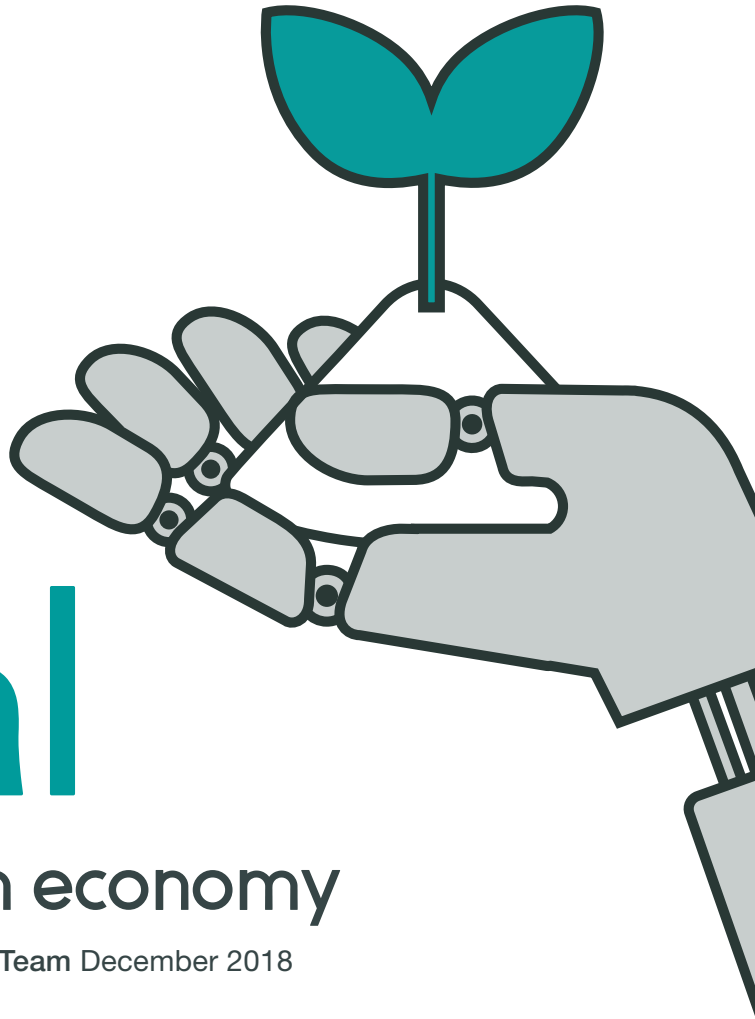
NORTH WEST BUSINESS LEADERSHIP TEAM



essential

seven steps to a north west green economy

An agenda-setting draft charter from the North West Business Leadership Team December 2018

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The cradle of an industrial revolution, engine room of the Anthropocene, a region of makers, producers and traders that shaped the course of history; these are all true reflections of the North West of England.

Our historical, economic and ecological footprint is larger than many nations and as the planet seeks to chart a sustainable course into the future, our formidable industrial legacy also gives us a clear and compelling call to action.

This region owes it to the world and to itself to be a strong leader in a new, green economy that leaves the world a better place than we found, it for the first time in many, many generations.

This new charter for a green economy, a successor to our previous ‘Essential Resources’ report, is designed to help deliver against that call to action and propose some areas for innovation and collaboration which, we believe, could help to reshape the world anew.

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INTRODUCTION

Resourcing the region

Juergen Maier and Tim Wheeler

It's often said that we stand on the shoulders of giants. In a region that gave us so very many innovations, from programmable computers to the world's first chemistry cluster or the inspiring breakthrough of graphene, this seems particularly pertinent, not least when thinking about how we are to innovate together to deliver a safe and sustainable future for our planet.

And we have to look forward as well as back. We didn't inherit this planet from our ingenious, coal-smelting, cotton-weaving ancestors, the truth is that we have borrowed it from our children, the generation to whom we have a true responsibility to deliver a resilient and prosperous region.

