ZERO CARBON HUMBER

Letters of support

ZERO CARBON HUMBER SUPPORTERS


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HEAVY INDUSTRIES


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20 October 2020 **Our Ref: Zero Carbon Humber Partnership**

Please accept this letter as a demonstration of our support of the Zero Carbon Humber Partnership.

Apollo is an engineering company, with deep roots in the energy sector. With a track record of delivering projects across oil, gas, wind, wave and tidal energy we are fully committed to the Energy Transition of both industry and the UK. Our strategy is focussed around developing Hydrogen and CCUS technology, and commercialising this opportunity to ensure that as a country we meet our obligations as set out in the Paris Agreement. We believe that regional decarbonisation is a vital piece to this complex puzzle.

It is clear that the energy demands of the consumer (both private and industrial) are changing at a rapid pace. Our energy needs to be produced in a sustainable and less environmentally damaging way. It is also key that we take steps to "un-do" some of the damage which has been done. Therefore the production of Hydrogen – both green and blue, and the potential offered by capturing carbon is key to achieving this.

The Zero Carbon Humber Partnership is a viable project for a number of reasons. Many of these set it apart from other critical infrastructure projects of our time. Not only does it utilise existing infrastructure and industry, but it is also uniquely located to be able to make use of depleted subsea reservoirs and onshore processing facilities, and will also tap into the immense renewable infrastructure available. Furthermore, it provides access to academia and research institutes which are widely considered to be amongst the best in the world. The beauty of its geography affords the project an immense opportunity to create mass employment in a future focussed industry and technology of tomorrow. It will provide training and upskilling opportunities in an area which suffers from unemployment and has the prospect to provide apprenticeships and other training schemes

which are so vital for empowering future generations. The positive ripples of this project will be felt far and wide, and will have a considerable impact on the local, and national supply chain.

COVID-19 has presented huge challenges for the UK. Many projects have been delayed and investment has slowed. The effects of this stagnation can be felt significantly in regions in the North of England. This is exactly why the government has placed emphasis on its Northern Powerhouse agenda; and is specifically why the government should support the Zero Carbon Humber Partnership.

We believe that the Zero Carbon Humber Partnership is a once in a generation opportunity and, if successful in its bid it will become the heartbeat of the UK's carbon reduction ambitions. This is the antithesis of an academic exercise - It is a project which creates trailblazing opportunity and will accelerate the UK ahead in the world economy.

Yours sincerely

Paul Ellerton

Engineering Director

Lucy Green

Energy Transition Manager

To Whom It May Concern

Brussels, 15 October 2020

Subject: Letter of support to the Zero Carbon Humber project and its bid to UK's Industrial Strategy Challenge Fund[1]

With this letter, we wish to express our support to the **Zero Carbon Humber** (ZCH) project and its bid to **UK's Industrial Strategy Challenge Fund** (ISCF).

The ART Fuels Forum recognises the ZCH project as key to accelerate the decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and protect and create new jobs. In this regard, we look forward to the results of the bid's anchor project **Hydrogen to Humber** (H2H) Saltend project, which will establish the world's largest hydrogen production plant with carbon capture.

We believe that the ZCH project is instrumental to support the deployment of technologies such as CCUS and hydrogen, while maintaining and creating new jobs and skills, as well as further educational opportunities. It will additionally support the post-COVID recovery in the regions ensuring a green transition.

Finally, the ZCH project will promote the development of a global supply chain for sustainable fuels, such as ammonia and methanol.

We hope the Zero Carbon Humber project and its ISCF bid will be successfully awarded in early December 2020.

Sincerely,

Dr. Theodor Goumas

Manager of the ART Fuels Forum

ARTFuels

http://artfuelsforum.eu/

[1] https://www.zerocarbonhumber.co.uk/news/iscf/

12 October 2020

To the Zero Carbon Humber Partners,

We would like to set out our strong support for the Zero Carbon Humber bid. We share the vision of ZCH to transform the Humber region into the UK's first net-zero carbon cluster by 2040.

We believe that carbon capture, usage and storage plays a very important role in tackling Climate Change, given that fossils fuels will continue to be a part of the energy mix over the next few decades. CCUS and hydrogen have a central role to play in creating a resilient, inclusive and innovation driven regional economy that delivers clean growth for the Humber. With a third of the Humber's economy based on high carbon jobs, an inclusive transition to low carbon is critical to the place and its people.

Aura and the Aura Innovation Centre are key assets for the Humber in building a low-carbon economy. Aura is an initiative of the University of Hull, along with partners in industry, academia, regional and local government as well as other organisations. We endorse the Zero Carbon Humber collaboration as a pathway to clean growth and, in particular, a way to meet the Government's ambitions both on decarbonisation, and on levelling up the North, particularly in Yorkshire and the Humber which has the largest concentration of energy intensive industries in the country and produces up to 25% of the UK's energy.

The ZCH project would be a game changer for the region. The technologies developed on the back of a successful bid in the Humber will protect the region against flooding and lead the world in the fight against climate change. As a region, it is ideally placed to benefit from new opportunities through the diversification of the energy market, creating 1000s of new jobs and generating multi million pound GVA.

With the research power of the University of Hull behind Aura and its considerable success already achieved as the country's leading Cluster in offshore wind, we would see Zero Carbon Humber as a real opportunity to continue to develop the skills that we are already building on the back of renewable energy, as we contribute to the UK's talent pipeline for a low-carbon transition, developing our future leaders and ensuring that academia and industry work closely together to develop solutions for the challenges currently facing the region and the country.

Yours sincerely,

Louise Smith
Director, Aura
L.Smith6@hull.ac.uk

13 October 2020

BISHOP BURTON College

Re: Zero Carbon Humber

I am pleased to confirm that Bishop Burton College is fully supportive of the Zero Carbon Humber Partnership and share in its ambition to make the Humber and the UK an environmental leader.

As a specialist land-based college, Bishop Burton is particularly keen to play a role in providing the skills required to manage the natural environment more sustainably, reducing carbon emissions and maximising carbon capture.

The college is part of the Yorkshire and Humber Institute of Technology, which aims to develop higher level skills to support economic growth. As part of this initiative, the college is working with businesses to improve environmental sustainability using the latest technologies.

The college is adapting its curriculum to better prepare students for a wide range of green careers including environmental studies, engineering, applied sciences and renewable energy.

Bishop Burton College is a founder member of the Humber Energy Campus, which is administered by the Humber LEP and includes all of the main education providers in the Humber region.

The college operates its own 360 hectare mixed farm and has set an ambitious target of becoming net carbon zero by 2030. The farm provides a living 'green laboratory' in which decarbonisation technologies can be tested and where students can hone their skills.

If you require any further information about the college's activities and the ways it can support the decarbonisation of the Humber, please don't hesitate to ask.

Yours sincerely

Bill Meredith.

Bill Meredith
Chief Executive and Principal

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10 October 2020

Dear Sir / Madam,

ORE Catapult Support for Zero Carbon Humber's ISCF bid

As the UK's leading technology and innovation research centre for offshore renewable energy, ORE Catapult welcome the proposals put forward by Zero Carbon Humber which offers huge opportunities to reinforce the Humber's status as the Energy Estuary whilst also providing options to decarbonise and repurpose existing industry on and offshore.

ORE Catapult seeks to play a key role in delivering the UK's largest clean growth opportunity, through our mission to accelerate the creation and growth of UK companies in the offshore renewable energy sector. We use our unique facilities and research and engineering capabilities to bring together industry and academia and drive innovation in renewable energy.

The Humber has been at the forefront of this green revolution, capitalising on its history, location and wealth of knowledge in energy and industry to further the clean growth agenda. It faces many challenges in doing this, not least its status as the largest emitting industrial cluster in the UK. This industry provides vital jobs, skills and opportunities to the region which require careful adaption to repurpose the economic requirements and physical infrastructure to the needs of tomorrow.

The Zero Carbon Humber project offers multiple opportunities to achieve this through its hydrogen, carbon capture and regional pipeline proposals. We are particularly mindful of the opportunities this presents to the offshore and renewable industries, including in providing underground storage facilities under the Southern North Sea and the potential to create increased future market demand for green hydrogen which could be linked up to the offshore wind industry. We also recognise that securing major projects such as Zero Carbon Humber sends a strong signal internationally that the UK, and the Humber in particular, are flagship locations for future investment in renewables, greener energy and clean growth.

As such, we fully support Zero Carbon Humber's Industrial Strategy Challenge Fund bid.

Yours sincerely,

SJ Barnes

Stuart Barnes
Regional Partnership Manager - Humber
Offshore Renewable Energy Catapult

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North East Lincolnshire
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info@catchuk.org

30 September 2020

To whom it may concern,

Phase 2 ISCF Decarbonisation of Industrial Clusters application – Zero Carbon Humber

CATCH is delighted to confirm our support for the Zero Carbon Humber deployment project and its application into Phase 2 of the ISCF Decarbonisation of industrial clusters program.

The Humber region has the highest level of industrial emissions in the UK. Evidence provided through the phase 1 Humber Roadmap project signals the importance of Carbon Capture and Storage, along with the generation of clean hydrogen at scale, as key to decarbonising industrial clusters. The Zero Carbon Humber partnership has demonstrated its ability to rapidly deliver an advanced collaboration across emitters and providers of Transport and Storage infrastructure to create a solution that Stakeholders can really get behind.

The Humber Industrial Cluster Plan team will work seamlessly with our region's deployment projects to build critical understanding of the opportunity to build low carbon jobs and an engineering supply chain capability in the region. By our early understanding of the strongest deployment routes to achieving our goal of net zero by 2040 we are in an excellent position to capitalise on local economic impact and become a region ready to deliver clean growth.

Yours faithfully,

David Talbot
CEO

Katie Hedges
Head of Membership & Low Carbon Strategy

1 October 2020

Zero Carbon Humber Partnership

To whom it may concern

The CBI is very supportive of the Zero Carbon Humber Partnership's bid for ISCF funding, which we believe can help the region take a significant step towards overcoming its challenges around reducing industrial emissions and creating new employment opportunities and investment.

The region's economic activity, much of which is carbon intensive, centres around the estuary – something that is very common globally. Because of this geography, climate change puts the region at risk of flooding from rainfall and rivers, as well as from sea level rises. The Humber is also still experiencing the effects of de-industrialisation over 30 years ago, including higher than average levels of unemployment and the challenges of reskilling a workforce. The industrial emissions from major local employers remain the highest in the country. It is vital that the region gains support to tackle these challenges.

Looking through the lens of the Industrial Strategy Grand Challenges, it is clear that the Humber has a real opportunity to become a global leader in clean growth. CCUS and hydrogen technologies, linked by major pipeline networks spanning the region, could lead the way on industrial decarbonisation, low carbon fuel production and other future opportunities such as lower carbon footprint manufacturing and a shift away from fossil fuel domestic heating.

There is a strong appetite from the business community to make the Humber a demonstrator region for new ideas and technologies to address this particular challenge – all of which would be exportable, putting the Humber region front and centre of the global low-carbon economy. We encourage the Government to support this drive for innovation.

Significantly, at a time when economic considerations are higher up the agenda than ever, the potential for the Zero Carbon Humber Partnership to secure existing industries whilst also bringing new jobs, skills, growth and investment to the region is a considerable benefit for generations to come. Business and government share the priority to build back greener, and better from the pandemic, and support for the Zero Carbon Humber Partnership would deliver investment at this crucial juncture, both for our economic recovery, and pathway to net-zero emissions.

As such, we call on the Government to support the Zero Carbon Humber Partnership and its notable ambitions through meeting its match funding requirements as set out in its ISCF bid submission.

Yours sincerely

Beckie Hart

Beckie Hart
Regional Director, CBI Yorkshire & the Humber

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C-Capture
Unit 14 Evans Business Centre
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LS12 2EP
22nd October 2020

To Zero Carbon Humber

To whom it may concern,

C-Capture are delighted to offer our support to Drax and the Zero Carbon Humber partnership, in their bid for funding via the Industrial Strategy Challenge Fund.

C-Capture designs world leading chemical processes for carbon dioxide removal. C-Capture works closely alongside Drax and has had a pilot plant installed at Drax Power Station in North Yorkshire since February 2019, the world's first pilot project to demonstrate carbon negative power production. Drax have been of fundamental importance to the development and deployment of C-Capture's award-winning technology. C-Capture currently leads a collaborative project funded by the UK Government's Department of Business, Energy and Industrial Strategy, to scale up its technology, with Drax as a co-applicant. The collaboration between C-Capture and Drax demonstrates how UK companies are working together to drive forward innovation to overcome the biggest challenges the world currently faces.

Carbon capture and storage (CCS) is one of the most effective options available to reduce greenhouse gas emissions and meet international climate change targets. When combined with bioenergy, the potential for negative emissions arises. When scaled up, bioenergy with CCS at Drax could deliver 16 million tonnes of negative emissions per year, a significant proportion of the 51 million tonnes the UK's Committee on Climate Change says are required for the UK to become net zero by 2050.

The Zero Carbon Humber bid has the potential to be transformational to the CCS industry as a whole and is essential for decarbonizing the Humber region.

C-Capture is proud of the potential its technology offers to mitigate climate change as part of the growing market for environmentally conscious power generation and industrial processes, and is proud to be working alongside Drax as it paves the way for the negative emissions the UK needs to achieve its decarbonisation goals.

