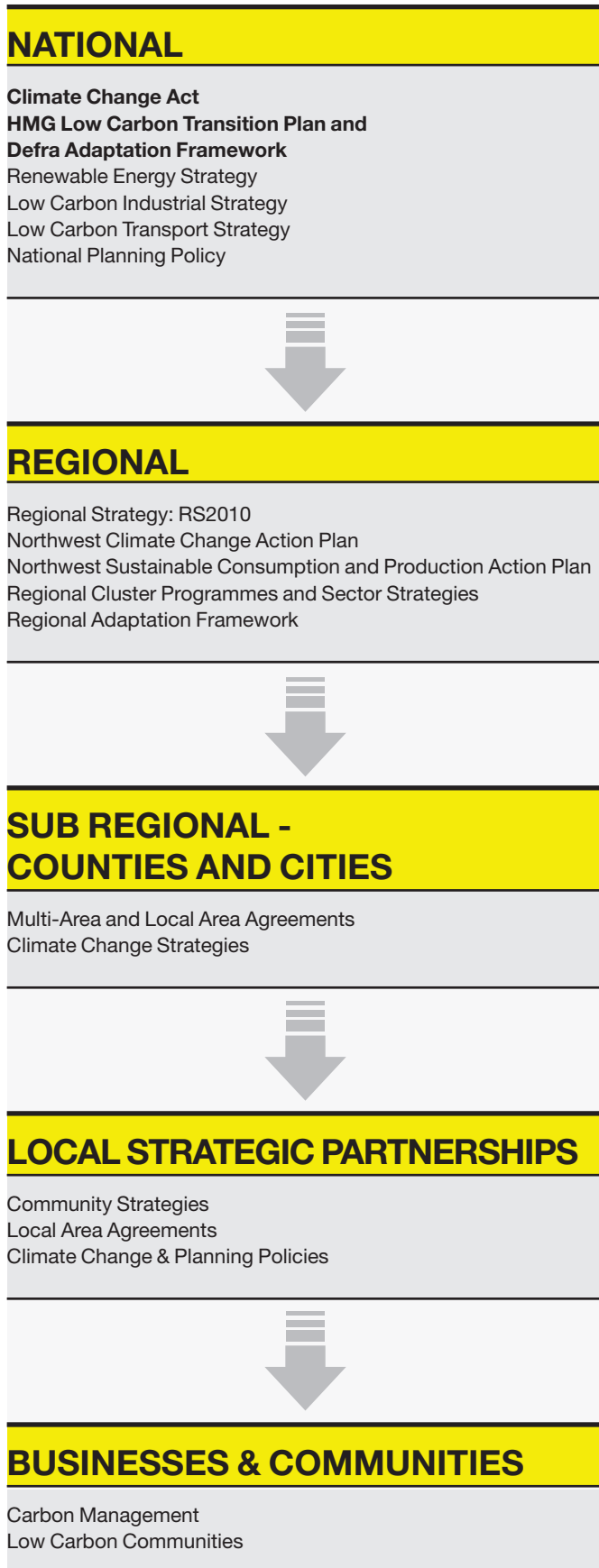
All businesses, organisations and communities understand the value of energy and the impact and consequences of future climate change. They are convinced of the need for action, are actively playing their part, and know where to find support.

Policy and Co-ordination

All policies, strategies and programmes take full account of sustainable energy consumption and production issues and facilitate adaptation to climate change. There are improved linkages between local, regional and national groups. Communication messages are co-ordinated and funding streams for the development and uptake of low carbon technologies are prioritised and streamlined.

POLICY CONTEXT

The plan sets out how the region must refocus its priorities against the background of an evolving international agreement, an ambitious national policy agenda, and a challenging new regional strategy.



To ensure the transition to a low carbon economy, the Climate Change Act and its legally binding carbon budgets now commits the UK to a 34% emissions reduction by 2020. To drive the changes necessary to realise this transformation, the Government has published the UK Low Carbon Transition Plan, the new national strategy for climate and energy. Through its companion plans – the Renewable Energy Strategy, Carbon Reduction Strategy for Transport, Heat and Energy Saving Strategy, and Low Carbon Industrial Strategy – the Government has now set out the detailed actions required to keep the UK on track to meet its ambitious goals. To ensure that the Northwest delivers its fair share of this challenge, the implementation of the plan will proceed in close alignment to the aspirations of the national Transition Plan.

In the Northwest, the development of the new Regional Strategy now provides an unprecedented opportunity to incorporate climate change considerations into the heart of regional decision making. The Northwest Climate Change Partnership will work to ensure that climate change is integral to the Regional Strategy and its long-term vision for the region.

The Northwest Climate Change Partnership will also seek to maximise the opportunities of delivering shared regional priorities, in particular through collaborative working on the Northwest Sustainable Consumption & Production Action Plan and the Low Carbon Environmental Goods and Services Sector Strategy. Together they frame the region’s response to growth within our environmental limits.

Delivery of the Climate Change Action Plan

Responsibility for the delivery of the Climate Change Action Plan rests with the Regional Strategy Team, comprising the Northwest Regional Development Agency, Government Office for the Northwest, and the Regional Leaders Board (4NW). The Regional Strategy Team is supported by the Environment Agency, and also by key advisory groups, such as the Northwest Energy Council, the Northwest Climate Change Adaptation Group, the Northwest Climate Change Transport Group, the Regional Sustainable Development Group and the NWDA’s Board Environment Sub-Committee.

Northwest Climate Change Partnership

The Northwest Climate Change Partnership is a public and private sector group of organisations that drive and support the implementation of the Climate Change Action Plan, and provide resources for the Northwest Climate Change Unit to lead on delivery. The Partnership works to take advantage of emerging opportunities to promote the Climate Change Action Plan, and to provide advice and recommendations to strategic regional bodies on energy and climate change matters. The membership of the Northwest Climate Change Partnership has evolved to include national and regional cross-sector representation, including city-region and sub-regional partners. Through the Northwest Climate Change Partnership, the integration of our climate change vision into the new Regional Strategy will be driven.