It is our region's future that should shape our actions today.

The North West Business Leadership Team has been at the forefront of tackling the key issue of sustainable development for 25 years, including helping to launch the region's very first climate plan in 1998. The urgency of now, however, means we don't have another quarter century to radically change direction.

By every measure, whether it is food or water availability, atmospheric carbon levels, biodiversity, land availability, soil loss or resource use, we are moving well beyond the 'safe operating area' that our one, small planet can offer us. We have years, not decades, to take some radical and critical decisions.

Our region has opportunities and challenges aplenty: renewables off our coastline and knowledge power in our cities; an ageing building stock that needs revolutionary retrofit; new housing and commercial builds, which could and should be zero carbon; nuclear know-how, particularly in decommissioning; advanced materials; and new transport infrastructure connecting the North.

Reaching out to grasp this green opportunity is essential. There is no Plan B, because there is no Planet B. The very good news is that taking this course will also make us more competitive, resilient and economically viable.

Professor Juergen Maier
Chair of NWBLT and CEO of Siemens UK

It's also important to spell out that for a region like ours, in fact for many regions across the world, this is not simply an environmental call to action. All the global evidence tells us that the poorest, youngest and most vulnerable in society will suffer the most because of pollution, environmental stress and climate change even though they've had the least to do with creating the problem in the first place. This is a social justice issue, an urgent one, and by tackling it we can help to achieve progress towards a more inclusive model of future prosperity.

Climate change does not respect boundaries, water flows across catchments, not counties, energy is not always used where it is generated or wasted where it is most wanted; sustainability is not something we can tackle alone as towns or cities or villages but makes a huge amount of sense at a regional scale and that's why the NWBLT has this as a priority. We know that by connecting the efforts and opportunities across Cumbria, Cheshire, Greater Manchester, Lancashire and the Liverpool City Region we can maximise our strengths and strive for a higher goal.

We've called this report 'Essential' because this has to happen on our watch, but it is vital that we don't think of this new green economy as purely a crisis or constraint. Radical and urgent action on climate change is what the science-based analysis tells us is needed; the cities and regional economies that move swifter, faster and more decisively will have a critical competitive advantage. This is undeniable.

For many areas of action there will be what looks like a blisteringly high price to pay, a huge investment needed, and we must not flinch when we look at the economics of the situation we're in, because the price of not taking action will be much, much higher. The World Economic Forum rates climate change as a greater risk to global business than weapons of mass destruction, global pandemics, large-scale migration, water crises or energy price shocks. It is literally at the top of their risk register.

This also means that all action has to be climate action in the next few years. Achieving huge change is not just about new investments or financial mechanisms. We can re-orientate existing spend and investment across all sectors to meet stringent carbon targets. We can do what we already do, radically differently. Every business and every sector can play a part. We can't just deliver this challenge to the North West's admittedly successful and fast-growing low carbon industries and look to them to make this happen.

And while storm clouds are gathering, there really is a silver lining, a reason for optimism, a bright and exciting truth to which we can turn.

Let's embrace the moonshot effect. If you want to disrupt business as usual and reap huge rewards, then launching a moonshot is the way to go. New products and services will be created in the North West, new ideas will be exported to the rest of the world and our already growing low carbon sector, which is complimented by a strong and increasingly digital advanced manufacturing sector, will continue to flourish

This is part of the new industrial revolution. If there's a gap between what's possible and what's necessary, then it's in that space that we can innovate, think the impossible and come to pioneer climate solutions. Our region has led two previous industrial revolutions and we can lead in this fourth industrial revolution also, if we embrace low carbon and resource efficiency as a key innovation opportunity.

This is what we do.

Professor Tim Wheeler
Chair of NWBLT Essential Resources task force and
Vice Chancellor of the University of Chester

SEVEN STEPS

One

GREEN INNOVATION

The North West of England has a pioneering role to play in an approaching wave of green innovation.

