

# NET ZERO NORTH WEST

DELIVERING THE DECARBONISATION OF THE  
NORTH WEST INDUSTRIAL SECTOR

AUTUMN 2020



# CREATING THE UK'S FIRST LOW CARBON INDUSTRIAL CLUSTER BY 2030



“Decarbonising the economy in the North West is critical to the success of the UK achieving its net zero target. We were the cradle of the first industrial revolution and must now be the powerhouse of the fourth digital and sustainable industrial revolution. The North West has the ingenuity, the skills and the passion to deliver on this vital transformation at the scale and speed needed to succeed. This not a technology challenge but a policy one and it's time now for Government, National and local, to make good on their policies to lead on decarbonisation.”

**Carl Ennis**  
Chairman Net Zero North West and CEO  
Siemens GB & Ireland



“The North West is the only region in the UK that has all the elements required to deliver a low carbon industrial cluster by 2030. Our strength lies in the unrivalled number of projects already happening on the ground which offer sustainable investment opportunities in net zero and will see this region become a world leader in clean growth.”

**Ged Barlow,**  
Executive Director, Net Zero North West

---

# 33,000

**JOBS**

---

**OVER**

# £4bn

**INVESTMENT**

---

# 10 MILLION TONNES OF CARBON SAVED

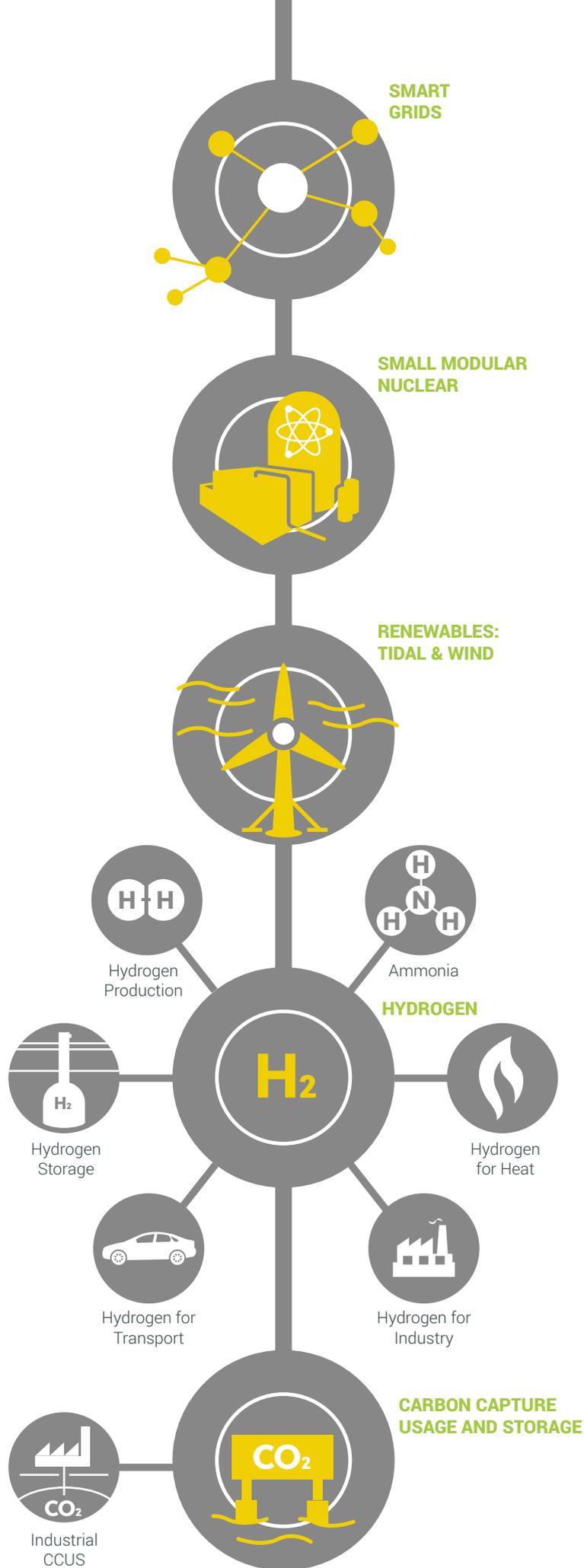
---

# WHAT THE CLUSTER OFFERS

Net Zero North West is rising to the challenge of becoming the UK's first low carbon industrial cluster by 2030. Led by industry, the cluster is driving investment into the net zero economy and post COVID-19 green recovery. This will create at least 33,000 jobs and see over £4bn invested in the region. The cluster will make a significant contribution to the UK's legally binding target to reach net zero carbon emissions by 2050.

The North West is the only region which already has all the elements required to deliver a low carbon industrial cluster by 2030 – including renewables, hydrogen, Carbon Capture usage and Storage, nuclear and smart grids. With an unrivaled range of projects, the Cluster offers a multi vector energy system that can drive clean growth. Together these projects could save over 10 million tonnes of carbon per year.

Driven by industry, including some of the UK's biggest manufacturers, our partnership brings together companies, regional leaders and a network of academic experts. It covers the traditional industrial powerhouses of the Liverpool and Manchester City Regions, as well as Cheshire and Warrington, working closely with partners in Lancashire, Cumbria and North Wales.





The North West's strength lies in having all the parts of jigsaw to deliver decarbonisation at an unrivalled scale and pace. With appropriate investment, we have the opportunity to be world leaders in developing and delivering low carbon technologies; building on our strong industrial and entrepreneurial heritage.



# INVESTING FOR A GREENER FUTURE

With industry, business and academia working side by side we are developing a comprehensive roadmap for how the North West will decarbonise industry, protect jobs and help the UK meet its net zero carbon emissions targets.