Yours sincerely
Tom White
CEO

Peter Rowe
Deep Branch Biotechnology Ltd.
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pete@deepbranchbio.com

28 OCTOBER 2020

Zero Carbon Humber Partnership
℅ Drax Power Group,
Selby, Yorkshire,
YO8 8PH

Dear ZCH Partnership,

Deep Branch is a carbon recycling biotechnology company. We use microbes to convert carbon dioxide from industrial emissions into high-value products. We're a fast-growing and agile start-up with commercial activities both in the UK and the Netherlands.

In 2020 we began work with Drax at their power station in North Yorkshire to explore the feasibility of using the power station's carbon dioxide emissions to make proteins for sustainable animal feed products. The process will utilise carbon dioxide extracted from the power station's biomass flue gases to feed to microbes, which can make single cell proteins for use in fish food and other sustainable animal feeds.

Our ongoing partnership is the focal point of the successfully funded ISCF Future Food Production Systems "REACT-FIRST" consortium, led by Deep Branch. This £3M project commenced in October 2020 and will culminate in a feasibility study for the full-scale deployment of our technology using carbon dioxide from Drax. The Zero Carbon Humber (ZCH) partnership will be pivotal in unlocking the potential of our technology to bring sustainable protein production and long-term economic benefit to the region. Our requirements for carbon dioxide and hydrogen as process inputs mean that we must seek out cost effective and low-carbon access to both. We see successful implementation of ZCH as being the single biggest opportunity to deploy our technology in the UK.

Exploring opportunities to utilise carbon dioxide generated by the power industry will form a critical component on the UK's pathway to NetZero. The ZCH partnership project will lead to large scale decarbonisation in the Humber region through the delivery of carbon capture at scale. We are fully supportive of the ZCH project and wish the ZCH team every success in their bid for funding under the Government's Industrial Strategy Challenge Fund.

Yours sincerely,

Peter Rowe,

CEO & Co-founder

DN COLLEGES GROUP

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W www.dncolleges.ac.uk
Chief Executive Officer: Mick Lochran

22 October 2020

To Whom It May Concern

Phase 2 ISCF Decarbonisation of Industrial Clusters application – Zero Carbon Humber

DN Colleges Group is delighted to confirm our support for the Zero Carbon Humber deployment project and its application into Phase 2 of the ISCF Decarbonisation of industrial clusters program.

The Humber region has the highest level of industrial emissions in the UK. Evidence provided through the phase 1 Humber Roadmap project signals the importance of Carbon Capture and Storage, along with the generation of clean hydrogen at scale, as key to decarbonising industrial clusters. The Zero Carbon Humber partnership has demonstrated its ability to rapidly deliver an advanced collaboration across emitters and providers of transport and storage infrastructure to create a solution that Stakeholders can really get behind.

The Humber Industrial Cluster Plan team will work seamlessly with the region's deployment projects to build critical understanding of the opportunity to build low carbon jobs and an engineering supply chain capability in the region. By the early understanding of the strongest deployment routes to achieving our goal of net zero by 2040 we are in excellent position to capitalise on local economic impact and become a region to deliver clean growth.

As a provider of education and training for individuals and employers across the region, we identify that this development is critical to safeguard the future of our young people, to ensure we can offer opportunities for them to secure safe and aspirational career opportunities, and to ensure the sustainability of the region.

Yours faithfully

Jill Cooper

Executive Director Employer Engagement & Projects

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Date:
13 October 2020

To the Zero Carbon Humber Partners,

DNV GL are the independent expert in risk management, assurance and quality. Driven by our purpose, to safeguard life, property and the environment, we empower our customers and their stakeholders with facts and reliable insights so that critical decisions can be made with confidence. As a trusted voice for many of the world's most successful organizations, we use our knowledge to advance safety and performance, set industry benchmarks, and inspire and invent solutions to enable global decarbonisation transformations.

We believe that to decarbonise energy intensive industrial clusters a combination of hydrogen generation with carbon capture and storage provides the most cost effective and efficient solution. The Humber region is the largest industrial cluster in the UK employing over 55,000 people and contributing £18 billion each year to UK Gross Value Added, it's range of industries and offshore infrastructure makes it the ideal area for investment in decarbonisation with the potential to remove 12.4 Mt of CO2 annually.

The Zero Carbon Humber Partnership brings together many DNV GL customers including international energy companies, heavy industry, leading infrastructure and logistics operators and global engineering firms. Together, they are engaged in a plan to create the world's first net zero industrial cluster by 2040. This £75 Million bid will install carbon capture infrastructure along both the South and North bank of the Humber, connecting power generation sites, refineries, chemical plants and gas terminals before exporting offshore for storage. The project will also include the installation of hydrogen generation with the option to scale as demand increases to provide clean fuels for industry and production of green ammonia for export.

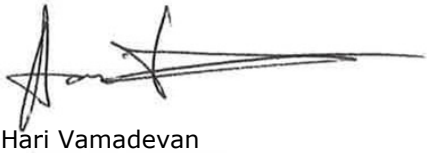
DNV GL have completed over 170 CCUS projects and 70 hydrogen projects globally, and we see the clear benefits to the regional and UK economy from deep decarbonisation of industrial clusters. As an organisation with extensive experience in the maritime, renewables and oil & gas sectors, we look forward to sharing our knowledge with the Zero Carbon Humber team once the project moves forward.

The Zero Carbon Humber bid will accelerate decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and create up to 43,000 new jobs from fuel switching. As an estuary region the investment to address climate change is critical to the Humber in protecting housing, building back better and delivering the UK's commitment to achieving net zero by 2050.

We are pleased to lend our support to the Zero Carbon Humber project, and we wish you success with your proposals.

Yours sincerely,

for DNV GL Ltd



Hari Vamadevan
Director and Senior Vice President

16th October 2020

Re: Zero Carbon Humber Project

I would like to express my support for the Zero Carbon Humber project and the potential development this could offer to our community.

Working with schools and training providers, we have pushed for local skills to remain local. We have worked very hard to create links between education and business to ensure that we understand the skills required in our region.

While this work is still developing, we are keen to see more opportunities locally to support the future of these highly engaged students.

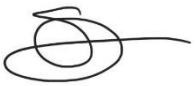
With the Humber already being known as the Energy Estuary, we have naturally developed a high focus on STEM, environment and renewables and we are excited at the potential of seeing new projects that will drive the Humber to become an environmental leader for the UK.

I also work with engineering and manufacturing businesses to find and retain skilled people. This has also highlighted to me the number of skilled people we already have locally, that are seeking opportunities where they can add value.

As you will see, this project is very important for our community and we are keen to see how this could develop.

If you need any further information, please do not hesitate to contact me.

Kindest regards



Sharleen Lawless
Managing Director

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16 October 2020

Letter of support for Zero Carbon Humber – Phase 2 ISCF Decarbonisation of Industrial Clusters application

To whom it may concern,

I am writing to you on behalf of the Energy Institute to confirm our support for the Zero Carbon Humber deployment project and its application into Phase 2 of the ISCF program.

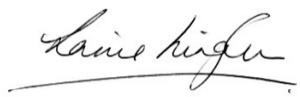
The Energy Institute is committed to supporting a low carbon energy transition and is developing a hydrogen and CCUS technical program. This is aimed at providing good practice technical guidance for industry. Much of this program covers topics related to process plant and infrastructure. To aid this program we have applied to the Industrial Decarbonisation Research and Innovation Centre (IDRIC) for funding. This hydrogen and CCUS program will look to engage and consult with the Humber cluster in 2021 and so we support the Zero Carbon Humber deployment project.

The Energy Institute recognises that the Humber region is a large producer of industrial emissions in the UK - all of which will need to be decarbonised. The Zero Carbon Humber partnership has demonstrated its ability to deliver shared infrastructure that will enable large-scale decarbonisation across the country's most carbon-intensive region.

We believe that Zero Carbon Humber offers a great opportunity for industry to collaborate to advance towards 2050 targets, preserve and create jobs, and rebalance the economy.

We support the view that Zero Carbon Humber demonstrates the ambitious action needed to drive a low carbon recovery and reach net zero.

Yours faithfully,



Louise Kingham OBE FEI
Chief Executive

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Our Ref: M1021AC49/NG/JH

21st October 2020

Dear Sirs

RE: Zero Carbon Humber Project

At ENGIE Fabricom UK Ltd (Fabricom), in line with ENGIE's transition plan, we are committed to a making zero-carbon a possibility and see decarbonisation on a regional level the foundation for the UK to build from. As a business with a 45 year plus heritage in the Humber region, we are supportive of this project and the proposed changes.

We believe that a combination of Carbon reduction through capture from existing operations with a long term plan to reduce the production of Carbon from critical industry is an effective way to move forward with decarbonisation. Additionally, the transition away from natural gas to hydrogen will add to the long term overall reduction. Whether the hydrogen is green, blue, or grey, the use of hydrogen in the first instance is the key. Once hydrogen becomes the 'norm', then steps can be taken to develop towards green hydrogen. This is why Fabricom are backing the Zero Carbon Humber project.

Our business, being based in the Humber region, is well placed to offer support within the local supply chain. The skills and experience available from within the Humber region offer the diversity and dynamism needed for a project of this innovative nature. These skills are built on a heritage of heavy industry that would benefit from a move towards a greener future.

As a business, we have a long heritage of apprenticeship programmes, some of which have remained within the company for 30 plus years. A project of this scale would offer many long term opportunities to not only young apprentices but also it would offer an injection to the region to help develop people who already have careers in similar industries.

The Humber region has a long industrial heritage which although has seen a reduction in jobs because of a change in direction of many sectors, it is still a buoyant area which can only flourish with a project of this size and timeline. At this time, coming from the back of a global pandemic, Zero Carbon Humber would offer a strong recovery and long term development of the Humber region which all pushes towards the Northern Powerhouse agenda.

Zero Carbon Humber will support Fabricom and their service offering within the Humber Region. As mentioned, we have a long standing heritage in the region and would like to be in a position to support a project such as this.

We welcome the opportunity to show our support and are keen to discuss this further with you.

Yours sincerely
For and on behalf of **ENGIE Fabricom UK Limited**

Joe Hodgson
Business Development Manager
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EAST RIDING
OF YORKSHIRE COUNCIL

County Hall Beverley East Riding of Yorkshire HU17 9BA Telephone (01482) 393939
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Paul Bell Head of Economic Development

Your Ref:
Our Ref:
Enquiries to: **Andrew Hewitt**
E-Mail: Andrew.hewitt@eastriding.gov.uk
Tel. Direct: (01482) 391612
Date: **09/10/2020**

Dear Sir/ Madam,

Re Support for Zero Carbon Humber's Industrial Strategy Challenge Fund Bid

Ourselves at the East Riding of Yorkshire Council's Economic Development Department are happy to support the application to the Industrial Strategy Challenge Fund from Zero Carbon Humber. This bid supports the delivery of the key strands outlined within the East Riding Economic Strategy 2018-22; Business Growth, Sustainable Economy, Lifelong Learning and quality locations. This strategy outlines the strategic aim of ensuring greater cohesion and integration between our natural and economic asset base to contribute towards a more sustainable, low carbon economy. We can see that this bid, allied with the work of Zero Carbon Humber and its industrial partners, can make an important contribution to the achievement of this aspiration.

The East Riding of Yorkshire are aware of the opportunity to drive sustainable economic growth via Carbon Capture Use and Storage and linked hydrogen technologies. We stand ready to support partners such as Zero Carbon Humber who through their partnership with industry leaders can help to facilitate development of these technologies in the East Riding area specifically and the Humber area more generally. The potential scope for growth in these areas of technology will be manifold, not only in increased GDP for the area but creation of high quality jobs, boosting skill levels and widening educational and vocational learning opportunities and also presenting new supply chain opportunities to indigenous businesses within the East Riding.

The Humber has established a merited reputation as the UK's Energy Estuary and the East Riding would like to support this bid in order to further enhance the role which this area plays in promoting sustainable economic growth.

Yours sincerely

Andrew Hewitt

Andrew Hewitt
Partnership Infrastructure Projects Manager

EnerMech

Safer • Smarter • Solutions

19th November 2020

To whom it may concern,

EnerMech expresses its full support to the Zero Carbon Humber (ZCH) Partnership in its bid for the funding needed to transform the rate of industrial decarbonisation, accelerate clean growth, future proof vital industries as well as create new job across the region and beyond. Moreover, to establish the Humber as *the* global centre of excellence in this exciting growth market.

At EnerMech, we believe establishing low carbon infrastructure is essential to securing a long-term, dependable and sustainable energy mix for future generations. By investing today in Zero Carbon Humber, we can develop the skilled, high-value careers of tomorrow the region – and the world – needs, and play a pivotal part in enabling the UK to achieve its goal of net zero greenhouse gas emissions by 2050.

A provider of specialist services, EnerMech has a successful track record of delivering integrated technical solutions for complex energy and infrastructure projects and operating assets. We therefore understand well the challenges involved in making this transition and how to meet them. We also know from our experience that it will require a collective effort across all stakeholders. Which is why at EnerMech we are committed to playing a leading role in making the region the world's first fully decarbonised industrial cluster.

Sincerely,

Ross McHardy
Regional Director – Europe & Africa

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ETN Global

14 October 2020, Brussels, Belgium

To Whom It May Concern

Letter of support to the Zero Carbon Humber project and bid to UK's Industrial Strategy Challenge Fund

With this letter, we wish to express our support to the **Zero Carbon Humber** (ZCH) project and its bid to UK's Industrial Strategy Challenge Fund (ISCF).

