



The economic impact of EU and UK Climate Change legislation on Manchester City Region and the North West.

Executive Summary.

July 2008

Climate Change is defining a new legislative and policy agenda for the UK and globally. Whilst the overall direction is far from fully defined, there is now clear national and international momentum towards substantive economic intervention to control emissions of Greenhouse gases (GHGs) and encourage the use of low carbon alternatives. Its impact on the Manchester City Region could be profound with potential loss of £21bn to the economy over the next 12 years if it fails to adapt (£72bn for the North West). However, it is also clear that this agenda could present a significant economic opportunity for the City Region if it takes early action.

There is growing evidence that the Climate Change agenda is altering market conditions and underlying assumptions previously used to determine trends and establish the economic priorities for the Manchester City Region. As new legislation and regulation comes into force the economic adaptation will accelerate.

The economic structure of the Manchester City Region, with its strengths in financial and professional services sectors, together with a growing environmental technology sector, places it in a strong position to compete effectively within markets on a global scale. Furthermore, by creating the right conditions for new and emerging business in this area and ensuring existing businesses have the right support and expertise to enable them to adapt quickly, the City Region has the opportunity to build an international reputation that would attract inward investment.

However, strong leadership is required to oversee the intelligent and selective use of the policy intervention tools the City Region has at its disposal. Moreover, gaining the support and confidence of the business and investment community, by creating economic opportunity and reducing market uncertainty through a consistent policy approach, is also a prerequisite for success.

In 2006, the Stern Review put forward a cogent case that the cost of early action would be far less than dealing with the long term consequences. The report concluded that whilst the short-to-medium-term costs of investing in mitigation are likely to be high (as much as one per cent of global GDP per annum), the longer-term costs of inaction could be as high as 20 per cent of GDP.

This report focuses on what could be done in the short-to-medium-term to develop strategies to deal with the impact of Climate Change legislation in the Manchester City Region within the context of the North West. It assesses the economic opportunities and identifies areas where mitigation response would be required to safeguard against potential negative impacts. Finally the report considers how policy-makers in the City Region and the wider North West could best intervene to assist and promote economic growth in the context of an emerging new low carbon economy.

Policy Impacts

A raft of new legislation, policy and regulation is expected to be introduced over the next ten years in the UK, across Europe and globally. However, Climate Change is a fast moving agenda and inevitably there will be other unanticipated legislative developments that will be brought in to address impacts as they emerge and take account of new scientific evidence. Significant impacts on the City Region and the North West economies are likely, as binding provisions on carbon pricing, trading and associated emissions reduction targets are introduced. It is evident that impacts will vary by sector, sometimes markedly, and by function according to energy usage and emissions profiles.

The economic effects will be both direct and indirect, for example the manufacturing industry is more likely to *directly* emit higher levels of carbon than the service sector, but the service sector will still be responsible *indirectly* for whole-life-cycle emissions due to transmission through the supply chain.

Clearly, if the end user ceases to accept high footprint goods and services then the supplier will stop producing. These market pressures should not be underestimated when it is already evident that customer and shareholder pressure is impacting on business behaviour. It is also clear that cost pressures from increasing energy and fuel prices are driving change in business operating models.

The Impact Assessment Framework

Deloitte has developed a bespoke framework to assess potential impacts on the Manchester City Region within its North West context. The 'traffic light' testing of the economic structure and key sectors in the City Region and North West evaluates those sectors that are the most important because of their current and future contribution to GVA and those sectors that are most likely to be impacted by the legislation. We then assess the relationship between the levels of growth and emissions and consider what might happen in future if the economic adaptation fails to occur.

The analysis undertaken as part of this study suggests that in direct terms the following broad areas of economic activity are likely to be more affected:

- ⇒ **Air Transport:** This sector currently accounts for 1 per cent of direct employment in the City Region and is one of the most energy intensive sectors and therefore potentially vulnerable to legislation. However, the impacts on this sector are complex and subject to international regulation. Evidence confirms the importance of this sector to continued growth of the Manchester City Region and North West economies. In particular there is a strong focus on Manchester Airport as an indirect employment-generator and International Gateway. The airport, as a high energy user, is already part of the first phase of the Energy Trading Scheme (ETS) and plans to be carbon neutral on its energy use by 2015. A further phase of the EU Carbon Trading Scheme is proposed to cover aviation carriage and will financially reward lower carbon emitters. Manchester Airport can clearly exploit this opportunity through early adaptation. It should be noted that the most significant proportion of non-carriage carbon emissions is indirect - from passenger journeys to and from the airport, which accounts for 60% of the total.
- ⇒ **Road/Land Transport:** Land transport (excluding railways) is also exposed to legislation due to high emission levels. It currently accounts for around 4.1 per cent of employment in the Manchester City Region and 4.5 per cent within the North West. It is also projected to be a key driver of growth.
- ⇒ **Energy Intensive Manufacturing:** Accounts for 4 per cent of Manchester City Region and North West employment and refers to those manufacturing industries using the most energy intensive processes to produce goods. This includes, for example, industrial gases & dyes; man-made fibres, glass & glass products; plastics & synthetics and metal forging; and
- ⇒ **Textiles:** This is categorised as a high risk sector due to relatively high levels of energy use and emissions, and although the focus for the local textile industry has shifted lately from production to wholesale/retail (accounting for approximately 0.5 per cent of employment), the sector may still be affected by higher input costs passed up through the supply chain.

Both air and land transport are the most significant of these economic activities and legislative impacts have the potential to be magnified significantly through the supply-chain due to their critical role as a facilitator of individual and business connectivity and knock on costs.

Mitigation of the risks associated with Climate Change also creates an economic and competitive opportunity for the above sectors. Change stimulates innovation and adaptation, and those organisations that embrace the challenge and seek commercial advantage are most likely to survive and prosper. Targeted support can help to realise those opportunities in businesses that would otherwise be slower to adapt.

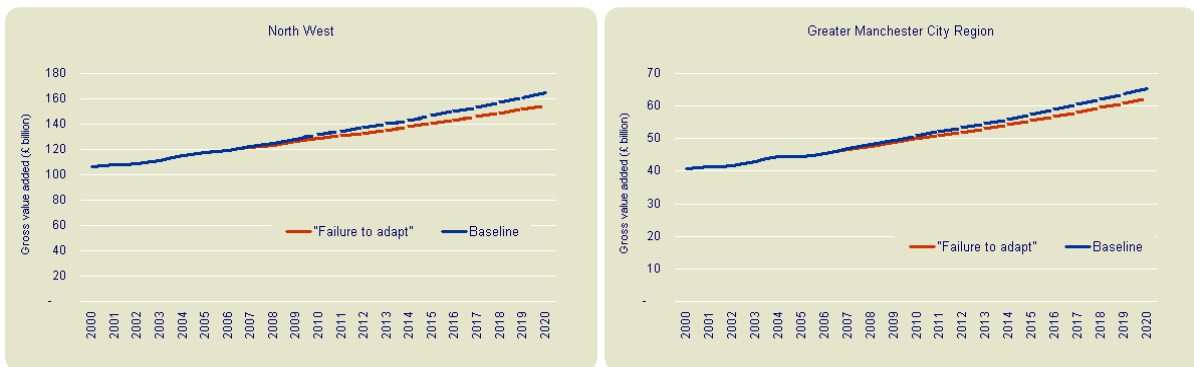
There is also quantitative evidence that key service sectors – major contributors to the Manchester City Region economy - have already demonstrated the ability to grow without significant increases in direct emissions. Moreover, there is little evidence to suggest that higher output growth in future will lead to growth in direct emissions. Two particularly important sectors for the Manchester City Region are:

- ⇒ **Financial, Business and Professional Services:** This sector is likely to provide a significant proportion of future growth in the area and currently account for 21 per cent of employment in the City Region, when taking into account wider related business services (24 per cent in the North West).
- ⇒ **Public Sector Services:** This sector, which includes health and education, will also provide employment growth in the longer-term and at present supports more than 25 per cent of the City Region's workforce (11.5 per cent within the North West). Influence here over procurement patterns and energy usage is high which means that specific policy and targeted action from public sector organisations can encourage change and provide support.

The Scale of the Challenge

Deloitte analysis indicates that there is likely to be a cost of inaction across all sectors with competitive benefits and cost reduction upsides for proactive business responses to Climate Change legislation, regulation and policy. Without exploiting opportunities, and mitigating effectively, a 'failure to adapt'¹ scenario suggests that the City Region could lose an estimated £21 billion in GVA over the next 12 years (by 2020), whilst the North West as a whole could lose an estimated £72 billion over the same period. This equates to annual growth of 0.3 and 0.4 percentage points below baseline in the City Region and the North West respectively. Thus, unless it achieves significant emissions cuts, improves its resilience to Climate Change, and leverages its assets, the Manchester City Region could fall substantially short of its economic regeneration goals and targets.