GOVERNANCE DIAGRAM

Communication flow within the Partnership

- Delivery and policy development
- Approval and scrutiny



- Northwest Climate Adaptation Group: Actions 10, 11 & 15.2
 - Northwest Energy Council: Action 1
 - Domestic Energy Alliance: Action 5.3
 - Regional Climate Change Transport Group: Actions 5.4 & 5.6
- Business groups**
- Confederation of British Industry Northwest (CBINW), Northwest Business Leadership Team (NWBLT), Private Sector Partners (PSP), Business in the Community (BiTC): Action 17.2
- Sub regional partnerships**
- Cheshire and Warrington, Cumbria, Lancashire, Greater Manchester and Merseyside: Actions 5, 6.2, 13, 15, 20, 22
 - CLASP Advisory Group: Action 18.3

- Northwest Development Agency (NWDA)
 - 4NW
 - Government Office for the Northwest (GONW)
 - Environment Agency (EA)
- Others, i.e. industry, universities**
- Actions 3.2, 4.2, 4.3, 5.5, 7.1, 7.3, 9.2, 9.3, 9.4, 14, 15.1, 15.4, 16, 17.1

- Northwest Development Agency (NWDA)
- 4NW
- Government Office for the Northwest (GONW)
- Environment Agency (EA)
- Business in the Community (BiTC)
- Carbon Trust (CT)
- Community Forests Northwest (CFNW)
- Envirolink Northwest (Envirolink NW)
- ENWORKS
- Energy Saving Trust (EST)
- Natural England (NE)
- Joule Centre (JC)
- NHS NorthWest (NHS NW)
- Sub Regional Partnerships (SRPs)
- Groundwork Northwest (Groundwork NW)
- Homes and Communities Agency (HCA)
- NorthWest Improvement and Efficiency Partnership (NWIEP)
- United Utilities (UU)

CROSS CUTTING ACTIONS 12-18

PRIORITIES **FOR ACTION**

The following sections outline the regional level activities that contribute towards the UK Low Carbon Transition Plan and developing adaptation responses.

CLEAN AND SECURE ENERGY

The coming years will see an acceleration in the supply of renewable and low carbon energy generation across the region. The UK Low Carbon Transition Plan stresses the importance of decarbonising our electricity and heat supply in order to meet the challenging targets for both 2020 and 2050.

Key successes over the past two years have been: launching the Energy Innovation Centre at Capenhurst and Cumbria Energy Coast; utilising the knowledge base of our universities through the Joule Centre for Energy Research; developing the National Nuclear Laboratory and Enerigus skills academy; and establishing new support programmes for biomass, tidal energy, and low carbon energy technologies through EnviroLink Northwest.

The key priority for the region is to capitalise on our natural and economic strengths in areas such as offshore wind, nuclear, marine and biomass to propel ourselves as a leading region, exporting clean, secure energy and driving sustainable economic growth.



Inside the biomass plant at the Scottish and Newcastle (Heineken UK) brewery in Hulme, Manchester



The Northwest's coastline provides ample opportunity for utilising low carbon energy technologies



Installing solar panels thanks to Foundation, a Climate Fund for the Northwest

ACTIONS FOR CLEAN AND SECURE ENERGY

● Priority action

Number	Action	Lead
● 1	Support the development of a low carbon energy infrastructure to facilitate the future challenges of smart grids, larger scale energy projects, increased electrification and connectivity of low carbon energy assets.	NWEC
2	Facilitate the development of low carbon energy generation schemes through support to local planning authorities.	Envirolink NW
3	To accelerate the deployment and maximise the economic benefit to the region for key low carbon energy generation technologies through:	
3.1	Market development and supply chain opportunities for biomass, including energy from waste, offshore and onshore wind, and marine energy generation.	Envirolink NW
● 3.2	Supply chain opportunities associated with nuclear new build and decommissioning programme.	NWDA
3.3	Market development and supply chain opportunities for microgeneration.	EST/ Envirolink NW

REINFORCING ACTIONS

- Action 7 see page 17
- Action 4.3 see page 15
- Actions 5.1, 5.2 and 5.3 see page 15
- Action 9 see page 17
- Action 11 see page 19
- Action 15.3 see page 21

SMARTER USE OF CARBON

Carbon efficiency and demand management are at the core of our approach to reducing emissions. Our businesses, homes, transport and communities need to do more with less, ensuring that we not only contribute towards tough national targets on carbon reduction, but also make this happen as quickly as possible to avoid increased climate risk.

There has been significant progress over the past two years through flagship carbon reduction projects such as: engaging businesses to reduce energy through ENWORKS and the Carbon Trust; establishing a region-wide network of energy advice centres for households by the Energy Saving Trust; creating the UK's first regional carbon compensation scheme – Foundation; accelerating adoption of low carbon buildings and sustainable construction techniques; setting carbon reduction requirements within the Northwest Operational Programme; and improving access to finance through a new Grant To Improve Your Resource Efficiency and the Carbon Challenge Fund. Most of these actions will continue to be strengthened during the lifetime of this plan, and will provide a mechanism to respond to new initiatives going forward.

The priority is to accelerate and capitalise on activity happening both regionally and nationally to ensure that all significant sources of emissions are being tackled, in particular ensuring the effectiveness of carbon reduction through emissions trading by our larger businesses and organisations, stimulating activity within our existing housing stock to tackle the twin challenges of carbon reduction and fuel poverty, and preparing for a low carbon transport future.