ETN recognise the ZCH project as a key initiative to accelerate decarbonisation of UK's most carbon intensive industrial region as well as enabling and demonstrating a sustainable solution that can be applied globally. In this regard, we welcome the Humber Saltend project and look forward to a successful outcome, which would establish the world's largest hydrogen production plant with carbon capture.

Projects like the ZCH project is vital to the deployment of carbon-free technologies such as hydrogen gas turbines or gas turbines with CCUS which will be required to balance intermittent renewable generation and in the end enable a transition to a carbon-neutral society.

The development and installation of a dual CCS and hydrogen supply pipeline with safe storage is a promising first-of-a-kind project that can become a blueprint for large scale offshore CO_2 storage in Europe and open doors to other industrial users in the North Sea rim.

Finally, the ZCH project will promote the development of a global supply chain for sustainable fuels, such as ammonia and methanol.

To enable this, we hope the Zero Carbon Humber project's ISCF bid will be successfully awarded in 2020.

Best regards,

Christer Björkqvist

Managing Director

ETN a.i.s.b.l.
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To Whom It May Concern

Brussels, 22 October 2020

Subject: Letter of support to the Zero Carbon Humber project and its bid to UK's Industrial Strategy Challenge Fund[1]

With this letter, we wish to express our support to the **Zero Carbon Humber** (ZCH) project and its bid to **UK's Industrial Strategy Challenge Fund** (ISCF).

EUTurbines recognises the ZCH project as key to accelerate the decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and to protect and create new jobs. In this regard, we look forward to the results of the bid's anchor project **Hydrogen to Humber** (H2H) Saltend project, which will establish the world's largest hydrogen production plant with carbon capture.

We believe that the ZCH project can be instrumental to support the deployment of technologies like hydrogen gas turbines and the retrofitting of existing power plants for the use of hydrogen, while maintaining and creating new jobs and skills, as well as further educational opportunities. It will additionally support the post-COVID recovery in the regions ensuring a green transition.

We hope the Zero Carbon Humber project and its ISCF bid will be successfully awarded in early December 2020.

Sincerely,

R. Wezel

Ralf Wezel
Secretary General

[1] https://www.zerocarbonhumber.co.uk/news/iscf/

EUTurbines

Transparency Register
ID number: 75093131694-63

www.euturbines.eu

European Association of Gas and Steam Turbine Manufacturers
President
Prof. Dr. Thomas Thiemann
Secretary General
Ralf Wezel

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Evides Industriewater

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To whom it may concern,

As the industrial water operator for the Port of Rotterdam we understand the challenges faced by industrial clusters as the drive for decarbonisation will likely inspire the greatest period of innovation and change since the industrial revolution itself.

Decarbonisation of the Humber cluster will have the largest impact on the UK's emissions than any other single project and it is my opinion that net zero 2050 cannot be achieved without a zero carbon Humber.

Among the many challenges to be overcome by this project I would like to draw a focus to water demand since this is our area of expertise. It is hoped that the demand for decarbonised products will attract more industry to the Humber and with the addition of Both Hydrogen and Carbon Capture this will likely see a significant increase to the water demand of the region.

It would therefore be beneficial to develop sustainable sources of water for industry in the Humber that will not compete with freshwater and drinking water in the future, which has been a focus of ours for Rotterdam for the last 20 years. With that in mind Evides Industriewater would welcome the challenge to develop a plan for ensuring Zero Carbon Humber plan is supplied with a safe, sustainable and reliable supply of water.

Yours faithfully

Colin Robinson

Business Manager UK & Ireland

Evides Industriwater.

G2W Ventures
GAS2WIRE.....CLEANER2GREENER™

5th Floor, Castlefield House
Liverpool Road
Manchester
M3 4SB
United Kingdom
Company registration no.: 05474008

22nd October 2020

To the Zero Carbon Humber Partners,

As a company that has been specifically established to finance and deliver gas-to-wire projects, Gas2Wire Ventures is committed to playing its part in the essential transition towards a net zero carbon future. Decarbonisation is not a 'one-off', immediate step, however gas-to-wire is a key building block of the transition to a cleaner energy future; not only does it reduce emissions, through use of the 'cleanest' hydrocarbon fuel (natural gas) and elimination of the fugitive emissions associated with gas pipelines, but it also contributes to both the re-use of existing infrastructure and the establishment of new infrastructure that will be vital for the successful and cost-effective implementation of key future technologies including hydrogen generation and storage and carbon capture and storage.

We believe that, in the medium to long term, to decarbonise energy intensive industrial clusters a combination of hydrogen generation with carbon capture and storage provides the most cost effective and efficient solution. The Humber region is the largest industrial cluster in the UK employing over 55,000 people and contributing £18 billion each year to UK Gross Value Added, and its range of industries and offshore infrastructure makes it the ideal area for investment in decarbonisation with the potential to remove 12.4 Mt of CO_2 annually.

The Zero Carbon Humber Partnership brings together international energy companies, heavy industry, leading infrastructure and logistics operators, global engineering firms and academic institutions in a plan to create the world's first net zero industrial cluster by 2040. This £75 Million bid will install carbon capture infrastructure along both the South and North bank connecting power generation sites, refineries, chemical plants and gas terminals before exporting offshore for storage. The project will also include the installation of hydrogen generation with the option to scale as demand increases to provide clean fuels for industry and production of green ammonia for export.

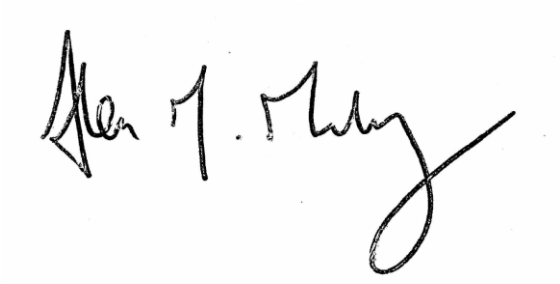
However, in order to deliver this vision in a way that minimises environmental impact in line with the overall decarbonisation objective, it will also be important to re-use or repurpose infrastructure that already exists, wherever that is possible and practical. At Gas2Wire Ventures we believe we can support and further this through use of facilities in the interim for gas-to-wire; we are currently working with Centrica Storage Limited (CSL) to demonstrate the viability of this approach on the Rough field, where extending economic production of gas will prepare the field

for use in hydrogen storage and installation of key infrastructure will also allow faster implementation of CSL's proposed hydrogen project.

As well as aligning with the long-term objectives of the Zero Carbon Humber Partnership, gas-to-wire delivers on the OGA's stated objective of maximum economic recovery of natural resources, something that we believe will be vital, during the energy transition period, in maintaining energy security. Whilst continuing to use existing infrastructure will ensure that it can be cost-effectively maintained to ensure its continued availability for future re-use to support hydrogen storage, carbon capture and storage and other similar clean fuel projects.

The Zero Carbon Humber bid will accelerate decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and create up to 43,000 new jobs from fuel switching. As an estuary region the investment to address climate change is critical to the Humber in protecting housing, building back better and delivering the UK's commitment to achieving net zero by 2050.

At Gas2Wire Ventures, we recognise the importance of the regional decarbonisation proposed by the Zero Carbon Humber Partnership, and of the need for energy security during the transition period. We believe our own plans are aligned with these long term strategic objectives and goals, and we look forward to having the opportunity to work with CSL and the Zero Carbon Humber Partnership to assist in delivering them.



Alan Minty
Director, Gas2Wire Ventures

7th October 2020

Zero Carbon Humber Partnership – Letter of Support

To whom it may concern

The FSB in Yorkshire and The Humber support the Zero Carbon Humber Partnership and the bid for ISCF funding to develop plans for the region.

The future success and growth of the Humber will be built on the back of decarbonisation and this is a great opportunity that will put the Humber at the core of the global low-carbon economy whilst reducing emissions.

There is a real opportunity to become a leader in clean growth, driving ambition and new technologies to address the challenge.

Small businesses are quick to adapt and are keen to see developments across the Humber that support clean growth.

In addition to the jobs and clean growth this offers the region and the skills, knowledge and technology that can be exported around the world – this will put the Humber estuary and wider region in a stronger economic position whilst leading the way for innovation and clean growth.

Now, more than ever, the Zero Carbon Partnership not only offers considerable benefit to the local economy and a focus for local development, but for our future generations through skills and education, and levelling up opportunities in the North of England.

As such, we support this bid and urge the Government to consider the ambition of the Zero Carbon Humber Partnership and to meet the match funding as is required within the submission.

Yours sincerely

CReading

Claire Reading.

FSB Development Manager. South Yorkshire, East Yorkshire and The Humber

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Our Ref: GMB/GC/kh/Equinor

22nd October 2020

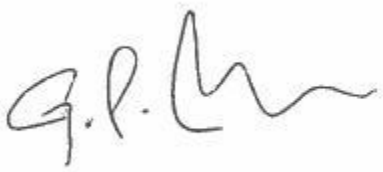
Further to our recent follow-up meeting in relation to the Zero Carbon Humber (ZCH) Project and the ISCF bid.

The GMB supports technologies such as CCUS & Hydrogen and regional decarbonisation. We believe ZCH has the potential to reduce carbon emissions and with its partnership of employers and through collaboration, collective bargaining, and recognition with GMB, the capacity to create well paid jobs, skills, apprenticeships, and educational opportunities.

The prospect of well paid, low carbon jobs and investment within the Humber and the wider regional is essential and to be welcomed, especially in delivering a post COVID recovery and in the drive towards Net Zero.

This project can provide a positive partnership between the bidding organisations, local authorities and Trade Unions.

Yours sincerely



Gary Carter
National Officer

GLOBAL CCS INSTITUTE

16 October 2020

With the United Kingdom illustrating climate leadership by passing net zero targets into law, it is just as promising to see ambitious climate efforts being mirrored by UK industry leaders. Key to ensuring carbon neutrality is the deep decarbonisation of the industrial sector, and carbon, capture and storage (CCS) technology is an effective method to do so. As the UK Committee on Climate Change asserts, CCS is a necessary component of the UK's portfolio of climate solutions. The Zero Carbon Humber (ZCH) Partnership – which comprises of twelve industrial organisations – seeks to adopt climate mitigating technologies, including CCS, to develop what will be one of the first net zero industrial clusters in the UK. This cluster will have the ability to substantially reduce emissions in the region. We welcome the initiative ZCH has purposed and look forward to the continued climate action momentum from both government and industry.

On behalf of the Global CCS Institute,

Guloren Turan

General Manager, Advocacy and Communications

guloren turan

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Incorporated in Australia: Australian Securities and Investments Commission (ASIC)
ACN: 136 814 465 - Public Company Limited by Guarantee

Evergreen House North
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Registration Number: BR 020568

Zero Carbon Humber Partnership

19th October 2020

To Whom it may concern,

Zero Carbon Humber Project & ISCF Bid Support Letter

The Greater Lincolnshire LEP is a business led partnership made up of private and public sector leaders. Working with Government and stakeholders to find solutions enables us to deliver the strategic projects and programmes that will drive local prosperity and economic growth.

Greater Lincolnshire is now widely regarded as a very successful LEP, and has gained a strong reputation for delivery and influence, with many schemes and investments now taking shape. Our £307 million growth plan is progressing at pace and we are driving some crucial national agendas from food to water to skills, as well as being recognised in Government as offering some unique opportunities for national pilots.

We recognise the importance of responding to the challenges and opportunities of the energy revolution. Our vision is clear:

- To support the creation of a sustainable system of energy, that meets Greater Lincolnshire's ambitions for growth, and business sector development.

This is an ambitious vision. If we can support Greater Lincolnshire to meet this vision, it will have significant benefits for our businesses, residents and other local organisations.

The low carbon economy, already worth £1.2bn per annum to Greater Lincolnshire, holds exceptional potential offering an unprecedented level of private investment of £60bn over the next fifteen years. Already employing over 12,000 people, there are major opportunities for growth in offshore wind as well as in the development of other low carbon goods and services.

Our energy strategy states the following ambitions:

AMBITION 1: SECURE, LOW COST, LOW CARBON ENERGY ACROSS GREATER LINCOLNSHIRE

- Develop our understanding of the future energy landscape and understand the opportunities for a whole system approach to energy issues. Use both of these to support business case development

AMBITION 2: COMMERCIAL AND RESIDENTIAL DEVELOPMENT IN CAPACITY CONSTRAINED AREAS

- One of our ambitions it to develop a greater understanding around energy needs in key economic corridors, and opportunities for energy from commercial waste

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AMBITION 4: A STRENGTHENED LOCAL ENERGY INDUSTRY WITHIN GREATER LINCOLNSHIRE

- Support opportunities around anaerobic digestion (AD) and agri-energy / biofuels
- Support the local energy, water and waste sectors, and the broader supply chain

In terms of the future smart technology will drive gains in efficiency, with businesses and consumers able to monitor and adjust consumption in real time from a remote distance. An increasingly decentralised model will also prevail, with increased competition driving down costs, as firms which take on the responsibility of switching energy to a better tariff increase competitive pressure.

Renewables will play a greater part in the energy mix, and the energy potential of waste and biofuels will be maximised. The demand for energy in the form of electricity will increase relative to other sources due to the shift to electric vehicles and the (slow) decline in the demand for natural gas for heating and power.

Finally, pressures to reduce waste will likely see the 'circular economy' move from rhetoric to reality, with better technology and innovative products allowing us to minimise the proportion of the waste mix that is not reused in some way.

Therefore there are significant opportunities but also important challenges associated with transitioning towards this energy future.

