Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses

Demystifying Energy Transition

Wednesday 28 June 2023



Delivered by:



Welcome Remarks

David Wilson

Energy Director, ETZ Ltd.



Delivered by:





ENERGY TRANSITION ZONE



REGIONAL IN FOCUS, GLOBAL IN OUTLOOK

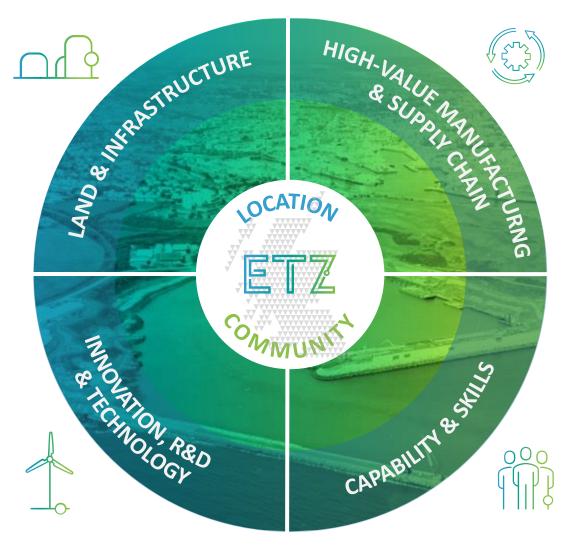
ETZ Ltd will reposition North East Scotland as a **globally recognised integrated energy cluster focussed on delivering net zero** and develop a long-term international industry base that delivers sustainable Scottish and UK jobs and growth.



ETZ Focus areas

- Leverage the £420M Aberdeen South Harbour (ASH) Investment
- Enable offshore wind and hydrogen high value manufacturing
- Deliver green space enhancements and community facilities

- Home of National Floating Wind Innovation Centre (FLOWIC)
- Site of proposed Green Hydrogen Test and Demonstration Facilities (GHTDF)
- Energy Incubator & Scale-up Hub to support green start-ups and scale-ups (EISH)





- Attract inward investment for high value manufacturing
- Supporting infrastructure for emerging hydrogen production, storage and distribution business
- Supply chain pathway & ET challenge fund
- Internationalisation of offshore engineering, manufactured products
- Work with the local community to deliver inclusive job opportunities
- Establish the National Energy Skills Accelerator (NESA)
- Deliver NEERSF re-skilling programmes
- Scotland's first Energy Transition Skills Hub (ETSH) focussed on high value manufacturing

ENERGY TRANSITION CAMPUSES

Marine Gateway Tullos Wood Hydrogen Campus Innovation Campus Skills Offshore Campus Wind Campus

A **Hydrogen Campus**, centred around Doonies and sites at Peterseat Drive, to provide infrastructure that supports green hydrogen Test & Demonstration and emerging production, storage and distribution technologies. It will include a new road link crossing Doonies Farm to connect to the Coast Road.

Aberdeen South Harbour

An **Offshore Wind Campus**, centred around the National Floating Wind Innovation Centre and brownfield land to the east of Altens.

A *Skills Campus*, centred around NESCol / NESA and Net-Zero Exemplar development providing Advanced Manufacturing Skills Hub and community net zero hub

An **Innovation Campus**, centred around the new-build Net-Zero Incubator that supports green start-ups and scale-ups.

A Marine Gateway- Integrated cluster creating a catalyst for the wider Energy Transition Zone attracting high value manufacturing associated with offshore renewables.



ETZ Supply Chain Pathway Support



Pathway

F4OR Green Energy Masterclasses Strategy Shift workshops Digital Adoption International Knowledge Exchanges Industry challenges (in development)



Capital Challenge Fund Grants

Infrastructure Upgrades Capital Equipment Up to £250k / 50% Future Round – Jan to Mar 2024

Reserve list in operation!