Potential economic costs under the 'failure to adapt' scenario



	Baseline CAGR	"Failure to adapt" CAGR	Loss in GVA
UK	2.6%	2.4%	£378.1 bn
North West	2.3%	1.9%	£72.0 bn
Greater Manchester City Region	2.6%	2.3%	£21.4 bn

Source: ONS, OE GMFM, Deloitte Analysis.

Early action is therefore needed to respond to legislative drivers by cutting emissions, improving resilience, and adapting economic priorities to take account of Climate Change legislation. In doing so the Manchester City Region has the potential to enhance its competitive advantage over those Cities that are slower to adapt. This is a significant challenge. However, in our view, if the opportunities are seized, Manchester City Region, backed by the North West, would be in a strong position to be at the forefront of a positive response to Climate Change and, in doing so, develop an international reputation in this area.

Challenges

A positive response will require the following challenges to be addressed as the economy reacts to new regulation and legislation:

- ⇒ **Addressing business uncertainty and market failure:** There is business concern about future markets for low carbon products and services, and the robustness of these markets especially in a more uncertain economic climate. It will be necessary to provide business with more certainty (and opportunity) to instil greater confidence that there will be a good return on investment.
- ⇒ **Cost of compliance and changing business models:** Small and medium-sized enterprises with a lack of capacity will have concerns about dealing with compliance/administrative challenges.

¹ This analysis is focused on the nature, speed and effectiveness of the response to legislative change and not Climate Change itself.

Businesses will inevitably seek to minimise the risk of under or over-adaptation, which may prove costly and could be a potential threat for smaller firms.

- ⇒ **Demand shifts:** There are already indications that consumers are considering carbon footprint when making buying decisions. This will also impact on business to business transactions as legislation drives behavioural change. The shift in demand is likely to affect all types of businesses and especially those producing high-carbon footprint goods and services. The pressure to source low carbon goods to reduce their whole-life-cycle footprint could increase the costs for business in both supply and production of goods for some organisations.
- ⇒ **Long term returns:** The Climate Change agenda necessitates long term (even generational) thinking that may not be in keeping with business time horizons. Over and above the necessary compliance with regulation, decision makers are likely to be more concerned with short term results, which have an impact on profitability and brand unless they can be convinced of a commercial opportunity or competitive advantage. Clearly, economic conditions can exacerbate this.
- ⇒ **Education and Skills:** Leaders in both the private and public sectors need to be fully competent in the knowledge of Climate Change issues and legislation and its potential organisational impacts in order that they are not competitively or operationally disadvantaged. This will require new skills and competencies. Inevitably there will be skills gaps, which will also present a major challenge. Businesses will need to be alert to the requirement for the new skills they will need to minimise the cost of compliance and exploit potential market opportunities. The higher and further education institutions in the City Region and across the North West will need to play a critical role in meeting those needs.
- ⇒ **Competition:** Carbon trading is designed to minimise the market distorting effects of legislation, but the scale and scope of legislation as a whole could have unforeseen consequences. The issue of international displacement associated with legislation will need to be considered. Redistributing production to other countries outside the legislative sphere will result in the same level of emissions and energy use, but to the detriment of the UK economy.

Opportunities

Whilst the challenges must not be underestimated it is also evident that there are substantial economic opportunities for the Manchester City Region:

- ⇒ **Environmental Technology and Services (ETS):** Niche markets will develop and expand as low carbon demand grows and greater incentives help create new market segments. More carbon acceptable solutions will be required in the public and private sectors which will stimulate local innovation and R&D. Environmental technology which embraces renewable energy; energy efficiency; waste technologies; water and waste water treatment; green IT products and consulting will be in a strong position to benefit.
- ⇒ **Eco Innovation opportunities:** Within existing sectors and organisations there are innovative organisations outside the ETS sector that can play a major role in helping to reduce the level of emissions across all sectors of the economy through new products and services. In this context, the public sector has the opportunity to lead by example by demonstrating best-practice in areas such as facilities management and incentivising a more joined-up approach with local businesses in the supply chain.
- ⇒ **Climate change as a cost-cutting mechanism:** Adaptation to deal with the impacts of Climate Change legislation can provide cost-reduction benefits and drive business efficiency improvements that improve competitiveness.
- ⇒ **Spatial planning:** Substantial new planning policy, regulation and initiatives related to the Climate Change and sustainability agenda have been developed by Government over the past five years. This confirms the importance the Government places in using the planning system to deliver carbon reduction. The forthcoming Planning Bill is also expected to include a range of Climate Change inspired measures. This UK legislation and policy backdrop together with the Local Development Framework process being undertaken by Local Planning Authorities presents the Manchester City Region with the opportunity to shape and align planning policy to direct development to deliver carbon efficiencies through improvements to function, infrastructure, design, location and density of major developments.