Engaging in this level of R&D activity, which aligns behind a co-ordinated regional effort to meet national and regional needs will be important for Greater Lincolnshire. As can be seen from the above narrative, we are looking to be ambitious, and feel that we can contribute to a novel delivery strategy into the future.

In terms of the future smart technology will drive gains in efficiency, with businesses and consumers able to monitor and adjust consumption in real time from a remote distance. An increasingly decentralised model will also prevail, with increased competition driving down costs, as firms which take on the responsibility of switching energy to a better tariff increase competitive pressure.

Renewables will play a greater part in the energy mix, and the energy potential of waste and biofuels will be maximised. The demand for energy in the form of electricity will increase relative to other sources due to the shift to electric vehicles and the (slow) decline in the demand for natural gas for heating and power.

Therefore there are significant opportunities but also important challenges associated with transitioning towards this energy future.

Wider considerations will be around using Greater Lincolnshire's rurality and proximity to nationally significant energy assets as opportunities, to become a test bed for the application of new energy technologies in rural contexts.

Energy is the underlying enabler for all aspects of the local and national economy, and has a major role to play in the cost effective and smooth delivery of all sectors of the economy.

We will be keen to shape the R&D, support the development of the activity that support the above, and will be looking to guide the application of particular emerging technologies that will help deliver these opportunities. This will include engaging with R&D that helps us remain at the forefront of the subject area, engaging local HE resource to augment ERA expertise where applicable.

The Greater Lincolnshire Energy Council has been formed to unlock this potential and identify opportunities to circumnavigate energy related barriers, in order to deliver the desired ambitions defined by the Greater Lincolnshire LEP. This will lead to the formation of a "Living Lab" Innovation Test Bed for Energy and Water for the Greater Lincolnshire area, and will draw on a portfolio of current and future initiatives forming as basis of a sustainable future proofed Energy and Water portfolio, that have been developed as whole system approaches, from these demonstrators.

The Energy Council has started to prioritise an appropriate set of enabling framework/action plans, which articulate the sustainable cost of clean energy/NetZero implementation in our rural area. The Greater Lincolnshire energy portfolio and its investment requirements have been identified as:

- Green Hydrogen Hub - with an investment needed of £150M to support a sustainable on-going support of a full product lifecycle, and collaboration with the Industrial decarbonisation opportunity within the South Bank of the Humber, and the wider Humber Estuary area
- Waste, Biofuel and the re-purposing of food waste opportunities at around £55M
- Heat Networks deployment to support both growth and retrofit options, at around £145M
- Solar and wind power options within areas in the region of £45M
- Digital/Smart technology innovation to underpin local energy network ambitions, at £50M
- Transportation and Electric/Hydrogen crossover point £175M

The adopted Enabling Framework process is designed to embrace the knowledge and experience of the many stakeholders involved in the delivery of particular focused outcomes while being facilitated in an agile, inclusive, transparent and iterative learning approach. This implies an agnostic approach to technology and commercial aspects, but focuses on desired outcomes and Agile sprints to uncover risks early on and drive appropriate to Place solutions.

Rather than focusing on singular projects and aspects, as these are catered for by commercial vehicles, the Energy Council will also be considering the wider aspects of whole systems deployment and the commercial realities of delivering a circular economy.

The target of the work will be to raise the productivity, growth and profitability of our local economic base, whilst providing societal safety nets to ensure an inclusive opportunity for all our local citizens. To achieve this requires doing things differently, namely:

- Embracing innovation
- Developing new skills
- Providing new evidence base
- Looking at whole systems analysis

- Considering the circular economy, and above all
- Delivering a rapid process in order to seize investment opportunities, and drive risk out early in the life-cycle of energy, water and waste provision
  In addition to the above the ability to target digital and engineering skills by developing a revised Education and Training Needs Assessment & Deliver Plan for Higher and Further Education, will be vital.

In order to deliver the needs today and into the future for local citizens across multiple sectors of the economy in Greater Lincolnshire around energy and water transformation, there is an imperative requirement for a coherent digital strategy, to underpin how this digital interface should be understood.

The work will need to be based around the following criteria:

- **Connectivity** - building the most appropriate digital infrastructure for the Lincolnshire to support energy and water transformation
- **Digital skills and inclusion** - giving everyone access to the digital skills they need to better engage with energy and water resources in the future
- **The digital sectors** - making Lincolnshire the best place to start and grow a digital business supporting energy transformation
- **The wider economy** - helping every Lincolnshire business become a digital energy savvy business
- **A safe and secure cyberspace** - making the digital interface for energy and water transformation, both resilient and secure
- **Digital governance** – Supporting this work be developing it under the mantle of and enabling framework, under the banner of the Greater Lincolnshire Energy Strategy
- **Data** - unlocking the power of energy and water data in the economy, and improving confidence in its use

Digital Skills and inclusion will be important to underpin all of the ambitions that Greater Lincolnshire have in this area. This will include setting up a specific enabling framework to deal with criteria being supported, educational routeways, in work training and support to businesses to improve workforce capabilities that will be needed in the future, covering the wide spectrum from enterprise and innovation, through to management and maintenance of systems.

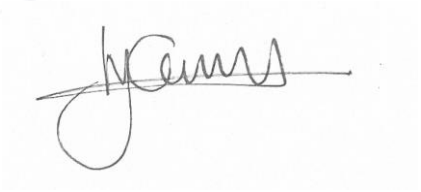
Collaborating with Zero Carbon Humber will allow us to share with project partners on core thinking, introduce partners to our current activities and share intelligence on local methodologies. This information on trends in practices, and sharing relevant local/regional datasets, will be vital to developing routes to market for Greater Lincolnshire.

It is our intention to increase our activity and contribution throughout the development of the centre by directly supporting new innovation and development that not only supports the Greater Lincolnshire context but also feeds into the wider regional and UK context.
The Greater Lincolnshire LEP has interests across the whole of our energy challenge at and we are supporting activity outlined above. Our aim is to co-ordinate and align our engagements between these activities by forging strong R&D partners, to help us achieve these ambitions.

Greater Lincolnshire
Local Enterprise Partnership

I strongly support Zero Carbon Humber and wish you success with the ICSF bid, and look forward to working with you in the future.

Yours sincerely



Ruth Carver
Chief Executive
Greater Lincolnshire LEP

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Grimsby Institute | University Centre Grimsby

Friday 16th October 2020

To whom it may concern:

The Grimsby Institute is more than happy to provide support for regional decarbonisation and the Zero Carbon Humber project. We currently already deliver training and qualifications that support this agenda and we are looking to grow this provision further in the future to ensure that the skill level in the local area meets the needs of the zero carbon agenda within the Northern Powerhouse.

We get a lot of young people who are interested in wind turbines and we currently have 125 apprentices studying refrigeration, air conditioning and heat pump engineering. The Carbon Capture and Storage project for the Humber in partnership with Drax has drawn particular interest from our students which is a significant manufacturing and installation project. We also train apprentices, some of who go on to work in the solar farm installation and maintenance industry. Environmental impact is covered across all curriculum areas within Advanced Technology at the Institute and we have recently introduced zero emission vehicle technology into the curriculum.

We have already increased the number of students studying at Level 4 and Level 5 to meet the industry's need for higher skills and we expect to see these numbers continue to grow over the next 5 – 10 years.

Yours sincerely

Neil Bainbridge
Associate Principal – Faculty of Advanced Technology

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Principal: Debra Gray BSc, MA, MSc, PGCE

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19th October 2020

To whom it may concern,

As a major training provider to businesses and organisations within the energy, maritime and critical national infrastructure sectors throughout the Humber region and beyond, Humberside Offshore Training Association Limited (HOTA) is supportive of increasing the opportunities for such industries in the region through projects such as Zero Carbon Humber.

Established in 1987 and based in Hull, East Yorkshire, HOTA is a Limited Company with Charity Status, providing Internationally Approved and Accredited Training and an extensive portfolio of bespoke courses for the Renewables, Offshore, Maritime and Onshore Sectors to meet individual and company specific training needs.

As the UK's Energy Estuary, these sectors are essential to the Humber, and reinforcing this through ongoing industrial decarbonisation, clean growth and greener energy opportunities is in-keeping with the philosophy of HOTA and its counterparts.

In particular, we are very supportive of increasing the provision of sustainable and valued STEM roles in this region, supported by adequate specialist training opportunities as well as improving the educational prospects of young people in the region through training partnerships and apprenticeships. To this end we are particularly proud to provide maritime short course training and work experience to students from Hull Trinity House Academy considering a career in engineering and other technology-based areas, both maritime and non-maritime, and being a key partner for specialist short course provision in the regions new Humber Maritime College.

As the chair of the Humber LEP Humber Energy Skills Campus (HESC), I wholeheartedly believe The Zero Carbon Humber project presents a generational opportunity to provide a cleaner, greener recovery whilst also securing future economic prospects and creating much needed high quality jobs in the post-Covid-19 world which we will all have to adapt to.

Yours faithfully,

Ian Rook TechIOSH

Operations & Emergency Response Manager

Chair – Humber Energy Skills Campus

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Hull City Council

Your Ref:
My Ref:
Contact: Martin Budd
Web: hull.gov.uk
Email: martin.budd@hullcc.gov.uk
Tel: 01482 613098
Date: 8.10.2020

To whom it may concern,

Hull City Council support for Zero Carbon Humber project & its ISCF bid

Hull City Council declared a climate emergency in March 2019 and in July 2020 its Cabinet agreed the Hull 2030 Carbon Neutral Strategy and Action Plan.

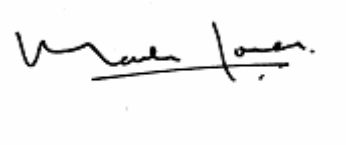
The Strategy is based around eight themes of which heat, mobility, jobs and skills and innovation provide significant challenges and opportunities to decarbonise the city. The development of a hydrogen economy as part of a suite of heat decarbonisation technologies is integral to our plans to address these themes. Therefore the Zero Carbon Humber and ISCF bid provide opportunities to develop a blue hydrogen with CCUS and green hydrogen solutions for heat and mobility and support the Councils ambition.

The Council supports the development of a hydrogen economy in the Humber through its membership of the ISCF Stakeholder group as well as sitting on the H21 Steering Group focused on a domestic hydrogen heat solution and the wider Hydrogen Forum for the North of England bring parties together across different sectors and regions to deliver a comprehensive hydrogen solution.

The development of a hydrogen economy in the Humber provides the opportunity for reskilling for this in carbon intensive industries as well as the opportunity for new jobs, skills and apprenticeships linked to the value chain with a blue and green hydrogen economy. The city has already demonstrated through the resources it brought to bear to deliver the Siemens Gamesa wind turbine blade factory with the company and Associated British Ports that transforming the economy to a decarbonised future is possible and deliverable and has the support of local residents which is crucial in a future where hydrogen plays a key part.

Therefore the Council is happy to support the Zero Carbon Humber project and ISCF bid as they are part of the decarbonisation solution for the City.

If you would like any further information on Hull's Strategy and the role of hydrogen then please contact the Councils lead contact for the hydrogen economy Climate Change Manager Martin Budd martin.budd@hullcc.gov.uk.



Mark Jones MBE
Director of Regeneration

HULL & HUMBER
Chamber of Commerce

October 7, 2020

Thank you for your recent presentation to the Chamber's Council on the exciting plans to create a Zero Carbon Humber (ZCH) Partnership.

As discussed during that meeting, the Chamber is fully supportive of the ZCH Partnership's plans and fully endorses the £75-million bid to kickstart decarbonisation in the Humber – a region which is now recognised as the UK's most carbon intensive industrial region.

We feel a successful bid will reinforce the Humber region as a leading light in efforts to reduce the carbon footprint of major industries, many of which are to be found on the banks of the Humber, and many of which are members of the Hull & Humber Chamber of Commerce. Success could result in our region being held up as an exemplar of good practice!

During this time of increased uncertainty as the world is battling with the Covid-19 pandemic, and with the possible changes Brexit may bring, the Chamber believes it is crucial to drive forward the Zero Carbon Humber proposals which will help to safeguard 55,000 existing jobs in the region, but also may help to create more than 20,000 new jobs, as well as improve the skills of our workforce and lead to more apprenticeships and educational opportunities.

We have some major industries in our area, and the opportunity to future-proof those important, high quality businesses, is one that should not be missed. Supporting clean growth is clearly more important to the future of the Humber and UK plc now, than ever before.

We believe that the development of hydrogen as a key fuel for the future will place the Humber in pole position to benefit from new technologies, industrial advances and inward investment in the years to come, and becoming the world's first net zero industrial cluster is now a realisable ambition.

Creating a Zero Carbon Humber will put in place a clear pathway to large-scale regional decarbonisation which we feel is increasingly critical to stimulate and revitalise the region's economy as we emerge from the Covid-19 crisis and will also help to address the Government's stated ambitions to "level up" the UK economy in the North of England.

A Zero Carbon Humber is clearly a major step in the right direction and the Chamber gives this ambitious scheme its unequivocal support.

Yours sincerely,

Phil Jones,
President,
Hull & Humber Chamber of Commerce

INVESTORS IN PEOPLE

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NORTHERN LINCOLNSHIRE
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Telephone: 01472 342981 Fax: 01472 349524

info@hull-humber-chamber.co.uk **www.hull-humber-chamber.co.uk**

Ref: SRP/KP

1st October 2020

To Whom it May Concern

Re: Zero Carbon Humber ISFC Bid

Humber Local Enterprise Partnership (LEP) is keen to support decarbonisation projects in the region, including the ISCF bid put forward by the Zero Carbon Humber Partnership, with a view to achieving a net-zero carbon cluster by 2040.