The UK already outperforms other European countries when it comes to green innovation, scoring 11th across Europe in a recent 'Eco-Innovation' poll.

Many of the areas of innovation we could and should come to dominate are within the so-called Circular Economy of radically improved resource efficiency:

- Remanufacturing and circular economy models;
- Zero waste strategies for organisations and regions;
- Natural resource use industrial symbiosis;
- Ultra and zero-emissions transport technologies;
- Clean and zero carbon energy sources; and
- Green chemistry, advanced materials and nanotechnology.

From textiles and cotton through steam, space and software, the North West has played a critical role in industrial revolution. The age of green innovation, and a so-called fourth industrial revolution, is no different. Innovative, digital, renewable solutions that make better use of natural resources are key.

Our region's universities are researching and innovating the next big thing, the next world changing green innovation. And business can be there at the start, feeding data into research, trialing new innovations and providing the practical scenarios to make ideas a reality.

Businesses and universities can also collaborate on this agenda and ensure their most talented people are able to divert there energies into solving some of the biggest environmental challenges we face.

BUILDING ON SUCCESS

Our region already has a healthy and growing green economy. Businesses in low carbon, renewables and environmental technologies already number more than 5,000, and generate around £10 billion for the regional economy, as well as providing over 100,000 jobs.

IT'S ALREADY HAPPENING

The £60m Graphene Engineering and Innovation Centre at the University of Manchester is being part-funded by international renewable energy company Masdar as they search for materials that could deliver the next generation of renewable energy systems.

SEVEN STEPS

Two

RADICAL RESOURCE EFFICIENCY

Less is more. We already regard resources with increasing respect; our approach to reducing single-use plastics, food waste and water are just three high profile examples. But to be truly resource efficient, we need to see everything as a resource – there's no such thing as 'waste'.

The Ellen MacArthur Foundation is the authority on this, and its circular economy model is the state we should aim for. The idea of radical resource efficiency isn't about 'doing the right thing', it makes good business sense. We need to do more, do better, and keep the value for longer with the resources we have.

And our SMEs can reap significant financial benefits from embracing resource efficiency. From lighting to heat pumps, solar water heating to recycling and reuse, low carbon solutions are proven money makers. In fact, SMEs could miss out on an average of £5,800 to £12,200 if they don't take up the opportunities offered by becoming more energy efficient.

Radical levels of efficiency can help us to limit our impact on the planet but they could hold the key to bridging our well known prosperity gap by helping industry deliver more output for more input; and in the public sector major gains in efficiency could help to offset cuts in funding for public services.

In its recently released 'Less is More' report, The Green Alliance showed that resource efficiency could well hold the key to meeting the UK's carbon budget targets, which we otherwise look set to overshoot.

BUILDING ON SUCCESS

The North West has a history of strong action on eco-efficiency, not least through the award-winning Enworks programme which worked with thousands of regional businesses to cut 1.3 million tones of carbon emissions and divert over 1 million tonnes of waste away from landfill.

IT'S ALREADY HAPPENING

The Shield Group, which has a major base in Oldham saw its sales of castings and machine components pass £80 million this year for the first time, but at the same time through a major energy review, managed to reduce its energy use by 15%, showing that you really can 'decouple' growth from carbon emissions.

Crown Paints in Lancashire has tackled its energy use and its materials efficiency through an Enworks review and has saved itself £600,000 per year and reduced its carbon footprint by 295 tonnes per year.

Encirc uses recycled glass in its processes. As a material, it's unique – the quality of glass never diminishes in a closed loop cycle, it retains all of its qualities no matter how many times it's recycled. Encirc aims to move to 100% recycled bottles, although it is currently restricted by the availability and quality. In the future, the aim is to create lighter, 'unbreakable' glass, and innovation technologies will help to achieve this.