- ⇒ **Energy Planning:** The Climate Change agenda will drive a reconsideration of the energy needs of the City Region. Planning authorities are already required to establish renewable energy targets which will be embedded within core spatial strategies and therefore have economic impact. The City Region has an opportunity for a collective approach to energy planning that can take advantage of the economies of scale in major development and regeneration projects within and across local authority boundaries. New approaches to energy generation and distribution are required and a more comprehensive approach to energy planning creates a significant economic opportunity for the Manchester City Region.

Manchester City Region Assets

To crystallise opportunities into tangible economic benefits it is necessary to build on the significant assets of the Manchester City Region this includes but is not limited to:

- ⇒ **A strong and positive economic structure:** The transformation of the Manchester City Region economy that has taken place over the past twenty years has led to an economy that is favourably skewed towards the sectors that are expected to be the drivers of future growth. This creates a more favourable economic foundation for Climate Change adaptation and opportunity than many other City Regions in the UK and Europe.
- ⇒ **Successful Urban Regeneration:** Economic growth has been matched by a renaissance of the City Region's key urban centres, particularly in its Regional Centre. Better road connectivity and public transport infrastructure has also led to the economic growth in the town centres outside of the Regional Centre which are now attracting significant levels of investment. The City Region has interconnected town centres that both support the economy of the regional centre and are important centres of economic growth in their own right. This mature and modern urban structure means that the City Region is well placed to adapt and take advantage of this new economic opportunity.
- ⇒ **Capacity for Innovation:** The Tyndall Centre and the Joule Centre within Manchester University have established international reputations in the fields of Climate Change and energy. Manchester Metropolitan University is leading research into carbon reduction for the aviation industry and the University of Salford has an established a Centre for Environmental Systems which is working internationally on the impact of Climate Change. The new Bolton University is undertaking research in developing more cost effective ways to generate electricity from solar panels. These are examples of activities being undertaken in Higher Education institutions in the City Region. There is the opportunity to turn this into economic advantage and build on the historical reputation that the Manchester City Region already has for entrepreneurship and business innovation.
- ⇒ **Strong Higher and Further Education Institutions:** The Manchester City Region has the largest student population in Europe – an economically significant pool of talent. Manchester University has courses covering environmental technologies, Climate Change economics and innovation. Manchester Metropolitan University has a range of specialist courses on Climate Change. Salford University also has a Masters Degree covering this area. The further education colleges are also providing people with environmental technology skills. This substantial educational infrastructure should enable the City Region to meet the growing skills and capacity needs of business and the public sector.
- ⇒ **Improving transport and infrastructure:** Investment in transport infrastructure improvements could lead to the development of a more environmentally friendly and connected system. The City Region is already in a good position to leverage its current strengths in infrastructure and connectivity, particularly through its excellent multi-modal transport links. There is good evidence that the level of investment proposed through the Government approved Transport Innovation Fund would differentiate the Manchester City Region from other City Regions within the UK and internationally.
- ⇒ **Political leadership:** The Manchester City Region has built strong interrelationships between its ten local authorities over the past twenty years through its Association of Greater Manchester Authorities (AGMA) which has been instrumental in delivering agreed approaches on transport, planning and economic development. This has played a significant role in instilling market confidence and certainty. It is this kind of leadership that will be essential in delivering a coherent Climate Change policy.

Policy Intervention considerations

We have identified the following broad strategic priorities for the Manchester City Region. These will need to be explored further before designing implementation strategies. These policy considerations include:

1. Exploiting first mover advantage

A clearly articulated policy position is needed with respect to Climate Change legislation. There is a choice between 'going with the flow' or taking a strategic decision to harness assets to position the City Region at the forefront of the global environmental industry. The latter is more likely to lead to first mover advantage, which is likely to confer greater economic benefits.