The Humber emits more CO2 than any other industrial cluster (50% more than the next largest), whilst the area is one of the most vulnerable to climate change through flood risk. At least a quarter of the Humber's economy and 1 in 10 jobs depend on these industries, making safeguarding their competitiveness imperative for the local economy as well as strategically important for the UK.

Humber LEP has been leading on the development of a Humber Cluster Plan, the first phase of which was funded by Innovate UK in April 2020. This found that the Humber is likely to need both fuel-switching (such as to hydrogen) and carbon capture to achieve the scale of decarbonisation required, as around half of the area's industrial emissions come from chemical reactions in industry processes (rather than the power that feeds them) and these cannot currently be abated by fuel switching.

It is imperative that the Humber region decarbonises on a huge scale – but in a way that safeguards our strategically important industries and creates new jobs and business opportunities. Nowhere has greater potential to be at the heart of the green recovery than the Humber.

The Zero Carbon Humber Partnership's ISCF bid offers a comprehensive proposal to produce hydrogen at scale and capture carbon emissions across the region in a way which will support existing industries whilst also creating new jobs and skills, and encouraging future investment in cleaner and greener technologies.

Yours sincerely

Stephen Parnaby OBE
Chair, Humber LEP

Chair: Stephen Parnaby OBE
Correspondence Address, 47 Queen Street, Hull, HU1 1UU
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Catcliffe
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t: 01709 782 930
e: enquiries@makeuk.org

makeuk.org

2nd October 2020

To: Zero Carbon Humber Consortium

RE: Support for ISCF Bid

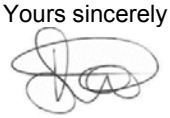
As Make UK Regional Director for the North of England, I'm writing in support of the net-zero decarbonisation plans for the Humber region. Backing manufacturers and enabling the sector to lead the green revolution for a sustainable future is a strategic priority for Make UK. Make UK research indicates nationally 0% of manufacturers are committed to the 2050 net- zero target, with 20% already having taken action and a further 20% planning to do so, but there is more to do. As an integral part of government support to recover from the Covid 19 crisis government must provide support to manufacturing businesses with simplified and adapted financial grants and simple fiscal incentives to enable investments supporting the net- zero economy.

The impact of the current crisis has hit the manufacturing sector unevenly, with only a few manufacturers thriving and other subsectors feeling varying levels of turbulence and downturn and sub-sectors such as aerospace and automotive facing the bleakest outlook in living memory. The impact of Covid 19 has created regional disparities too, and it's clear that the Government vision to level up the country, with the aim to "…build back better, build back greener, build back faster" is going to need decisive action for the North of England.

The skills gap in manufacturing has for decades been a barrier to the UK manufacturing sector reaching its full potential. Make UK have called on government to set up National Skills Taskforce to address the any further detrimental impact that Covid 19 may have on the skills gap i.e. in terms of jobs being lost through redundancy, the need to retain a strong pipeline of young talent and ensure that the existing workforce has access to the retaining and upskilling that will be required for the future. The green revolution is a key example of the challenge that the UK faces in building the skills that are needed to allow this transformation. For example, even today the simple Green Homes Grant (to retrofit or build homes to reduce heat and energy loss) will require qualified engineers; and even more so in future when gas boilers will be replaced by new technologies (hydrogen/heat pumps).

Make UK is therefore committed to help UK manufacturers on their path to Net Zero, at whatever stage of the journey that they are on. We have formed a Net Zero Working Group, which is a sub-group of our Technology, Innovation and Sustainability Policy Committee and are supporting regional initiatives such as the Waterline Summit in the Humber, with Stephen Phipson CEO make UK providing a keynote speech on day 4 of the conference , The International Business Day , which addresses the necessity to accelerate our transition to a sustainable future and the urgency of providing opportunities for the next generation to build skills and careers in these areas.

Yours sincerely



June Smith
Regional Director , North
Make UK
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E: jsmith3@makeuk.org

8th October 2020

To: Zero Carbon Humber Consortium

Re: Zero Carbon Humber ISCF Bid

As Chair of Marketing Humber, I'm writing in support of the net-zero decarbonisation plans for the Humber region, and specifically for the Zero Carbon Humber projects.

We at Marketing Humber are committed to supporting the goal of a net-zero Humber industrial cluster by 2040 with a further ambition to see significant reductions in greenhouse gas emissions by 2030.

Acting for the businesses of the region, Marketing Humber is the sole regional organisation responsible for the marketing and promotion of the Humber on the national and international stage. The organisation acts as a catalyst to support an ambitious economic plan and Local Industrial Strategy to create a sustainable future for our region, and this has become even more important as our businesses enter post-covid recovery. A prime example of this is demonstrating the global relevance of the Humber as a testbed for decarbonisation, driving momentum behind our journey towards a net zero carbon estuarial region, and addressing the demand for recruitment and the retention of talent and skills to deliver this ambitious programme. The size and breadth of the existing industrial base is already well supported by local competent skilled labour, excellent training services and local contractor supplies chains. We are a region well placed to secure additional inward investment in manufacturing sectors that are looking for a greener, decarbonised base for their facilities.

Capture, transport and storage of carbon coupled with investment into new technologies such as hydrogen production, are critical to the Humber in achieving this ambition. Through meeting the decarbonisation challenge, the Humber can grow the economy and demonstrate to other energy intensive clusters based on estuaries that decarbonisation works in the long term.

Yours sincerely

Andy Parkinson

Chair
Marketing Humber (BondholderScheme Ltd)

Wykeland House, 47 Queen St, Hull, HU1 1UU
Humber Seafood Institute, Europark, Innovation Way,
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MITSUBISHI HEAVY INDUSTRIES

16 October 2020

Tokyo, Japan

To Whom It May Concern:

Subject: Letter of Support for Zero Humber Project & its ISCF bid

Dear Sir,

With this letter, we wish to express that Mitsubishi Heavy Industries, Ltd.("MHI") supports Zero Carbon Humber project & its ISCF bid ("ZCH") in drive to decarbonize Humber industry in North England, UK.

Our organization is very interested in seeing acceleration of industrial decarbonization and is looking forward to achievements of the anchor **H2H Saltend** project under ZCH.

MHI is supporting efforts for development of technologies in full hydrogen production and utilization chain, such as CCUS, hydrogen, hydrogen gas turbines, integration of electrolysis into energy storage from excess of RES.

MHI sees alignment of the post COVID recovery policies to the "hydrogen society" and further decarbonization of heavy transport, green fuels (ammonia, methanol), industry (steel) and eventually industrial and domestic heat.

We hope Zero Carbon Humber project & its ISCF bid will be successfully awarded in early December 2020.

Sincerely,

Toshihiko TOYOTA
Manager
NEXT Energy Business Division

Contact: Lesley Potts
Direct Dial: 01724 297330
E-mail: Lesley.Potts@northlincs.gov.uk
Ref: ISCF/LP/AL
Date: 16 October 2020

North Lincolnshire Council

Helen Manderson
Director of Business Development
Church Square House
30-40 High Street
Scunthorpe
North Lincolnshire
DN15 6NL
www.northlincs.gov.uk

Re: Industrial Strategy Challenge Fund and the Zero Carbon Humber Partnership.

North Lincolnshire Council is committed and passionate about supporting the Humber in creating the world's first net-zero industrial cluster by 2040.

We understand the need to drastically reduce our regional carbon footprint, open the doors to the energy corridor and support the long term sustainability of our major industries through decarbonisation and clean energy.

I am keen to show our support in the £75 million bid that has been submitted to accelerate the plan to decarbonise the UK's largest industrial region, the Humber. North Lincolnshire Council prides itself on supporting industry, academic institutions, leading infrastructure and logistics operators, global energy producers and all commercial businesses.

North Lincolnshire is an attractive mix of rural and urban areas, home to approximately 172,000 people and 5,585 businesses, and offers an excellent quality of life. We are part of the Humber and Greater Lincolnshire areas. North Lincolnshire is predominantly a producer economy characterised by manufacturing, process industries and logistics.

Our key ambition, which aligns closely with this bid, is to make North Lincolnshire the best place to live, work, visit and invest, delivering on our priorities to grow the economy, keeping people safe and well and enabling communities to flourish.

North Lincolnshire Council welcomes this opportunity to protect thousands of existing jobs and provide vast new employment opportunities whilst also creating apprenticeships, skills and educational places for the region. The area is already working collaboratively with business and our academic partners to guarantee a future workforce with the right skills needed to support our growing and diverse economy.

The clean energy industry features strongly within our strategies and implementing the North Lincolnshire Economic Renew Plan is high on our agenda. Our plan sets out North Lincolnshire Councils actions in supporting the area to become the UK's centre for low carbon energy generation, with pilot projects that test new technologies such as CCUS and hydrogen fuel.

Becoming a Zero Carbon Humber aligns with the other major projects North Lincolnshire has in the pipeline such as investment in superb infrastructure, to enable businesses to access the UK and European markets seamlessly becoming market leaders in their industry. We work closely with our diverse business community to ensure inclusive growth for all.

Our role will be to keep working closely with our existing and future businesses, to future-proof our vital industries and support increased productivity, an inclusive economy and sustainable employment. Targeting green energy will create competitive, diverse and high value business, demonstrating the ability to evolve, innovate, progress and drive the economy.

We are looking forward to continuing a positive and fruitful working relationship with all 12 companies in the Zero Carbon Humber Partnership that have signed up for the huge carbon capture and hydrogen production scheme. In North Lincolnshire, we are proud of our energy corridor and are confident we can support the Zero Carbon Humber bid.

Yours sincerely

Lesley Potts
Head of Economy and Growth
Business Development
North Lincolnshire Council

NORTH EAST LINCOLNSHIRE COUNCIL
www.nelincs.gov.uk

Zero Carbon Humber Partnership

Date: 16th October 2020

Re: Letter of support for Zero Carbon Humber

To whom it may concern,

I am writing on behalf of North East Lincolnshire Council to confirm our support of regional decarbonisation projects including the ISCF bid put forward by the Zero Carbon Humber Partnership, which seeks to achieve a net-zero carbon cluster in the Humber by 2040.

North East Lincolnshire Council played a role in the development of the Humber LEP Energy Strategy which identified the role that hydrogen and carbon capture could play in addressing the region's emissions. The Humber accounts for less than 2% of England's population but 6% of its industrial and commercial energy use emitting 13.8 tonnes of carbon dioxide per person – nine tonnes more than the national average, so more than any other area we have a vested interest in reducing carbon emissions. Many businesses have very few alternatives to decarbonise, so this project offers the ability to do so whilst also creating many new opportunities.

In addition, North East Lincolnshire has declared a Climate Emergency and is currently developing a roadmap to become a net zero borough.

The Humber is well known as the UK's Energy Estuary and has traditionally been home to many major energy businesses. We seek to build upon this by continuing to attract cleaner and greener technologies to the region, helping to future-proof the economy, improve competitiveness and support the jobs and skills provided by these sectors.

Our Local Plan projects a target of 8,800 new jobs by 2032, as a result of inward investment and the growth of our area's key sectors, most notably offshore wind and renewable energy. The Council considers this project fundamental to supporting that commitment and stimulating wider innovation and local deployment across the low carbon sector. We recognise renewable hydrogen as an important component of the UK's future energy mix, particularly in industrial clusters, and projects such as the Zero Carbon Humber Partnership are vital for initiating this activity.

Renewable hydrogen is a solution which, North East Lincolnshire Council believes offers near-term emission reduction, supporting the decarbonisation of critical industry. This justifies our decision to support this initiative and to use our experience and facilities in the Humber to support this study.

Yours faithfully,

Cllr John Fenty - Deputy Leader
North East Lincolnshire Council

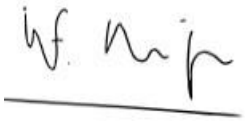
Address: North East Lincolnshire Council, Municipal Offices, Town Hall Square,
Grimsby, DN31 1HU

LETTER SENT BY EMAIL

Wednesday 20th October 2020

The Northern Powerhouse Partnership welcomes the Zero Carbon Humber Partnership's Industrial Strategy Challenge Fund deployment bid submission. Carbon capture and storage technology presents an unique opportunity to build back better by attracting billions of pounds in the coming years to develop projects that will safeguard jobs in the North of England's critical industrial hubs and create new economic opportunities.

Yours sincerely,



Henri Murison
Director, Northern Powerhouse Partnership

Norwegian-British
CHAMBER OF COMMERCE

21th October 2020

Re. Zero Carbon Humber

The Norwegian-British Chamber of Commerce (NBCC) would like to express our strong support of Equinor & the Zero Carbon Partnership's bid to develop the Humber into a zero-carbon region.

The environmental benefits are immense, and this Partnership stands out as a beacon of how businesses take on their social and environmental responsibility.

The project will help to protect jobs within major industrial and manufacturing industries across the region by making the Humber the world's first zero carbon economy, encouraging future global investment in the region. In addition, R&D and the academia will benefit in both the UK and Norway. Equinor has long traditions in the UK. For more than 35 years Equinor has invested in projects in the UK and created hundreds of jobs.