Members of the Hulme Carbon Co-Op get to grips with a smart meter



The BDP Manchester Studio is the first naturally ventilated office building in Manchester to achieve an Excellent BREEAM rating

ACTIONS FOR SMARTER USE OF CARBON

● Priority action

Number	Action	Lead
4	Accelerate activity by our businesses and organisations, including;	
4.1	Providing a support service to small and medium enterprises to improve their resource efficiency, combat climate risks, and improve sustainable procurement by the private sector.	ENWORKS
4.2	Increasing access to finance through grants and loans to small and medium enterprises to reduce upfront costs to install low carbon, resource efficient equipment.	NWDA
4.3	Facilitating new and refurbished developments which go beyond minimum standards for energy and resource use, on-site renewable energy production, sustainable transport planning and climate change adaptation through the continued development and promotion of the NWDA Sustainable Buildings Policy.	NWDA/ Private Sector
4.4	Identifying and supporting the largest public, private and domestic sector greenhouse gas emitters in the region and implement the best opportunities to reduce their contribution.	CT/EST
4.5	Support the regional roll-out of the Carbon Reduction Commitment across the public and private sector.	EA
5	Accelerate activity to reduce the impact of our homes and the way we travel, including;	
● 5.1	Developing a regionally coordinated approach to accelerating energy efficiency measures in the domestic sector through the implementation of delivery models for retrofitting, including hard-to-treat properties and decentralised energy systems.	4NW/HCA
5.2	Providing a one-stop-shop of free and impartial advice on household energy efficiency, renewable technologies, greener transport, waste reduction and water conservation to create 'low carbon citizens' who actively choose sustainable energy options through their behaviour and purchasing decisions.	EST
5.3	Encouraging the installation of microgeneration and energy efficient technologies and maximising regional access to financial mechanisms to reduce upfront costs for householders, including the fuel poor.	DEA
5.4	Enabling individuals and organisations to reduce reliance on private cars and to take more sustainable transport decisions by maximising the potential of smarter choices, Information technology, and driver behaviour programmes.	4NW/LSPs
5.5	Supporting ultra low carbon vehicle infrastructure and low carbon fleets through existing programmes.	NWDA/ Private Sector
5.6	Encouraging investment in low carbon transport infrastructure and services by facilitating the adoption of clear guidelines for transport investment that support reductions in greenhouse gas emissions and resilience.	4NW
6	Facilitate regional carbon compensation to mitigate and adapt to unavoidable carbon emissions through Foundation, a climate fund for the Northwest.	Groundwork NW

REINFORCING ACTIONS

- Action 1 and 2 see page 13
- Action 3 see page 13
- Action 10.7 see page 19

OPPORTUNITIES FOR GROWTH

The development of low carbon technologies and processes is a key opportunity for our economy to deliver sustainable growth. The UK Low Carbon Industrial Strategy highlights the importance of the innovation and drive required across all business sectors, delivering a transformation which will define our century.

Key successes over the past two years have been: the provision of increased support through Envirolink Northwest to assist our Low Carbon Environmental Goods and Services Sector (LCEGS) to grow to over £10bn, including specific support to access international markets; additional funding for research and development in low carbon technologies, particularly for our small and medium sized companies; developing the market for low carbon and energy technologies through adopting low carbon criteria for public spend and funding for technology demonstration; and support for innovation in our key business sectors especially advanced manufacturing.

The region already has significant strengths which will need to be capitalised upon to assist not only ourselves but the global economy with mitigation and adaptation to climate change. Exploiting our competitive advantage and extensive knowledge base in LCEGS, civil nuclear and marine, forms the basis of our priorities going forward.

Turbines harness the wind from the River Mersey



ACTIONS FOR OPPORTUNITIES FOR GROWTH

● Priority action

Number	Action	Lead
7	Develop the skills required to deliver a low carbon workforce, through;	
7.1	Promoting climate change and energy through Science, Technology, Engineering and Mathematics (STEM) in schools and Higher Education Institutes.	NWDA
7.2	Maintaining and increasing the capacity of regional universities, Higher Education Institutes and other skills providers to deliver a future workforce skilled in the research, development and deployment of low carbon technologies.	JC
● 7.3	Facilitating skills provision for the development and installation of low carbon technologies with Sector Skills Councils.	NWDA/ Private Sector
8	Identify, support and promote demonstration projects on energy efficiency and demand reduction, low carbon buildings, climate change adaptation measures, the value of eco-systems and transport.	NWDA
9	Stimulating growth, innovation and knowledge transfer to research, develop and demonstrate low carbon and energy technologies through;	
● 9.1	Improved funding coordination and support for the low carbon and environmental goods and services sector, including engaging with international markets to grow the region's low carbon energy technologies sector.	Envirolink NW
9.2	Capitalising on opportunities for our key internationally competitive sectors, including advanced engineering and materials, business and professional services, and the biomedical sector.	NWDA/ Private Sector
9.3	Promoting low carbon innovation in the construction sector through the Construction Knowledge Hub.	NWDA/CCI
9.4	Improving access to finance for the development of low carbon technologies by small and medium enterprises.	NWDA

REINFORCING ACTIONS

- Action 3 see page 13
- Action 5.1, 5.2 and 5.5 see page 15
- Action 15.4 see page 21

A WELL ADAPTING REGION

Our approach to combating the impacts of unavoidable climate change will continue to develop throughout this Action Plan. There have been significant developments through the publication of the latest UK Climate Projections, and the requirement for national and statutory risk assessments, resulting from the UK Climate Change Act, will need to be integrated into regional planning and policy development.

There has been considerable progress over the past two years, steered by the Regional Adaptation Group, which has seen a marked increase in understanding of climate change risk and resilience across both the public and private sector. Regional evidence and approaches have been strengthened through actions to develop Catchment Flood Management Plans and forthcoming Shoreline Management Plans; identifying the key pinch-points for green infrastructure; an assessment of the increased economic impact of flood risk associated with climate change; assessments of the impacts on key business and public sector services; a pilot study on the impacts on biodiversity in Cumbria; and sub-regional assessments of the impact of climate change on growth.