2. Leadership aimed at building on international reputation

Strong leadership backed by early success in co-ordinated programmes of action will enable the Manchester City Region to build on its international links and be positioned at the cutting-edge of innovation activity and technologies.

3. Transforming the energy mix to reduce economic cost

The City Region has the potential to develop a more robust and cost efficient energy infrastructure that is based on low and zero carbon technologies. The spatial planning framework will be a critical tool that can be used to shape favourable investment/developer behaviour and create more sustainable energy options through the application of policy. It will also be important for the City Region to work with the utilities and Government to determine the best way for carbon reduction objectives and economic efficiencies to be achieved.

4. Promoting sector growth through targeted procurement strategies

The public sector can have a critical role here through supporting the growth of products and services through the way it procures. With the right processes in place, the public sector can actively support the development of local business offering smarter and greener products and services. This purchasing power can also be leveraged to support the development of the ETS sector within the City Region and encourage innovation.

5. Reducing uncertainty and risk to encourage business investment

Influencing national policy should be a major focus here. Businesses need to believe that they are investing in change for the right reasons and that they are not going to be burdened with unnecessary or sunk costs. Minimising uncertainty requires Central Government and International level commitment. Lobbying activity could complement more of the City Regional/Regional initiatives highlighted here. The uncertainty around the future carbon prices means that those businesses not currently affected by changing consumer or business behaviour, have no financial basis upon which to make investment decisions. However, development of the right reward structures – through initiatives such as 'kite-marking' the best performing businesses could help to encourage business investment.

6. Delivering coherent advice and support to business in general

Targeted business support to businesses affected by Climate Change legislation and regulation will need to be provided. The generic business support in the North West together with activities of Enworks could be tailored to achieve this but the Manchester City Region would need more intensive action if its business community is to mitigate and deliver the economic benefits.

7. Developing sector strategies

Developing specific sector strategies in support of vulnerable sectors as well as opportunity sectors such as ETS should be considered. These strategies should be prioritised into those industries with significant legislative threats such as transport and manufacturing – where emission minimisation and costs associated with under or over-adaptation may be highest. Attention should also be focused on those service sectors that are expected to provide much of the economic growth in the coming years – such as financial and professional services. Building on regional activities such as Envirolink, which provides support for the Environmental sector will also be critical to ensure those operating in sectors related to environmental technologies and services are able to compete in national and international markets.

8. Promoting inward investment

Once the necessary leadership is established and key programmes are in place, MIDAS (the City Region's Inward Investment Agency), working with the NWDA, would be in a good position to promote Manchester City Region internationally as the 'location of choice' for Climate Change-related innovation activity.

9. Policy Alignment

The alignment of spatial and economic policy across the City Region can play an important role in ensuring consistency and avoiding counterproductive internal competition. However, care will be needed to ensure policies do not economically discriminate because of geography. For example a high percentage renewable energy requirement for new development in the north of the City Region would have a different impact on investment decisions than in the south – where land values are higher.

10. Investing in skills and building capacity

Investment in skills development through higher education and research centres can ensure that future employment demands are met in the region. This can also enhance the creation and development of key clusters of new technologies. There is also the opportunity to build on existing collaborative working between universities, energy and environmental consultancies as well as research and development agencies.

Conclusions

Climate change regulation, legislation and policy, presents the Manchester City Region with the challenge of minimising downside economic risk whilst delivering the upside benefits to improve its competitiveness. The Manchester City Region – due to its economic profile - is well positioned to mitigate against negative effects and deliver upside benefits in the face of Climate Change legislation.

There is some evidence that the Manchester City Region economy is already responding to the challenges and opportunities stemming from Climate Change legislation. However, strong strategic leadership is now needed to direct the key interventions set out in this study to enable the City Region to maximise potential economic benefits - particularly through first mover advantages.

Reputation in this area will need to be earned though and the public sector will need to lead by example through its policies and actions. For example, market and investor confidence will grow if the power of public sector procurement is applied to purchase lower carbon products and services.

The proposed Climate Change Agency for the City Region by AGMA, has the potential to enable the public and private sectors to pool the necessary skills and expertise to enable the delivery of the interventions set out in this report.

This study provides strategic overview of economic implications of Climate Change legislation and sets out the broad areas for intervention. Further work would therefore be required to develop specific strategies and action plans to position Manchester City Region and the North West at the forefront of this challenging policy agenda.