Our strength lies in the unrivalled number of projects already happening on the ground. Collectively they offer long term, sustainable investment opportunities in net zero.



**Project:** E-Port

**Investment opportunity:** £500m

**Timescales:** Comprehensive, region-wide, investment ready business plan to be completed by March 2021.

**Overview:** E-Port will deliver a blueprint for unlocking capital investment in a net zero carbon industrial cluster in the Ellesmere Port region over a 10 year period.

It will define a range of future local energy system designs to inform a range of potential capital investment opportunities in infrastructure, energy generation/distribution/storage, control systems, and related products and services able to provide secure, low carbon, affordable energy.



**Project:** HyNet

**Investment opportunity:** £1bn+

**Timescales:** Operations to start in 2024, subject to consenting and Government Business Models for Low Carbon Hydrogen and CCUS.

**Overview:** The UK's leading low carbon hydrogen and CCUS project offers a low cost, low risk route to decarbonise the North West industrial cluster and other sectors of the regional economy. Kick starting the hydrogen economy, it will deliver a material contribution to net zero and considerable economic benefit. Repurposing Liverpool Bay gas fields infrastructure provides a low capital entry for CCUS deployment of 1 million tonnes of CO<sub>2</sub> per year with incremental growth to 10 million tonnes per year and beyond.



**Project:** Protos

**Investment opportunity:** £1.5bn

**Timescales:** Immediate project specific opportunities around plastic recycling and recovery, BioSNG, hydrogen production and Carbon Capture and Utilisation. Extending to a 15-year business plan across later phases.

**Overview:** Developed by Peel L&P Environmental, Protos is a strategic cluster of energy generation and energy intensive industry in Cheshire; with over 54 hectares consented and a wider masterplan extending to 280 hectares. Existing infrastructure includes a 50 MW windfarm and 26MW biomass facility. Protos has the opportunity for Carbon Capture and Storage and will provide multi energy vector, local networks to support energy intensive industry.



**Project:** Mersey Tidal Power Project

**Investment opportunity:** £ Multi-Billion Capital

**Timescales:** Early stage Development.

**Overview:** The high tidal range in Liverpool Bay and the Mersey estuary provides a unique opportunity to reliably generate abundant and predictable long-term renewable energy. Progression of the new scheme over the next decade will 'lock-in' long term, low carbon generation for the urban and industrial area for a century. The scheme is an important jigsaw piece in the whole energy system integration of electricity, storage and hydrogen and will provide resilience in the wider region network, whilst also providing a boost in employment and skills for the city region.