NBCC's vision is to be "A bridge across the North Sea" and we have been active in the UK for 114 years. The UK is Norway's largest single trading partner and there is a strong bond between the North East of England and Norway. The NBCC is convinced that this bond will grow even stronger with the Partnership making the Humber into a Zero Carbon Region.

Yours sincerely

Annett Åbø
President

annett@nbccuk.com

Kyrre Haugen
General Manager

kyrre@nbccuk.com

NP11

www.np11.org.uk

Dear Sirs,

The North is an energy powerhouse, with the capabilities, assets and strengths to catapult the country towards our shared national ambition of being carbon neutral by 2050. Our region generates over 40% of the UK's electricity, of which almost a fifth is exported to the rest of the country. Building upon our existing infrastructure and proud history of contributing to the energy needs of the nation, the North is ready to lead the UK in the green industrial revolution.

Yet, for all the talk of 'the North', we are all too aware that our region is not simply one homogenous location. Our strengths are nuanced from coast to coast. It is important to play to these differences and to celebrate our unique strengths.

The Humber has a golden opportunity to realise the environmental and economic benefits of decarbonisation. As the home of the UK's highest CO2 emitting industrial cluster, the Humber is key to unlocking our climate ambitions. The region has the potential to become a global leader in decarbonisation, with its strengths in energy production and industrial processes, including chemical refinery, clean energy, hydrogen production, and carbon capture, as well as its ability to trade with the world through its ports including Immingham, Grimsby, Goole and Kingston-upon-Hull.

Our region, the nation, and the entire world is currently locked in an ongoing battle against COVID-19. The economic recovery from the pandemic will provide a renewed focus on clean growth and renewable energy. This will be a green recovery and one which the North, as an energy powerhouse, is well placed to take a lead on.

Decarbonisation is not only environmentally important, but also economically vital to the Governments levelling-up agenda. Analysis has shown the potential of unlocking the Norths green capabilities to deliver a 50% reduction in UK carbon levels by 2032, and create 100,000 new jobs, adding £2bn pa to the economy by 2050.

In November 2019, the Energy and Clean Growth Report, produced by the NP11, identified the North's strategically important role in offshore wind, new nuclear, CCUS and hydrogen. The report illustrated that by co-operating rather than competing, and joining up enabling factors such as supply chains, the North has the opportunity to deliver a series of transformational projects and become world leading in energy and clean growth. We are taking huge steps forward to drive local strengths where possible, maximising innovation and creating a strong export capability.

The Zero Carbon Humber bid is an ambitious yet vital opportunity for the UK to decarbonise its industrial sectors with the Humber, the UKs most carbon-intensive industrial region, tackling climate change, levelling-up the UK economy and helping to deliver clean growth post COVID-19. This proposal clearly demonstrates the actions required to drive low carbon recovery and reach net zero.

David Levene
Director of The NP11

Working together for the North

On Line Design and Engineering Limited
On Line House, Pelham Road, Immingham
North East Lincolnshire, DN40 1AB

Telephone 01469 577695 Facsimile 01469 578216
Email enquiries@oldesign.co.uk www.oldesign.co.uk

23rd October 2020

Dear Zero Carbon Humber Partners,

On Line Design & Engineering is the largest privately owned multi-disciplined engineering design consultancy for the Energy, Process and Manufacturing industries along the Humber Bank. We have a long heritage in working with majority of the major manufacturing companies in the region, developing technical skills, and employing local engineers.

On Line Design & Engineering are keen to demonstrate our support for the Zero Carbon Humber development project and its application into Phase 2 of the ISCF Decarbonisation of industrial clusters programme.

The Humber region is home to some of the largest names and operators in the energy and process industries worldwide. The region is a net exporter of fuel, chemicals, and energy, providing a key role to UK PLC. This pivotal role in the UK economy provides both challenges and opportunities for the area. The unique geographical location of the Humber to large process operators and potential storage facilities in the Southern North Sea, gives the region a key opportunity in meeting the decarbonisation challenge collectively.

We all recognise the importance of reducing our impact on the environment, decarbonising the Humber industrial cluster is an important step in the UK working towards its transition to Net Zero for 2050. Zero Carbon Humber gives the region a real opportunity to grow and develop the technical skills and competencies we currently maintain in the area. The opportunities for jobs and businesses would encourage investment, thus providing a real sustainable solution for industry.

Zero Carbon Humber is a much-welcomed project to build a consortium of operators and local supply chain for the benefit of the region for long term investment and jobs.

Yours sincerely

Brendan Conlan
Managing Director
On Line Design & Engineering
Brendan.Conlan@oldesign.co.uk

Paul Lawrence
Business Development Manager
On Line Design & Engineering
Paul.Lawrence@oldesign.co.uk

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www.oslconsulting.com

Our Ref: OS-ZCH-0086-AGD-0001

Date: 21st October 2020

Zero Carbon Humber Partnership

To whom it may concern:

OSL Consulting is a local engineering company based in the Humber region, active in supporting the development of energy related businesses through the implementation of technology solutions.

The government target to reduce carbon emissions, as part of the world drive to reduce the effects of climate change, represents one of the biggest challenges of our era. A number of strategies exist to solve this problem nationally and regionally. The Humber region is identified as a major contributor to the total emissions of the country and therefore has a significant part to play in leading the way in regional decarbonisation. We at OSL recognise this and are fully supportive of this approach.

Renewable and low carbon technologies have been deployed in the Humber area for some time and will continue to provide part of the technology solution to achieving the emissions reduction targets. However, in order to meet these targets, other technologies will have to be employed. CCUS and the production and use of hydrogen as a clean energy source represent a viable means of providing a clean replacement for energy generation.

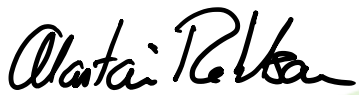
The development of the Zero Carbon Humber project has been presented as a viable proposition to overcome the challenges of geographical diversity as well as providing opportunities to expand its reach to the more remote parts of the region in the future.

The project represents a significant investment to the region and provides a clean energy source for the future. The investment will come at a pivotal time, not only in the context of climate change and the progression of the Northern Powerhouse agenda but it will also help to ensure the viability of businesses in a post Covid environment.

The region already has the relevant and transferable skills required to develop the project and support a growth industry. This new development will require the continued investment in the retraining of the existing workforce and also in the training of the future workforce through apprenticeships and tertiary education. This will help to make the region as a centre of excellence for the technology. This not only supports and protects the regions existing industry base, but also meets the objective of the UK Industrial Strategy to develop and showcase exportable skills and knowhow internationally.

This is a much welcomed and exciting project that offers a unique opportunity for the consortium as well as the wider supply chain in the Humber region, and one we will be looking to support as one of the thought leaders of the region.

Yours sincerely



Alastair Robertson
Managing Director
OSL Consulting

PENSPEN

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16th October 2020

Dear Zero Carbon Humber partners,

At Penspen, we believe hydrogen is of national strategic importance as a vector for the delivery of clean energy to enable the UK to achieve its goal of Net Zero greenhouse gas emissions by 2050, whilst also delivering post-COVID economic growth.

Hydrogen can facilitate rapid progress in decarbonising hard-to-electrify energy uses in the industrial, buildings and transportation sectors, for example, by switching fuels from natural gas to hydrogen for industrial and commercial heating, and by using hydrogen fuel cells for heavy vehicles.

Hydrogen will play a vital role in achieving Net Zero, because it can be relatively easily produced, transported and stored for the generation of heat and power for industry, with use of existing infrastructure and with minimum changes to end user's equipment, and it can do so more efficiently than electrification.

However to capture the value of hydrogen, the UK will need to repurpose and upgrade its national energy infrastructure by:

- Creating production infrastructure and markets for first blue and then green hydrogen
- Building new and repurposing existing pipelines for hydrogen transportation - pipelines are 10 to 20 times cheaper than transporting the equivalent energy via a power cables
- Creating hubs, infrastructure and markets for carbon capture and storage
- Building hydrogen storage facilities – hydrogen is one of the few effective means of storing the energy required to balance seasonal demand variations

A critical first step is to scale up hydrogen production using processes such as SMR (Steam Methane Reforming) and ATR (Auto Thermal Reforming) in combination with carbon capture technology and infrastructure to sequester the resulting CO2. With green hydrogen production technology still in the developmental stage, this is a practical first step to establish the commercial and industrial infrastructure that will be needed for a viable hydrogen economy.

Zero Carbon Humber (ZCH) is an important first step and will decarbonise the UK's largest industrial region. It is well positioned to do so because it builds on existing skills and infrastructure – it has existing sources of hydrogen production from the refineries in the region, it has a well-established skill-base and it is close to reservoirs in the Southern North Sea which will play an important role in both scaling up hydrogen production and providing CO2 storage.

Certainly, there are engineering challenges to overcome; however, the benefits are significant. Carbon reduction will be achieved by building a new hydrogen production facility, associated carbon capture and storage, a transportation and a distribution network for hydrogen and carbon dioxide, consisting of new infrastructure, as well as the repurposing of existing infrastructure, including pipelines and depleted oil and reservoirs. The Humber industrial cluster's proximity to the Southern North Sea, with its many saline aquifers and depleted hydrocarbon fields, will be a great asset for the carbon capture requirements. Altogether, these advantages provide an attractive platform for energy transformation and make the Humber region a potential vanguard for UK and global Net Zero.

Penspen's vision is to improve access to sustainable energy for the communities in which we work. To do this, we are focusing our deep experience across three services lines- Engineering and Project Management, Asset Management and Asset Integrity - on the design, installation and operation of the infrastructure needed for an effective and efficient hydrogen value chain.

Penspen staff know the Humber region very well as we provide engineering and consultancy services as well as maintain the assets of many local operators such as: CSL, P66, Total, VPI, Uniper, GTC, Scottish Power and EDF. We fully support ZCH and are excited and committed to see it develop and kick-start the hydrogen economy. We know the region has the capacity and capability to deliver this project and to put the UK at the forefront of energy innovation, delivering new jobs and export opportunities.

Yours Faithfully

Peter O'Sullivan
Chief Executive Officer

Premier Oil plc
23 Lower Belgrave Street
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Website www.premier-oil.com

Letter of Support for Zero Carbon Humber

We are fully supportive of the transition of Britain's energy economy to Net Zero by 2050. To reach Net Zero, companies like us are needed to play our part in meeting the Britain's energy needs through the safe, reliable and sustainable development of hydrocarbons. The gas from our Tolmount gas-field lies less than 50 miles from shore and is sent by pipeline to a gas terminal at Easington. From there our gas goes into the National Grid to provide the energy that people need for cooking, heating their homes and to create electricity to power our way of life.

Looking to the future, we support deploying the skills of our industry's workforce, armed with the latest technology, to capture the polluting gases from the large industries in Humberside and then to reinject it safely and cleanly offshore. We believe that Carbon Capture and Underground Storage (CCUS) is the way forward for a cleaner Humberside; it will help to preserve jobs in existing industries and to create new jobs, especially if Hydrogen industry grows in parallel. We will be the main user of the Easington Terminal in the next few years and we fully support its use as a carrier terminal for the ultimate export of polluting gases to permanent storage sites offshore.

We support Zero Carbon Humber because it is the only project that is addressing the largest centre of pollution in the UK. This project will support an area that is a key element of the Northern Powerhouse and it can become the world's first zero carbon industrial cluster at the same time as it decarbonises the North of England.

The people in the Humberside region want cleaner air, they also want jobs, long-term jobs, the sort of jobs that the new Hydrogen economy can provide. We support them, as we support Zero Carbon Humber, in their endeavours.

Yours sincerely

R A. Allan

Climate Change Lead

Reabold Resources PLC
8th Floor, The Broadgate Tower
20 Primrose Street
London, EC2A 2EW

23 October 2020

To the Zero Carbon Humber Partners,

Reabold Resources PLC ("Reabold") is an oil and gas investing company listed on AIM, which has made a significant investment in the Humber region. Reabold holds ca. 56% direct and indirect interest in the onshore oil and gas licence PEDL 183 near Hull. Reabold has provided the majority of the funding for the recent and ongoing activity under the licence. In June 2019, we discovered West Newton, potentially one of the largest UK onshore hydrocarbon accumulations on PEDL 183.

We believe that this resource could have an important role to play in satisfying the key requirements of energy policy in the UK, namely: security of supply; affordability; job creation; and in the medium term, net low carbon emissions.

On this last point, our view is that in order to decarbonise energy intensive industrial clusters, a combination of hydrogen generation with carbon capture and storage provides the most cost effective and efficient solution. The Humber region is the largest industrial cluster in the UK employing over 55,000 people and contributing £18 billion each year to UK Gross Value Added, its range of industries and offshore infrastructure makes it the ideal area for investment in decarbonisation with the potential to remove 12.4 Mt of CO_2 annually. [1]

The Zero Carbon Humber Partnership brings together international energy companies, heavy industry, leading infrastructure and logistics operators, global engineering firms and academic institutions in a plan to create the world's first net zero industrial cluster by 2040. This £75 Million bid would install carbon capture infrastructure along both the South and North bank connecting power generation sites, refineries, chemical plants and gas terminals before exporting offshore for storage. The project would also include the installation of hydrogen generation with the option to scale as demand increases to provide clean fuels for industry and production of green ammonia for export.

The West Newton field holds a potentially large natural gas resource. This resource could provide an important feedstock into many of the processes in the industrial cluster and also for the hydrogen generation as envisaged by the Zero Carbon Humber Partnership.

The Zero Carbon Humber bid would accelerate decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and create more than 20,000[2] new jobs from fuel switching. As an estuary region, the investment to address climate change is critical to the River Humber, to protect housing, to build back better, and to deliver the UK's commitment to achieving net zero by 2050.