The priority for the region is to develop an adaptation framework which encompasses our approach to identify the vulnerability of our communities, businesses, built and natural environment to future climate change and to understand how this adaptation capacity will be translated into adaptation actions.

Sea defences on the Lancashire coast



ACTIONS FOR A WELL ADAPTING REGION

● Priority action

Number	Action	Lead
10	Develop a regional adaptation framework which sets out the regional response to projected climate change impacts and capitalises on opportunities for implementation and demonstration, taking into account;	
10.1	The assessment of climate change impacts and responses for key business sectors and public services in the region.	NWDA
10.2	Flood and coastal risk management through catchment and shoreline management plans.	EA
10.3	The regional assessment of the risks, opportunities and priorities for green infrastructure in adapting and mitigating for climate change.	CFNW
10.4	The impacts on infrastructure and services identified through a regional dimension to the national Climate Change Risk Assessment and Economic Impact Analysis.	NWDA
10.5	Adaptation response strategies for the region's distinctive landscapes, habitats and species, and the assessment of the contribution of natural systems to carbon sequestration and reduced flood risk.	NE
10.6	The implications of climate change projections on the delivery of regional health services.	NHS NW
10.7	The assessment of the implications of climate change on existing and future built environment.	NWDA
10.8	The development and delivery of plans for water efficiency, reliability and resilience; sustainable drainage; and associated carbon reduction.	UU
11	Develop an engagement programme with our priority business sectors to encourage the assessment of critical risks and opportunities, and develop pilots to assess the impacts on national and international supply chains.	NWDA

REINFORCING ACTIONS

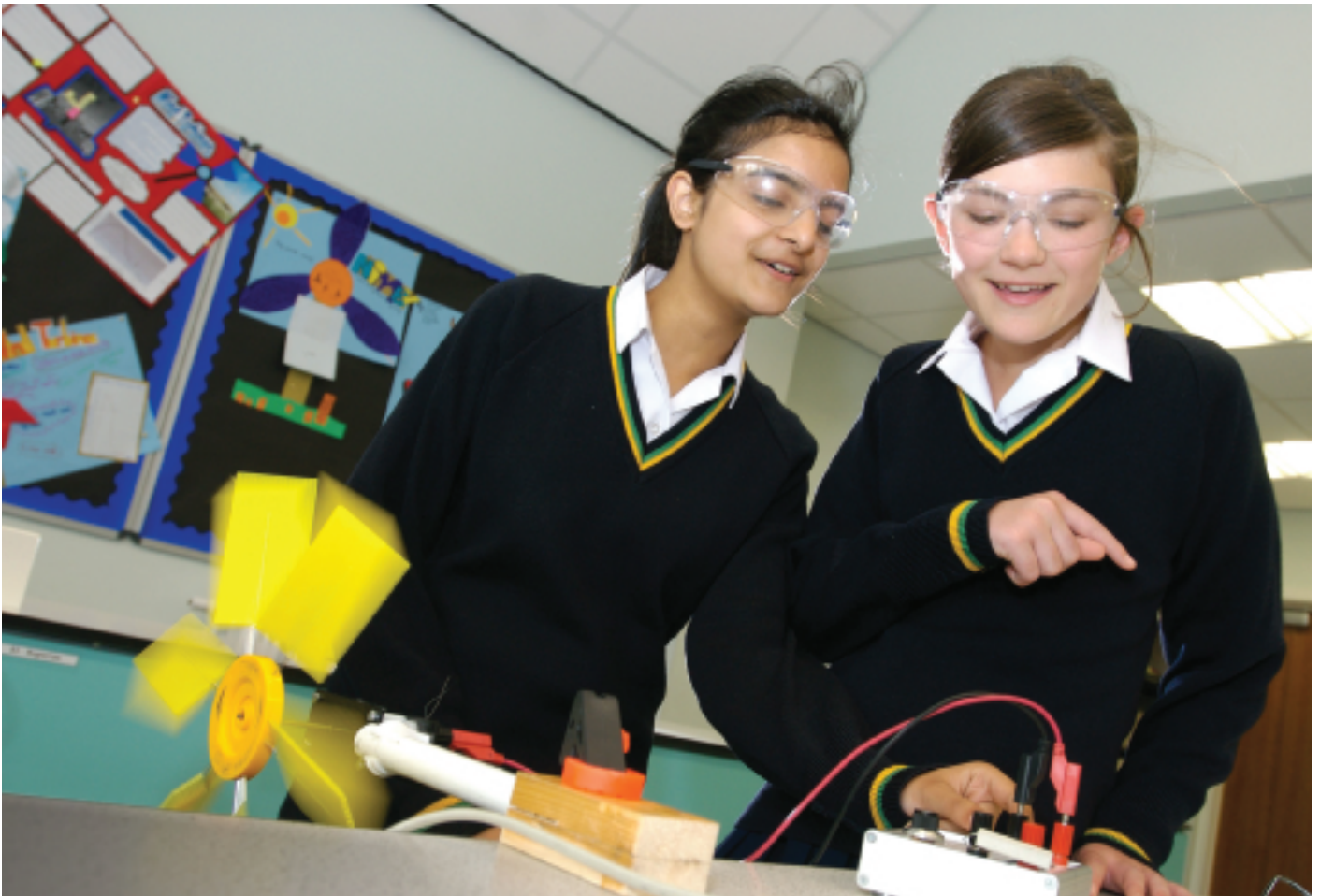
- Action 5.1, 5.2 and 5.5 see page 15
- Action 15.2 see page 21

CATALYSING ACTION

Achieving our vision will require action by all stakeholders and sectors across the region. Much has already been done to increase understanding and capacity, and our priority is to strengthen this further through developing stronger networks and our evidence base to enable action on climate change to be a mainstream part of decision making.