SEVEN STEPS

Three

TOWARDS NATURAL CAPITALISM

There is a clear business case to protect and enhance our essential natural resources – water, air, food, timber, minerals, fuel and so on. It's our natural capital, defined by the Natural Capital Committee as 'the elements of nature that produce value (directly and indirectly) to people'.

And our natural capital can boost the investment and productivity; it's an added value for business. Our trees, woodlands, rivers streams and green spaces create attractive environments for business and they have even been found to attract and retain happier, healthier staff. And that means higher productivity, lower recruitment costs, and fewer absences. All in all, our natural resources are good for business.

The gross value added (GVA) of green infrastructure has been calculated at £2.6 billion. The network of green and blue spaces has much more than an aesthetic value, it supports a range of employment and economic activities including tourism, agriculture, biofuels, water management and forestry. But that aesthetic value should not be forgotten. Green spaces can enhance quality of place, increase property values and encourage inward investment.

Being great custodians of our natural environment could deliver new products and services too, for example a radical uplift in woodland planting could, in a generation, deliver new timber resources and biomass energy supplies.

If we want to see greater prosperity in our region, we need to preserve and enhance our natural capital.

VALUING NATURE

The direct gross value added (GVA) from the environment in the North West has been calculated at £2.6 billion, supporting 109,000 jobs in environmental and related fields.

Property values increase near green spaces, as people are prepared to pay on average 18% more for houses close to parks than for similar properties further away.

IT'S ALREADY HAPPENING

The recently-announced Northern Forest project is planning to plant 50 million trees over 25 years, which it estimates will deliver up to £2.2 billion to the Northern economy, provide economic benefits through the production of biomass and timber and reduce flood risk for over 190,000 households.

SEVEN STEPS

Four

ACCELERATE TO ZERO CARBON

The need to achieve our zero carbon targets is urgent. The latest science-based targets reveal that to keep global temperature rise to less than 2ºC, and closer to 1.5ºC, we need to have eliminated all emissions of carbon by around 2040; this is a radical step up on earlier regional targets which aimed for a reduction of just 80% by 2050.

We need to act. And we need to act now.

Today, 37% of the UK's energy is still imported, which brings the associated business risks of supply, cost and a changing political landscape. The transition to an energy mix focused heavily on renewables – including wind, tidal and solar – is well underway across the North West, and there are still opportunities to be had. We also have nuclear generating capacity, which also helps to reduce our carbon dependency. Cutting our usage of non-renewables is crucial for the sustainability of our region in the longer term. In the shorter term we must also make a conscious effort to use all our energy at its most efficient level.

Here in the region, we are perfectly placed to reap the benefits that carbon reduction innovation and technology can offer. We already have one gigawatt of offshore wind capacity – enough to provide electricity to one million houses, five times the size of Liverpool. And in Allerdale, Cumbria, 87% of its electricity comes from renewable sources (primarily onshore wind, biomass and waste).

The cost of these technologies has dropped significantly in the past five years – and looks set to continue to do so. Costs of solar PV have fallen by 80%, wind turbines by 40%, making them much more viable solutions for businesses of all scales.

Beyond energy, our race to zero carbon will mean a transformational programme of retrofit for our building stock, particularly for the 80% of our homes that will still be in use in 2050; we will need to find new ways of delivering low or zero carbon heat to our properties. One of the biggest challenges here is the diversity of homes in our region. We need to ensure any plan to retrofit property considers differing home ownership models, in addition to different property types, be they one bedroom flats or suburban family homes. We will have to see a total decarbonisation of transport, including a significant modal shift away from cars.

The upside is that in each of these areas, North West business can be and in some cases already is in the vanguard. The skills, experience, technology and natural resources we have, coupled with the determination and innovation of our people can only result in real business advantage across a whole variety of sectors.

IT'S ALREADY HAPPENING

Greater Manchester's Green Summit recently set a new level of ambition for city regions, setting the first ever science-based target of achieving zero carbon emissions by 2038.