Reabold is of the opinion that government support for such a project would facilitate and accelerate investment in the West Newton field and the region more broadly, thereby supporting national energy

[1] Source: https://www.zerocarbonhumber.co.uk

[2] Source https://www.zerocarbonhumber.co.uk

Reabold Resources PLC
8th Floor, The Broadgate Tower
20 Primrose Street
London, EC2A 2EW

policy, creating jobs and providing an important template for the role that hydrocarbons can play in the move to a low carbon future.

Yours sincerely,

Sachin Oza, Co-CEO Reabold Resources PLC

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E: manchester@rmri.co.uk

22nd October 2020

To the Zero Carbon Humber Partners,

RMRI have been providing risk assessment and risk management support to, primarily, oil and gas operators worldwide for more than twenty five years. During this time, we have seen many changes and have been involved in a number of initiatives aimed at improving efficiency and reducing the impact of oil and gas operations. We are, as a result of our background, intensely aware of the need to consider and manage risks, not only in operations but also to ensure that capital can be sought and secured to deliver new technologies that can drive the transition to a cleaner energy future and ultimately decarbonisation. Most recently, we have been working closely with Gas2Wire Ventures, focusing on the identification and management of risks and uncertainties associated with delivery of gas-to-wire projects at, initially, brownfield offshore sites. We share their belief that gas-to-wire is a key step in the energy transition, maximising the use of cleaner hydrocarbons whilst moving towards decarbonisation and the implementation of hydrogen storage projects.

In the medium to long term, a combination of hydrogen generation with carbon capture and storage is considered to provide the most cost effective and efficient solution for the decarbonisation of energy intensive industrial clusters. The Humber region is the largest industrial cluster in the UK employing over 55,000 people and contributing £18 billion each year to UK Gross Value Added, and its range of industries and offshore infrastructure makes it the ideal area for investment in decarbonisation with the potential to remove 12.4 Mt of CO_2 annually.

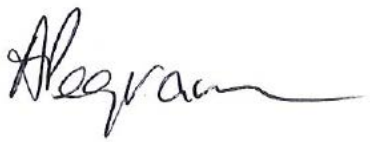
The Zero Carbon Humber Partnership brings together international energy companies, heavy industry, leading infrastructure and logistics operators, global engineering firms and academic institutions in a plan to create the world's first net zero industrial cluster by 2040. This £75 Million bid will install carbon capture infrastructure along both the South and North bank connecting power generation sites, refineries, chemical plants and gas terminals before exporting offshore for storage. The project will also include the installation of hydrogen generation with the option to scale as demand increases to provide clean fuels for industry and production of green ammonia for export.

However, it will also be critical to maintain energy security during the transition period that will inevitably be required for the maturation and implementation of these technologies. We believe that the re-use of existing offshore infrastructure, in the interim, to deliver cleaner hydrocarbon energy

through gas-to-wire, aligns with the long term objectives for the region, and we are currently supporting Gas2Wire Ventures as they work with Centrica Storage Limited (CSL) to progress the potential redevelopment of the Rough field in this way. This offers a number of benefits that align with the objectives of both the Zero Carbon Humber Partnership and the OGA, maximising economic recovery, minimising environmental impact of future developments, maintaining offshore facilities for future use, facilitating re-use of the Rough reservoir for hydrogen storage and putting in place infrastructure that can be used by the future development, thereby also reducing time to implementation.

The Zero Carbon Humber bid will accelerate decarbonisation in the UK's most carbon intensive industrial region, helping to support clean growth, future-proof vital industries and create up to 43,000 new jobs from fuel switching. As an estuary region the investment to address climate change is critical to the Humber in protecting housing, building back better and delivering the UK's commitment to achieving net zero by 2050.

We fully recognise the importance of the regional decarbonisation proposed by the Zero Carbon Humber Partnership, and of the need for energy security during the transition period. We believe we can add value, as a result of our extensive risk management experience, in the delivery and implementation of plans aimed at achieving the stated strategic objectives and goals for the Humber region, and we look forward to having the opportunity to work, alongside Gas2Wire Ventures, with CSL and the Zero Carbon Humber Partnership to assist in delivering them.



Dr. Alison Pegram
Director

Sheffield City Region

Sheffield City Region Local Enterprise Partnership
11 Broad Street West
Sheffield, S1 2BQ

23rd October 2020

To whom it may concern

Sheffield City Region is fully supportive of the drive towards net zero and of projects which can help to make inroads towards this vision, including Zero Carbon Humber.

The Sheffield City Region's (SCR) Energy Strategy outlines its own ambitions to achieve net-zero carbon emissions by 2040, ten years before the goal set by Government. The target was set following Mayor Dan Jarvis's declaration of a Climate Emergency in South Yorkshire in November 2019. Such ambitions rely on investment from both the Government and from the private sector, which is why we are pleased to see significant matched funding bids with big name backers seeking to decarbonise the region.

The Sheffield City Region, like the Humber and much of the North, is built on a strong heritage of excellence and innovation that began during the Industrial Revolution. Now we are ready to power the future and lead the North's Clean Energy Revolution. Projects such as Zero Carbon Humber can turbocharge growth in the low carbon and clean energy sectors, create thousands of skilled jobs while building a clean, efficient and resilient energy system for our region, and help pave the way for the transition to a low carbon economy not just in Yorkshire but across the world.

South Yorkshire is already home to a hydrogen refuelling station, with research taking place that could lead to a hydrogen-powered, zero emission bus network of the future. We are therefore acutely aware of the value of hydrogen in the future energy mix, and the potential to capture carbon alongside it.

The University of Sheffield Advanced Manufacturing Research Centre are also closely involved in this project and we welcome the ties and links created by working together across the region to ensure that the wider area benefits from the supply chain of such a project.

We look forward to supporting and working alongside the Zero Carbon Humber Partnership for decades to come.

Yours sincerely

James Muir
Chair of the Sheffield City Region Local Enterprise Partnership

Name Stephen Scrimshaw
Department SE EU GB

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Fax
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Mail steve.scrimshaw@siemens.com

Your letter of
Our reference SS/IH/zch

Date 22nd October 2020

To whom it may concern,

At Siemens Energy, our purpose is to energise society by supporting our customers in transitioning to a more sustainable world, using innovative technologies that turn ideas into reality.

We support the ambitions of the Zero Carbon Humber Partnership to accelerate the decarbonisation of the Humber, the UK's largest industrial cluster, in a way that supports sustained economic growth in the region.

Siemens Energy is already bringing world-leading energy generation technology to the Humber by delivering SSE Thermal's Keadby 2 Power Station, which will become the most-efficient gas-fired power station in Europe when completed in 2022.

However, it's essential that we continue to identify innovative solutions to further decarbonise energy generation and industrial activity in the years ahead. Through the deployment of carbon capture use and storage and hydrogen infrastructure in the region, the Zero Carbon Humber Partnership will continue to deliver cutting-edge technology to allow the Humber to remain a powerhouse for the UK economy.

As we aim to build back better in the wake of coronavirus, a coordinated and cross-industry approach is crucial to ensure we deliver maximum benefits for the region. The delivery of large-scale decarbonisation projects will drive major regional investment, protect and create high-quality jobs, and ensure the Humber remains the UK's 'energy estuary' as we transition to a cleaner, greener future.

We fully support the ambitions of the Zero Carbon Humber Partnership and see this as a key step to delivering on our net-zero targets for the UK.

Yours sincerely,

Steve Scrimshaw
Vice President,
Siemens Energy UK & Ireland

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UK

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Zero Carbon Humber

By way of this letter, Stork would like to express our full support to the Zero Carbon Humber Partnership and its bid for funding to develop the Humber into a Zero Carbon Region.

As a specialist services support company to the Energy, Oil and Gas, Petrochemical and industrial sectors, Stork has made a large commitment and substantial investment in the Humber region, recently moving into a new regional facility in Grimsby, North East Lincolnshire.

The Zero Carbon Humber Partnership will take advantage of existing infrastructure and industries, protecting thousands of local jobs and creating many new ones. This will allow local training and skills transfer to flourish whilst providing new apprenticeship opportunities within the local community; something which will allow the Humber region economy to be sustained and provide growth. As a region, the Humber is currently the most carbon intensive industrial cluster in the country. The Zero Carbon Humber Partnership proposal will provide a more sustainable, cleaner local environment for future generations whilst creating business opportunities both locally and internationally.

This is a real opportunity to spark economic growth with the Humber region; providing a much needed long term boost which will showcase the capabilities and diverse opportunities the region has to offer.

Stork fully supports the Zero Carbon Humber Partnership, which is a great opportunity for the Humber region to be a global leader in the goal to reach zero carbon emissions and we wish them every success in their bid.

Yours Sincerely

Steve Hunt
Regional Director UK

Team Humber
MARINE ALLIANCE

A not for profit company since 2010

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21 October 2020

To Whom it May Concern

Team Humber Marine Alliance are delighted to express their support for the Zero Carbon Humber project and its partnership bid for Industrial Decarbonisation funding. We believe this offers huge opportunity to the Humber region in terms of tackling its emissions challenges whilst also promoting energy innovation, jobs and skills.

Team Humber Marine Alliance (THMA) represents around 200 businesses working in the marine and offshore sectors, which have full supply chain capabilities including in commercial shipping, marine engineering, support vessels, specialist health & safety and ports & logistics. The organisation works in support of this vast array of skills and expertise, promoting it regionally, nationally and globally and generating major opportunities and business for members. We understand the needs of the local economy whilst also having experience of what makes the region attractive to inward investors.

The Humber is at the forefront of the UK and international energy sector, given its historic relationship with energy producers, importers/exporters and users. In recent years it has built on this reputation through renewables, low carbon technologies and clean growth innovation. This continued development in the sector provides greater opportunities throughout the supply chain, in addition to the vital provision of STEM jobs, skills and apprenticeships. THMA works with other key education and training organisations to transform the skillset of the region's current and future workforce in a number of important initiatives, and we are keen to support projects that offer to bring further jobs, skills and opportunities to the region.

We also keenly recognise the opportunities offered to the region by its location on the North Sea, with its favourable geological formations which are ideal for CO2 or hydrogen storage, and its background in offshore oil and gas, which provides infrastructure that can be repurposed for major offshore projects. Additionally, it benefits from its location on the River Humber, served by major ports that offer huge potential to trade with the international market, including importing CO2 for safe storage from other clusters, and exporting hydrogen and low carbon chemicals.

The Humber has traditionally been a high carbon emitter and it is essential to lower these emissions without negatively impacting the socioeconomic environment that many businesses and individuals rely upon. We are excited by the prospect of the Zero Carbon Humber proposals making the Humber the world's first net zero industrial cluster, and are fully supportive of its bid.

Yours faithfully

Andrew Oliver
Chairman

Company Registered Number 7408094
VAT Number 125026257

Changing the world
of work for good

TUC Yorkshire & the Humber

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tuc.org.uk/yorkshire-and-the-humber

To: Karl Smyth
Group Head of BECCS Strategy & Engagement
Drax

contact: Bill Adams
direct line: 0113 2429696
email: yhregsec@tuc.org.uk

(via email)

17 November 2020

Dear Karl

Zero Carbon Humber Project

The TUC Yorkshire and the Humber region supports the Zero Carbon Humber Partnership to develop a clean industrial revolution which includes Carbon Capture and Storage development across the Humber region to drive a low carbon recovery and reach a net zero economy.

The bid demonstrates a wide range of support from companies which will protect and create thousands of high-quality new jobs while reducing emissions in the medium to long term transition.

The TUC look forward to working with companies involved in the project to make sure that workers and communities share in the benefits that the huge investment will bring to the region and beyond, with the creation of highly skilled, well paid secure jobs, and to provide future generations of workers with the many opportunities arising from this industrial development around the Humber.

This can only be achieved by establishing willing, committed partnerships and creating social dialogue amongst all the partners.

The TUC stands ready with our affiliated trade unions to play our part in what is a very exciting and necessary industrial revolution.

In solidarity

Bill Adams
Regional Secretary
TUC Yorkshire & the Humber

Zero Carbon Humber

Unit Birwelco Ltd would like to express our full support to the Zero Carbon Humber Partnership to develop the Humber into a Zero Carbon Region.

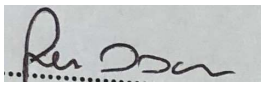
Our expertise is in the design, engineering, procurement, manufacture, fabrication, installation and maintenance of complex thermal equipment and are one of the UK's only engineering full service suppliers to the Energy, Oil and Gas, Petrochemical and industrial sectors with a prime location in the Humber region with our site in Immingham.

As part of the continued commitment to reduce our own carbon footprint, our carbon negative goal is being achieved by reducing it through a combination of several in-house carbon reduction measures and supporting emission reduction projects. We are now a Carbon negative business.

The Zero Carbon Humber Partnership will take advantage of existing infrastructure and industries, protecting thousands of local jobs and creating many new ones. This will allow local training and skills transfer to flourish whilst providing new apprenticeship opportunities within the local community; something which will allow the Humber region economy to be sustained and provide growth. As a region, the Humber is currently the most carbon intensive industrial cluster in the country. The Zero Carbon Humber Partnership proposal will provide a more sustainable, cleaner local environment for future generations whilst creating business opportunities both locally and internationally.

This is a great opportunity to ignite economic growth within the Humber region; providing a much-needed long term boost which will showcase the capabilities and diverse opportunities the region has to offer.