There has been significant progress over the past two years, progress which has seen the Northwest become a leading region on climate change. We have improved our evidence base considerably, understanding more fully our greenhouse gas emissions, the measures to reduce them, and the costs and opportunities of adaptation activity. We have developed a strong partnership, supported by topic-based networks: plans and strategies are being delivered at sub-regional and local level, we have the highest number of Local Strategic Partnerships signing up to national indicators on climate change and we are sharing learning with partners from across the European Union.

Science, technology and mathematics in school



**ACTIONS FOR
CATALYSING ACTION**

● Priority action

Number	Action	Lead
12	Maintain the Northwest Climate Change Partnership (NWCCP) to oversee the coordinated delivery and monitoring of this action plan, and to facilitate the dissemination of research and information.	NWRST
13	Support sub-regional climate change partnerships and agencies to identify and deliver local action and provide the dissemination mechanism for the implementation of the Northwest Climate Change Action Plan.	SRPs
14	Deliver an evidence-based, targeted regional energy and climate change communications strategy, using language appropriate to the different audiences.	NWCCU
15	Maintain and strengthen the regional evidence base on climate change and energy to prioritise future regional policies and actions, including;	
15.1	Building on and disseminating the regional and national greenhouse gas inventories, and maintaining an assessment of the carbon reduction potential of the region.	NWCCU
15.2	Promoting greater awareness and use of UK Climate Projections and other adaptation assessment tools and guidance available.	NW Adaptation Group
15.3	Undertaking an assessment of the region's contribution to the UK Renewable Energy Strategy and incorporate findings into future regional strategy development.	NWDA/4NW
15.4	Seizing opportunities for pan-European cooperation and knowledge transfer, and maximise access to new sources of transnational funding.	NWDA
16	Ensure that our regional and local plans, strategies and policies prioritise the development of a low carbon economy which increases energy efficiency and reduces demand, climate change adaptation, low carbon transport and energy generation, through;	
16.1	Embedding our climate change objectives into the Regional Strategy and setting robust targets for carbon reduction and renewable energy generation.	NWDA/4NW
16.2	Influencing national policies and planning guidance.	NWCCP
16.3	Providing tools, criteria and regionally specific guidance to inform policy and strategy development.	NWDA
17	Support private sector action and leadership on energy and climate change, through;	
17.1	Delivering clear, co-ordinated advice and support to business through Business Links' Improving Your Resource Efficiency Programme, on carbon reduction, sustainable transport planning and climate change risks & opportunities.	NWDA
17.2	A business-to-business network on climate change to facilitate leadership by regional businesses.	BiTC/May Day Steering Group
18	Support public sector action and leadership on energy and climate change, through;	
18.1	All regional and local public sector organisations and executive agencies setting and delivering carbon reduction targets, implementing sustainable travel plans, and reducing climate change risk.	Public Sector Bodies
18.2	Facilitating the development of local and sub-regional targets for climate change through Local and Multi-Area Agreements.	GONW
18.3	Delivering a programme to assist Local Authorities and Local Strategic Partnerships to achieve targets for climate change mitigation and adaptation.	NWIEP

MEASURING **PROGRESS**

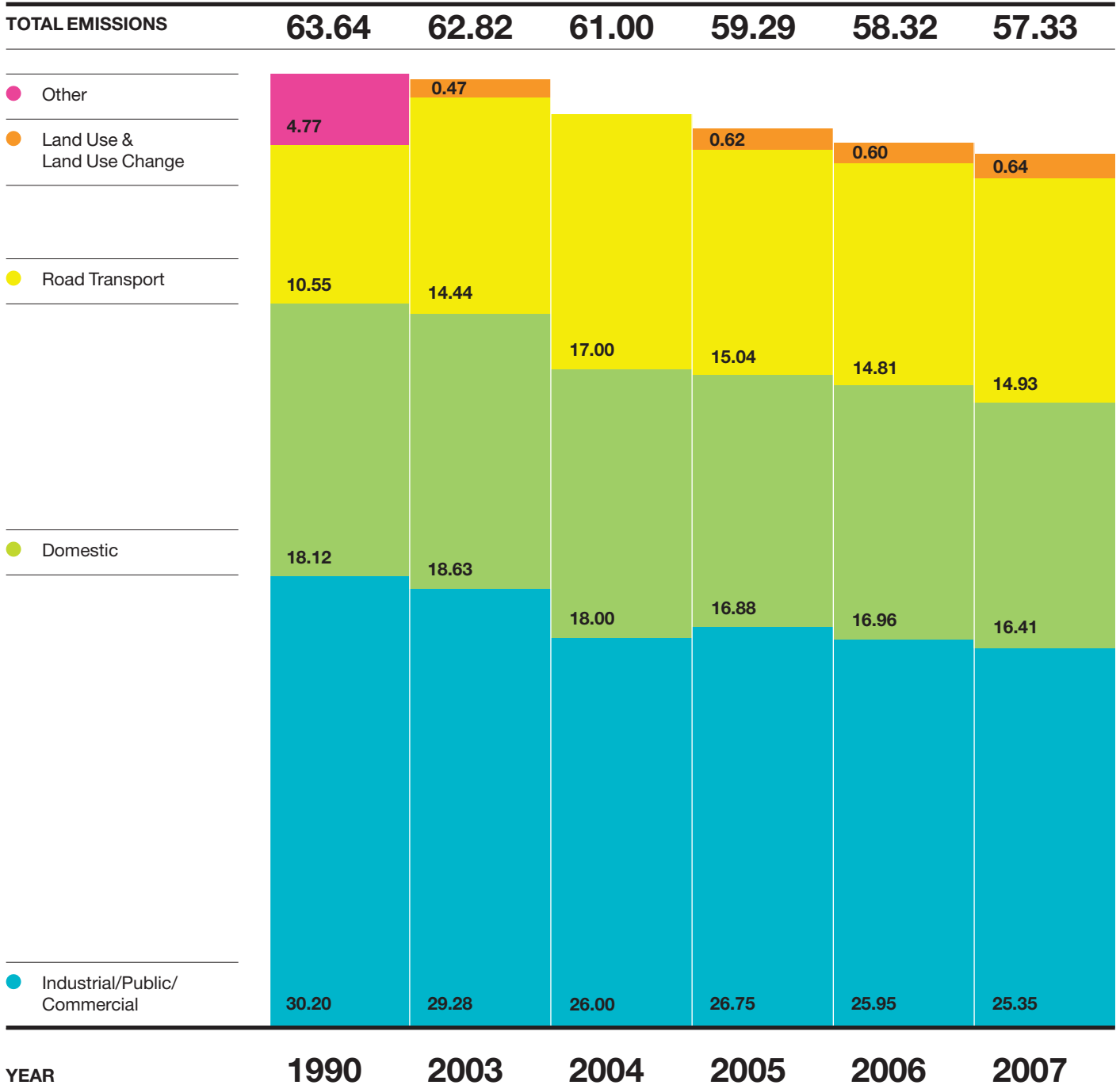
The diagrams in this section set out the indicators which will gauge our progress to a low carbon economy. These indicators reflect the aspirations of the UK's Low Carbon Transition Plan and national priorities for adaptation. This data demonstrates the recent trends in low carbon transformation and illustrate the commitment necessary to deliver the Northwest's share of national aspirations.