The Liverpool City Region under Metro Mayor Steve Rotherham is working hard to re-energise plans to harness the huge tidal range of the River Mersey to produce power for the City Region's businesses and citizens. New technology options could deliver high volumes of clean and predictable energy well into the next century.

Plans are being developed for an Energy Innovation Cluster for Cheshire led by a range of partners including Peel, Encirc and C-Tech Innovation. Their plan is to work together to immediately lower their energy costs by 20%.

UK manufacturer of heating and hot water products, Baxi has already undertaken an audit of its operations to better understand what's happening and where the opportunities exist to reduce carbon further. Its boilers are already A-rated, but it has several more plans in action, and in the pipeline – including working through the systematic upgrade and improvement of its gas boilers and electric/gas water heaters to increase efficiency; recovering flue gas heat from boilers to pre-heat water on the way into the system; using combined heat and power to help decarbonise commercial and industrial heating; and producing smart thermostats for the remote control of domestic heating.

All of these innovations are fantastic and will only increase with greater collaboration between business, academia and government.

SEVEN STEPS

Five

FROM RISK TO RESILIENCE

To keep us on track for less than 2ºC of climate change this century we need to urgently decarbonise our economy and our everyday lives. But the carbon we've already emitted since the 1950s onwards will still have a dramatic impact, even if we hit the tough targets we set on climate change in Paris.

What does our region look like in the 2050s? If we haven't made substantial cuts in carbon then the annual mean temperature could have increased by up to 3.6ºC, our winters could be up to 36% wetter and our summers 36% drier;. There will also be greater seasonal variations in the weather, and more extreme events such as storms or flooding.

The shift is happening now. The weather and climate is already changing, broadly in line with the direction of future climate projections. Surface water flood incidents already appear to be increasing. In Greater Manchester for example six major incidents were recorded in the 1960s; eight occurred in the 1980s; but between 2001 and 2009 there were 14 such incidents.

The risks of climate change hardly need explaining here, but we have to move to a state of resilience, able to cope with the challenges of the future. To have any success, early adaptation is key. We need to understand the risks of climate change. For businesses this is also about understanding how your supply chains - which may be global - will also be impacted by the changing climate and taking the necessary precautions to be prepared for this.

Energy and resource efficiency brings reduced business costs. And this in itself increases resilience. Moving away from the risks associated with cost fluctuation and uncertainty of supply leads to increased confidence and increased control. Take divestment – quite literally the opposite of investment.

In practical terms, we need an adaptation strategy for every part of our region. In the uplands we need to address soil erosion, run-off, and a strategy to look at landscape-scale approaches to flood risk alleviation. In out towns and cities we need to adapt our homes and work places for a warmer and wetter world. And for key sectors such as utilities, chemicals, food, insurance and transport we need to urgently assess vulnerabilities, particularly to extreme weather events.

BUILDING ON SUCCESS

We're not at a standing start and a good deal of thinking has already been done. In fact the North West Business Leadership Team was a partner in Europe's first regional adaptation strategy, published just before the millennium. More recently major studies and projects have included the EcoCities programme in Greater Manchester.

In Morecambe Bay, the Northern Tidal Power Gateways could produce 6,500GWh of electricity every year – enough to power around 1.5 million homes. Over in the Duddon Estuary, the figures are 100GWh a year, or enough power for 25,000 homes. During construction alone, the project has the potential to create 7,500 jobs and over £300 million GVA to the north west economy. With the double benefits (among many others) of a more secure energy supply from renewable resources and its ability to reduce flood risk, this project could be pivotal for our future resilience.

SEVEN STEPS

Six

THE SUSTAINABLE SUPPLY CHAIN

A sustainable supply chain is a strong supply chain. With increasingly global supply chains, it's critical to ensure resilience to the risks of climate change and unethical practices that could be happening thousands of miles away.

Demanding a sustainable supply chain is becoming the norm. A commitment to ethical and environmental standards is good for business, it's a key component of corporate responsibility – and that extends to suppliers.