**Project:** Project Vanguard

**Investment opportunity:** £1m

**Timescales:** Completion by Feb 2021.

**Overview:** Storengy UK, in partnership with Cheshire East Council, will be building a green hydrogen refuelling station in Middlewich, Cheshire. The facility will produce hydrogen in the greenest way possible – using an electrolyser connected to solar panels. This will provide safe, clean hydrogen fuel, which will be pumped into dual-fuel bin trucks used by the council and a Storengy works vehicle. The project will see a reduction of diesel usage by more than 10,000 litres per year, reducing CO<sub>2</sub> emissions and improving local air quality benefits.



**Project:** HySecure

**Investment opportunity:** £25m

**Timescales:** Feasibility study complete. Following FID, fully operational in five years.

**Overview:** HySecure is a bespoke solution mined hydrogen storage salt cavern, capable of storing 50GWh of energy (1,100 tonnes of hydrogen working gas volume). The cavern can be used to demonstrate flexible hydrogen storage to de-risk future large scale hydrogen storage facilities. Equally, the cavern can provide back-up hydrogen supply services to other hydrogen projects in the North West region increasing the overall resilience of the nascent hydrogen supply industry.



**Project:** Centurion

**Investment opportunity:** £300m

**Timescales:** Feasibility study complete. Following FID, 2 – 3 years for delivery of main components. Fully operational in four years.

**Overview:** Centurion is a “power to gas,” large scale (100MW) demonstration project to capture under-utilised green electricity. This energy will be converted to hydrogen, stored in a repurposed (gas storage) salt cavern and then exported to the gas grid when required. The system can make a significant contribution to the decarbonisation of the electricity and gas grids and by coupling the two, it can provide useful energy storage, reducing renewable curtailment and constraints.



**Project:** Carbon Capture & Utilisation

**Investment opportunity:** Total cost of £16.7m with £4.2m grant funding from BEIS.

**Timescales:** The project is due for completion by the end of 2020.

**Overview:** A UK-first Carbon Capture and Utilisation project to capture 40,000 tonnes of food grade carbon dioxide for use as a raw material for high grade Sodium Bicarbonate manufacture in Cheshire. The project will capture flue gases from the combined heat and power plant at Tata Chemicals Europe’s Northwich industrial site in Cheshire and will reduce carbon emissions by over 10%.

# DRIVEN BY INDUSTRY

Net Zero North West unites industry, providing a strong voice and holistic vision for industrial decarbonisation in the North West. The partners are committed to working together to deliver change that is not only essential in supporting the energy intensive industries that make this region thrive, but critical in reaching the UK's net zero targets.

The region has a long history of collaboration with business, regional leaders and academia working together to share knowledge and best practice. We are supported by senior members of the City Regions, Local Enterprise Partnerships, academia and regional industry bodies.

## Founding members:



## Our partners:



---

**ADRIAN CURRY,**  
MANAGING DIRECTOR, ENCIRC

**“Encirc’s aim is to be the most sustainable beverage supply chain business in the world. Decarbonisation forms a key thread of our sustainability plan going forward, and as a business we are leading our industry with the projects we have planned. A decarbonised packaging sector will be an important element of the UK’s effort.”**

---

**PETER HOUGHTON,**  
ENERGY DIRECTOR,  
TATA CHEMICALS EUROPE

**“For any energy intensive business, decarbonisation is now the challenge of our lifetime. And while individual businesses can act, the holistic solutions needed require many businesses to work together for the common good. That will involve new infrastructure, new technologies and changes in fuels too. Tata Chemicals’ continues to explore all decarbonisation options to underpin the long-term sustainability of the business element of the UK’s effort.”**