CO₂ EMISSIONS

Northwest CO₂ emissions by user

(Millions of Metric Tonnes)

Regional emissions show a general downward trend since 1990. Annual variations reflect the continuing refinement of regional datasets which will be monitored and reported throughout the lifetime of this Action Plan.



1990—Northwest Energy and Emissions Greenhouse Gas Inventory
 2003—Local and Regional CO₂ Emissions Estimates for 2003, Defra
 2004—Experimental Statistics on carbon dioxide emissions at Local Authority and Regional Level, Defra, 2004
 2005-2007—DECC November 2007 National Statistics on Carbon Dioxide emissions at Local Authority and Government Office Region Level

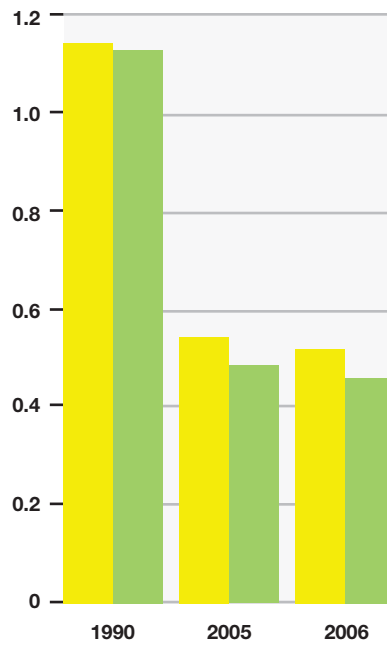
CARBON INTENSITY

(Metric Tonnes)

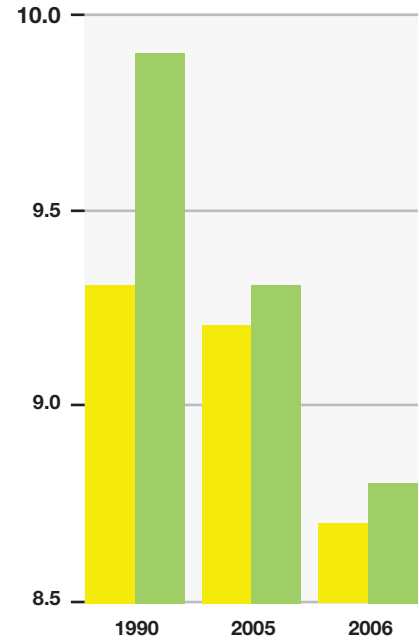
Carbon use for economic activity has declined significantly since 1990, but the Northwest's sectoral make-up means that regional emissions per unit of GVA are higher than the UK average. However, emissions per capita are significantly lower than the UK average.