The alternative? We've all heard cases of contaminated products, child labour, pollution and sweatshops, and these are disastrous for business.

Of course, for many businesses, this is common sense. More sustainable practices can reduce costs, increase productivity, and allow management to make longer-term decisions. Having confidence in the supply chain is an important part of this.

There's a likelihood that suppliers will soon have no choice but to prove their sustainable credentials. From major corporates to the public sector, it's becoming mandatory as part of the procurement process.

For North West businesses setting ever-tougher targets on carbon, the supply chain will also be a priority for action. Major corporates globally have set the benchmark here, for example Walmart which has launched 'Project Gigaton' to take a gigaton of carbon out of their supply chain by 2030.

Finally a sustainability review of North West supply chains could examine market vulnerabilities (new tariffs, price shocks, political disruption), our region's level of 'imported carbon' through carbon-intensive products, and our potential to support global environmental efforts to halt deforestation.

BUILDING ON SUCCESS

Lancaster University and the supermarket Waitrose have launched a sustainable supply chain initiative to support better practice to help create a sustainable global supply chain in fruit and vegetables.

The project – part of the Waitrose Farm Assessment – includes a series of training courses to help suppliers improve their practice, and to quantify the impact of the changes they make.

SEVEN STEPS

Seven

HOW TO BE A LEADER

Environmental equity, biodiversity, resource flows and carbon emissions are all issues that famously fail to respect geography, sectors or organisational boundaries. Where a target is set, for example the Liverpool City Region's zero carbon 2040 objective, it is a target that is owned by all, and not just by the local or combined authority. We really are in this together.

The devolution of powers to our region has been beneficial, however we should ensure that this devolution does not lead to multiple unnecessarily complex and disjointed environmental policies.

And this shared purpose makes it all the more critical that strong leadership is shown by businesses, local government and the third sector, too. A commitment to tackling climate change for example needs to embraced at board and chief executive level, for an entire organisation to be energised enough to make a difference. If we simply place this generational challenge at the feet of the region's sustainability experts and managers, we will fail.

LEADERSHIP IN ACTION

The North West Business Leadership Team is perfectly placed to foster real leadership on developing a green economy. Through our work and our partnerships we can:

- Encourage more North West businesses to make board-level commitments to zero waste, zero carbon and greater sustainability;
- Provide a platform for green innovation and 'big thinking' on sustainability, particularly in and around business networks;
- Work with LEPs and Combined Authorities to raise the collective level of ambition in each of our city regions; and
- Use major events like Liverpool's International Business Festival to set a new green economic agenda.

We can and should be an exemplar region, because if the place on Earth that re-shaped the world using coal, cotton and water to launch an industrial revolution can evolve towards sustainability, then this great transition cannot be seen as 'too difficult' by any city, or region, in the world.

THE GREEN ROAD TO PROSPERITY

Through collaboration, action and innovation, the North West can lead the way to a future of business resilience, opportunity and advantage.

But how we get there will take a group of entrepreneurs, innovators and trailblazers. It's against this backdrop that the North West Business Leadership Team has developed this implementation plan – to set out our priorities, and how we're going to achieve them.

A green economy can stimulate growth that does not undermine the carrying capacity of our planet. If our growth is high quality, innovative, sustainable growth, then we will set ourselves apart from the pack; we will have a significant sustainability advantage and we'll have healthier business and communities. And if we are pioneers of the fourth industrial revolution, we will secure an advantage for our region, but we will also be exporting sustainable solutions and ideas which will have a progressive and positive impact the world over.

There is only one outcome that matters and it is a sustainable future. If we want to be able to look back a generation from now and see with pride how we accomplished a huge and positive change we have to realise, fundamentally, that achieving sustainability is not a nice to have, an optional extra, bolt-on boost to our social responsibility.

It is essential.

Editorial by **Creative Concern**
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