Yours Sincerely

 17th November 2020

Lee Dixon
Group Quality & Integrated Systems Manager

Corbin Wright
Business Development Manager

Unit Engineers and Constructors Ltd – UnitBirwelco Group
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UNIVERSITY OF HULL

Dr David Richards
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w: www.hull.ac.uk

To the Zero Carbon Humber Partners: 21st October 2020

The University of Hull, as the anchor institution in the Humber, is strongly supportive of the Zero Carbon Humber bid. A successful bid would be transformative for the Humber. It would have the potential to deliver the UK's first zero carbon cluster, helping to position the North of England as a resilient, inclusive and innovation driven regional economy.

Universities have a key role to play in building collaboration between research and business, facilitating transformative and inclusive growth, engaging and empowering the local population, developing skills and raising aspirations.

The University of Hull's Energy & Environment Institute's reputation is growing nationally and internationally and leading efforts to tackle global environmental resilience and energy sustainability. The Institute brings together leading interdisciplinary academics who are tackling the issues surrounding climate change. Solving clean energy requires bright minds – we have some of the leading professors in energy and the environment and are already working hard at game changing innovation. A successful ZCH bid would have access to this knowledge and expertise on its doorstep, through the University of Hull.

The University has been very successful in recent years in building regional capabilities around the advent of offshore wind and low-carbon energy. Its Aura initiative - which is a collaborative partnership between academia, industry, local and regional government and other non-governmental organisations - is now the leading the Offshore Wind Sector Deal Cluster. The brand new Aura Innovation Centre, located in the heart of the Humber, is an asset for the region, and acts as a community of innovative thinkers, scientists, inventors, researchers and problem solvers – all working together for Clean Growth for the Humber.

A successful ZCH bid would demonstrate the Government's commitment to levelling up for the North and act as a powerful catalyst for the post-Covid recovery. It would create many jobs as well as the opportunity to develop skills, knowledge and technology than can be exported around the world – putting the Humber estuary and wider region at the centre of a global decarbonisation economy.

Zero Carbon Humber is a real opportunity to continue to develop the skills that we are already growing on the back of renewable energy, contributing to the UK's talent pipeline for a low-carbon transition, developing our future leaders and ensuring that academia and industry work closely together to develop solutions for the challenges currently facing the region and the country.

Yours sincerely,

Dr David Richards, FEI
Pro Vice Chancellor – Research & Enterprise
pvc-re@hull.ac.uk

Acting Deputy Vice-Chancellor: Research & Innovation
Professor Nick Plant

University of Leeds
Leeds LS2 9JT

Tel: 0113 343 9397
Email: n.plant@leeds.ac.uk

UNIVERSITY OF LEEDS

16 October 2020

To Whom It May Concern

Re: Zero Carbon Humber

I am writing in support of the Zero Carbon Humber project, which has been submitted to the Industrial Decarbonisation Challenge through the Industrial Strategy Challenge Fund.

The UK Committee on Climate Change has highlighted the key role that both hydrogen and bioenergy with carbon capture and storage (BECCS) will need to play in decarbonising industrial clusters. This project will address both key challenges with a first of its kind approach, bringing together key stakeholders in the region. The project will develop a clear route to decarbonisation of the major Humberside industrial cluster that produces 12.4MtCO_2 per annum. A key element of the proposal is a pipeline connecting to Drax Power Station to transport CO_2 captured through BECCS. The University of Leeds is an international leader in developing BECCS technologies, in particular through our spin out company C-Capture who are collaborating with Drax on the first bioenergy with carbon capture and storage pilot project in Europe.

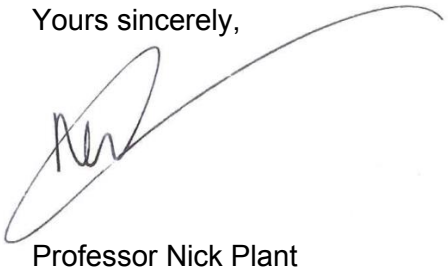
The University of Leeds is committed to supporting research that leads us towards a zero carbon future and also delivers regional impact and economic growth. In 2019 the University made a strong commitment to supporting the delivery of the UK's Net Zero greenhouse gas emissions targets. This includes a commitment to achieve a net zero carbon footprint by 2030 and to reorient our research portfolio to ensure that it helps to accelerate the transition to a low carbon future.

We have heavily invested in the interdisciplinary research culture necessary to deliver disruptive, novel solutions for the wicked problems that face our global community. Relevant to the current proposal are cross-cutting research initiatives such as Energy Leeds, the Priestley International Centre for Climate and the Bragg Centre for Materials Research. These are supported by ongoing funding for dedicated Research and Innovation Development Managers, and for academic appointment across all career stages, from our early career University Academic Fellows to Professorial-level academic Directors, ensuring we develop a sustainable research community

The project aligns well with the University's strong track record in energy research and innovation, including through our leading roles in key national projects such as the £19.5m Centre for Research into Energy Demand Solutions where we lead the work on 'Decarbonisation of the steel industry', 'Materials & Products' and 'Transport & Mobility'; and in the UK Energy Research Centre where we lead on 'Industrial Decarbonisation' and 'Energy for Mobility'. We have major interests in the use of hydrogen to decarbonise the energy system, expertise on both corrosion and risks associated with CO2 transportation in pipelines, and a £5m centre on the ageing and deterioration of a whole suite of infrastructure materials.

We understand that the Zero Carbon Humber project aims to protect 55,000 existing jobs in the Humber and create over 20,000 new low carbon jobs, positioning the region as a global leader, and enabling it to be on track to be the first zero carbon industrial cluster. We fully support this Zero Carbon Humber proposal which aligns with the University's values, and our own net zero plans. We will proactively engage with, and support, the project, offering our extensive expertise to ensure that it can offer a sustainable impact for the whole region.

Yours sincerely,



Professor Nick Plant
Acting Deputy Vice-Chancellor: Research & Innovation

The University Of Sheffield.

Office Of The Vice-President.

15 October 2020

Professor Dave Petley
Vice-President for Innovation
Office of the Vice-Presidents'
Firth Court,
Western Bank,
Sheffield, S10 2TN

Telephone: +44 (0) 114 2229822
Email: d.n.petley@sheffield.ac.uk

To whom it may concern,

The University of Sheffield is supportive of the bid submitted by the Zero Carbon Humber Partnership to the Industrial Strategy Challenge Fund (ISCF), with a view to achieving a net-zero carbon cluster by 2040.

The Humber emits more CO2 than any other industrial cluster in the UK, whilst the area is one of the most vulnerable to climate change through flood risk. At least a quarter of the Humber's economy and 1 in 10 jobs depend on these industries, making safeguarding their competitiveness critical for both the region and the UK.

The Zero Carbon Humber Partnership's ISCF bid offers a comprehensive proposal to produce hydrogen at scale and capture carbon emissions in a way which will support existing industries whilst also creating new jobs and skills, and encouraging future investment in cleaner and greener technologies.

The University of Sheffield is committed to using its expertise and assets to drive the reduction of the UK's carbon emissions. We are therefore delighted to be part of the Zero Carbon Humber Partnership, and its ISCF bid, utilising the unique capabilities of our Advanced Manufacturing Research Centre (AMRC) to drive manufacturing innovation across the project, whilst developing robust supply chains that will anchor its significant economic benefits within the UK.

Yours faithfully,

Professor Dave Petley
Vice-President Innovation

VELOCYS

Zero Carbon Humber

29th October 2020

Letter of support for Zero Carbon Humber

I am writing on behalf of Velocys, the sustainable fuels technology responsible for the development of Altalto Immingham, expected to be Europe's first waste-to-jet-fuel plant. We would like to confirm our support for the cluster of businesses looking to create full-scale Carbon Capture and Storage (CCS) infrastructure in the Humber.

We believe the cluster offers the best opportunity to deliver early CCS deployment in the UK, based on the scale and capabilities of the companies involved.

However, even more importantly, this cluster provides the opportunity for new low-carbon industries such as our own. With CCS, Altalto will be able to produce Sustainable Aviation Fuel (SAF) with negative net carbon emissions, thereby enabling the UK to achieve the Government's ambition of zero-carbon long-haul flight by the mid-2020s instead of 2040. This is a game-changer for the whole aviation industry. We anticipate that other new businesses will also be able to take advantage of the cluster in the same way, bringing in major capital investment and allowing the Humber and the UK as a whole to establish a global leadership position in the industries of the future.

We believe that the Humber presents the opportunity for the UK to become a global leader in industrial heat and power decarbonisation, whilst at the same time stimulating other new industries in the area, as described above.

Yours faithfully,

Neville Hargreaves
Vice President, Waste to Fuels

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Women into Manufacturing and Engineering

14th October 2020

To who it may concern

Support for Zero Carbon Humber

Having worked in the chemicals sector in the Humber for many years, I know how important decarbonisation is to the continued success of our region and the manufacturing and engineering sector in particular. This is why I was so pleased to see the announcement of Zero Carbon Humber. The project looks very comprehensive and a great collaboration of world leading companies who are going to harness some amazing technologies.

I believe that the Humber region has a workforce with the right skill sets to ensure the project is successful from design and process engineering to civil, construction and plant operations. Conferences such as the Waterline Summit show that we have a collective spirit to deliver real change. Our recent history also proves that our people and the region are keen to embrace new technologies such as Wind Power.

In my current position as Chair of Women into Manufacturing and Engineering, I am working with many local schools, colleges and Universities to inspire our next generation of employees and particularly encourage girls into the sector. They are thinking long and hard about the industries that they want to be part of. I do hope that Zero Carbon Humber will follow the lead of the Offshore Wind Sector and set challenging targets to improve the diversity of the workforce they recruit.

Yours sincerely

Dr Kirsty Clode FRSC, C Chem, CMIOSH
Chair, Women into Manufacturing and Engineering

Address c/o Helen Stinson, Hull City Council, Alfred Gelder Street. Hull HU1 2AA

York & North Yorkshire
LOCAL ENTERPRISE
PARTNERSHIP

James Farrar COO
Chief Operating Officer
York & North Yorkshire
Local Enterprise Partnership
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Tel: 01609 533269
James.farrar@businessinspiredgrowth.com

Date 6 October 2020

Our Ref M41SJB047.JPF

Dear Sir/Madam,

Re: Zero Carbon Humber Industrial Strategy Challenge Fund proposal

The Zero Carbon Humber (ZCH) Partnership's bid to the Industrial Strategy Challenge Fund fits perfectly with a number of initiatives at a wider York & North Yorkshire level spearheaded by York & North Yorkshire Local Enterprise Partnership (Y&NY LEP). In line with Climate Emergency declarations and ambitions from across our region, the LEP are pushing for fast decarbonisation of our region's economy in advance of the Government's 2050 deadline set out in the Climate Change Act. We aim to hit carbon neutrality in 2034 and then continue progress to become a carbon negative region, contributing disproportionately to the UK's overall target.

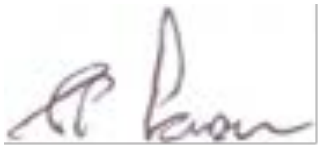
In response to COVID-19, the LEP have developed a recovery plan to support the region's economy to build back Greener, Fairer and Stronger. The proposed ZCH project will not only impact on the climate change ambitions of the area, but it will also bring about new jobs and safeguard thousands more, through significant construction and engineering work, and by assisting hard-to-decarbonise sectors to remain viable under increasing scrutiny regarding emissions. It is estimated that deployment of bioenergy carbon capture and storage (BECCS) at Drax could support around 6,000 direct jobs, improving the region's employment offer, particularly in some of the more deprived areas of York and North Yorkshire, and building a local skilled workforce with transferable, sustainable skills for low-carbon sectors.

In the Carbon Abatement Pathways report (in development) for York and North Yorkshire, all pathways modelled require the deployment of BECCS infrastructure. Without this vital infrastructure, Y&NY will not reach net zero until the late 2040s at the earliest, despite the region's nationally significant potential for greenhouse gas removal from natural environments. Under the High Hydrogen scenario, by 2038, 183,000 homes would be heated by hydrogen and industrial emissions could reduce by ~85%.

Hydrogen and carbon capture and storage, especially from bioenergy, are key technologies identified in the LEP's Local Energy Strategy. When the Local Energy Strategy was written, these technologies were both seen as 'future opportunities', areas where the evidence still needed to be established on their potential to decarbonise the region. Two years later, the speed of development, hastened by increasing urgency to deal with climate change, has brought ZCH's proposed project to the fore as a well-designed opportunity to decarbonise our region's biggest emitter in Drax, alongside some of the Humber's most polluting industries. We are also encouraged that the future of the infrastructure will not just be focused on storage, but also utilisation – the trials at Drax's current BECCS hub are an exciting taster of the innovative potential uses of captured CO_2 as we transition York and North Yorkshire to a carbon negative circular economy.

The strong, wider-ranging membership of the ZCH Partnership inspires confidence that this ambitious project will be delivered in a timely fashion to maximise positive outcomes for the region, and for the UK's businesses, communities and climate commitments. The York and North Yorkshire Local Enterprise Partnership are pleased to support this bid for Zero Carbon Humber to advance the UK's first net zero industrial cluster and look forward to working closely with the team to help expand the project's impact into the wider York and North Yorkshire region.

Yours faithfully,



James Farrar
York and North Yorkshire LEP

www.zerocarbonhumber.co.uk

@ZC_Humber