- Northwest
- United Kingdom

Emissions per unit of GVA



Emissions per capita

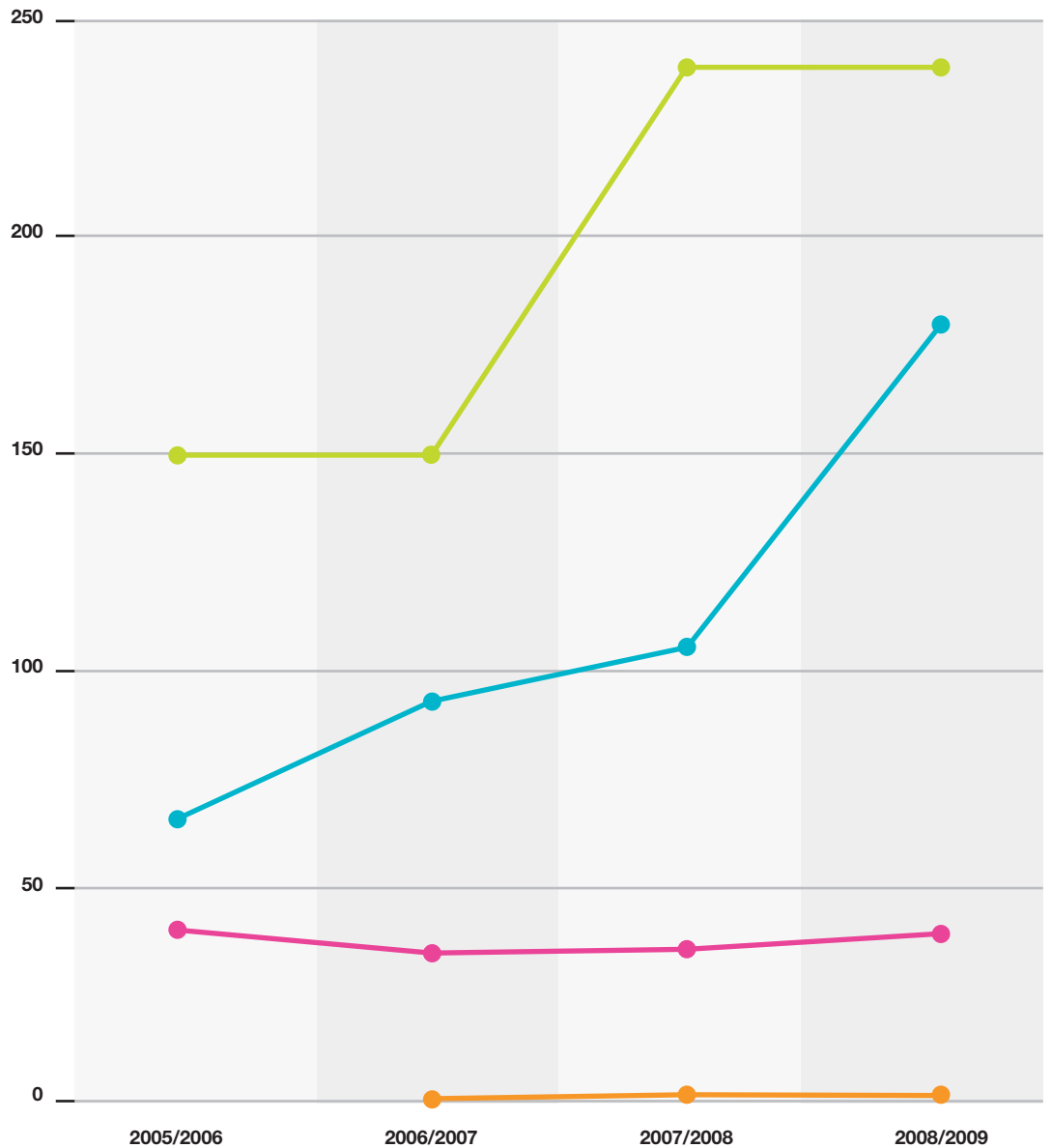


LOW CARBON ENERGY SUPPLY

(Megawatts)

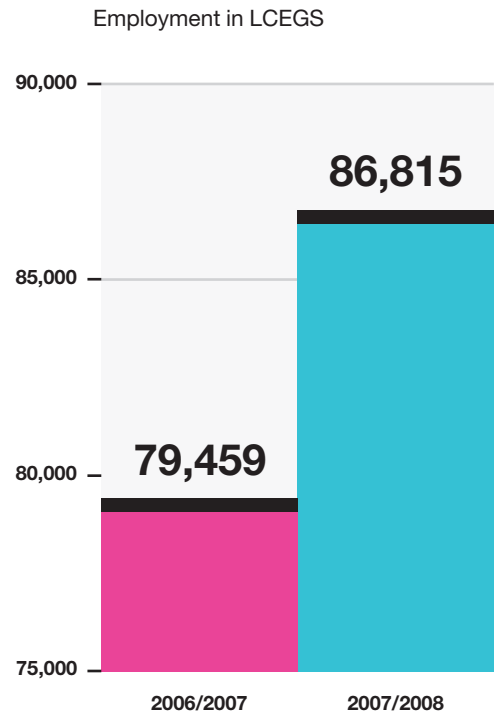
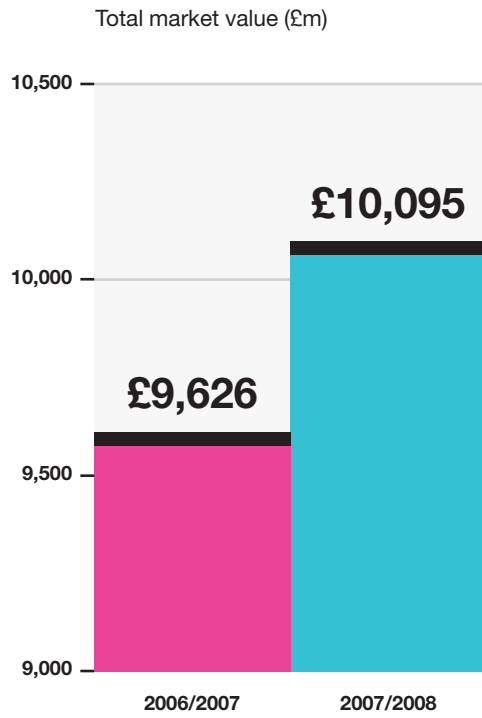
Primary growth in our renewable energy supply has been concentrated in onshore and offshore wind. Microgeneration capacity has increased six-fold.

- Offshore Wind
- Onshore Wind
- Biomass (Power & Heat)
- Low Carbon Buildings Programme



**NORTHWEST
LOW CARBON AND
ENVIRONMENTAL
GOODS AND SERVICES
SECTOR (LCEGS)**

The sector is one of the fastest growing in the region, now constituting 2.85% of total Northwest employment.



ADAPTATION

Percentage of Northwest Local Strategic Partnerships achieving National Indicator 188 (2008/09).

Within the first year of this new National Indicator, over half of our LSP's have publically committed to taking action and have begun identifying significant risks. Their progress will be monitored and supported throughout the lifetime of this Action Plan.