---

**MYLES KITCHER,**  
MANAGING DIRECTOR, PEEL L&P  
ENVIRONMENTAL

**“We believe that there are fantastic opportunities across the Net Zero North West cluster for world leading investment in clean growth. By supporting our existing industries to decarbonise at Protos, we can attract inward investment, drive job creation and deliver economic growth.”**

---

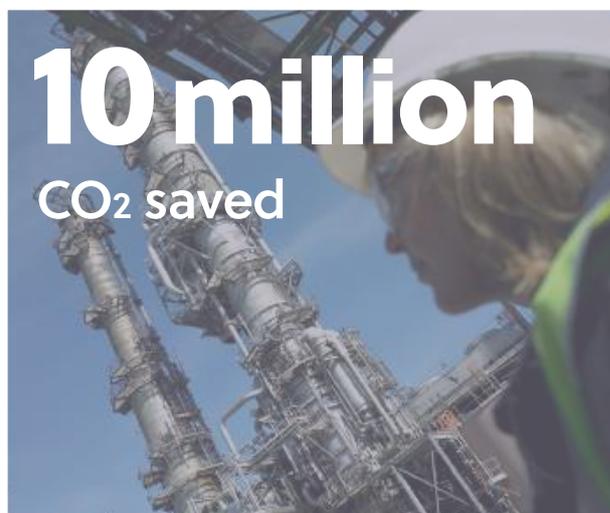
**MICHAEL GIBSON,**  
MANAGING DIRECTOR,  
STORENGY UK

**“The gas storage industry plays an important role in balancing the UKs energy requirements, as such it is essential that we are focused on the journey to Net Zero. Decarbonisation at Storengy UK means focusing on both short and long term possibilities, from greening our own operation, assets and reducing our methane emissions through to developing the technologies to support the energy transition to green gases. We believe in a future where the UKs gas network contains biomethane and Hydrogen, and we are excited to be developing new green production and storage assets that will deliver benefits to our stakeholders, the communities we operate in and for the UK.”**

# THE OPPORTUNITY

---

Substantially decarbonising regional industry by 2030, and getting to net zero emissions by 2040, is an opportunity that presents significant economic benefits, both regionally and nationally. It will create and protect high value-add jobs and position the UK at the forefront of global industrial emissions reductions.





**INDUSTRY LED CLUSTER ALREADY  
DELIVERING**



**THE DECARBONISATION OF THE  
UK'S LARGEST  
CONCENTRATION OF MANUFACTURING AND  
CHEMICALS PRODUCTION**



**POWERFUL  
LEADERSHIP COLLABORATION**

---

**“Our economic recovery must be sustainable and built around ensuring a zero carbon future, and we are taking urgent action now. In the Liverpool City Region our low carbon sector is already worth £2 billion a year to our economy, while employing 22,000 people and we stand ready to play a key role in creating the UK’s first low carbon cluster.”**



**Steve Rotheram,**  
Mayor of the Liverpool City Region

---

**“I want Greater Manchester to be the best place in the world to grow up, get on and grow old in a clean, green and vibrant city-region. Cities, and city-regions, will make the difference on climate change. Doing things differently doesn’t just mean a new set of policies – it means a new approach to managing energy altogether and, in working to decarbonise in the North West, we can create a blueprint for the world. It wouldn’t be the first time. We can change ourselves, and we can inspire change in others.”**



**Andy Burnham,**  
Mayor of Greater Manchester

---

**“Securing an inclusive and sustainable economic recovery is at the heart of the long term vision for Cheshire and Warrington. Action, innovation and leadership by industry, supported by government and the wider public sector, is going to be key in decarbonising our economy and maximising the local benefits and wider economic opportunities of this. This region has a strong and proud track record of collaborative working and we intend to build on these powerful partnerships to ensure we are the catalyst for sustainable growth .”**



**Clare Hayward MBE,**  
Chairman of the Cheshire and Warrington  
Local Enterprise Partnership



For further information visit [www.netzeronw.co.uk](http://www.netzeronw.co.uk)  
Or email us at [info@netzeronw.co.uk](mailto:info@netzeronw.co.uk)