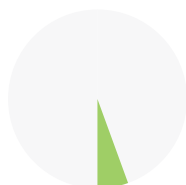
45%

Level 0
Coordinated assessment of climate risks started



50%

Level 1
Public commitment and significant risks identified



5%

Level 2
Comprehensive risk assessment undertaken



0%

Level 3
Embedding impacts and risks in to decision making



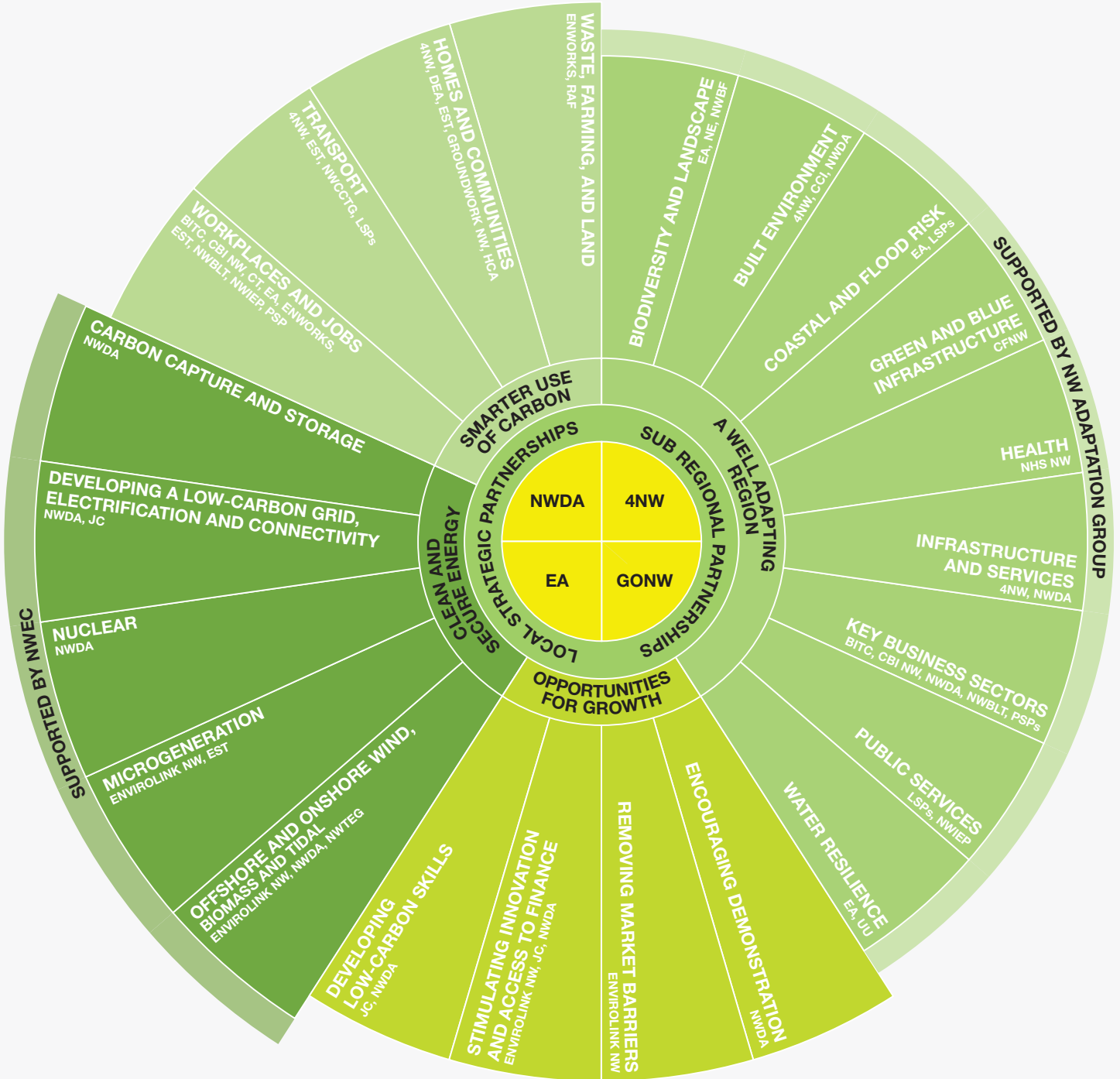
0%

Level 4
Implementation and monitoring

DELIVERING THE CLIMATE CHANGE ACTION PLAN

The NWCCP will work with a range of local, regional and national organisations to deliver the Priorities for Action identified within this Action Plan. The diagram below illustrates the role of each lead organisation and the sectors and priorities for which they have a lead responsibility.

For more information about the Action Plan, please visit www.climatechangenorthwest.co.uk



4NW	4Northwest
BITC	Business in the Community
CBINW	Confederation of British Industry Northwest
CCI	Centre for Construction Innovation
CFNW	Community Forests Northwest
CT	Carbon Trust
DEA	Domestic Energy Alliance
EA	Environment Agency
EST	Energy Saving Trust
GONW	Government Office for the Northwest
HCA	Homes and Communities Agency
JC	Joule Centre
LSPs	Local Strategic Partnership
NE	Natural England
NWBF	Northwest Biodiversity Forum
NWBLT	Northwest Business Leadership Team
NWCCTG	Northwest Climate Change Transport Group
NWCCU	Northwest Climate Change Unit
NWDA	Northwest Development Agency
NWEC	Northwest Energy Council
NWIEP	Northwest Improvement and Efficiency Partnership
NWRST	Northwest Regional Strategy Team
NWTEG	Northwest Tidal Energy Group
PSPs	Private Sector Partners
RAF	Rural Affairs Forum
SRPs	Sub-regional Partnerships
UU	United Utilities

CLIMATE CHANGE IT'S TIME TO ACT.

www.climatechangenorthwest.co.uk

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GOVERNMENT OFFICE
FOR THE NORTH WEST



englandsnorthwest
FOR A LOW CARBON FUTURE

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