Strategy Shift Workshops will explore and plan the next steps to lead your business into the future: Leveraging your strengths as a business / Increase your readiness to tackle energy transition goals / planning to exploit market opportunities / establish a successful commercial approach

Thursday 10th August, 0930-1600 @ W-Zero-1

Register from 5th July on <u>www.etzltd.com</u>

W-Zero-1 / Floating Wind Innovation Centre





Fully operational Autumn 2023

- £9 million centre located within ETZ's Wind Campus
- FLOWIC developed in collaboration with ORE Catapult
- Capability to reduce energy cost from floating offshore wind developments
- Test and demonstration infrastructure to deliver the accelerated Floating Wind commercialisation and incubate new sector products, services and businesses
- Includes dynamic cabling flex fatigue, scaled anchor pull through and small scale moving line test rig

Energy Incubator and Scale up Hub – what is it?



A flexible net zero 3,000 m² space for collaboration and growth of low carbon energy companies



EISH (Energy Incubator and Scale Up Hub)





It will create a purpose-designed and managed environment for net zero innovation, entrepreneurship, and growth; where partnerships are formed, and ideas are developed and brought to market." "... the entry point for new and growing supply chain organisations to receive support and flexible accommodation and build links with academia, institutional partners, and industry.

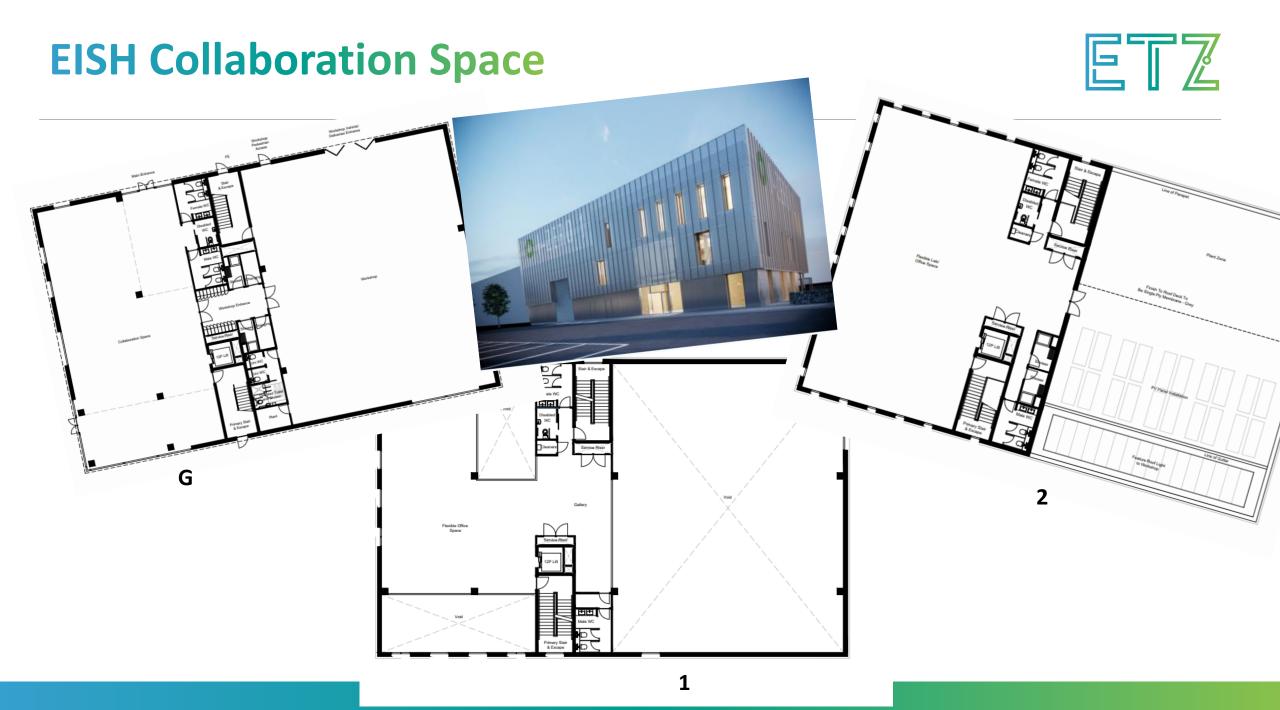




EISH Collaboration Hub

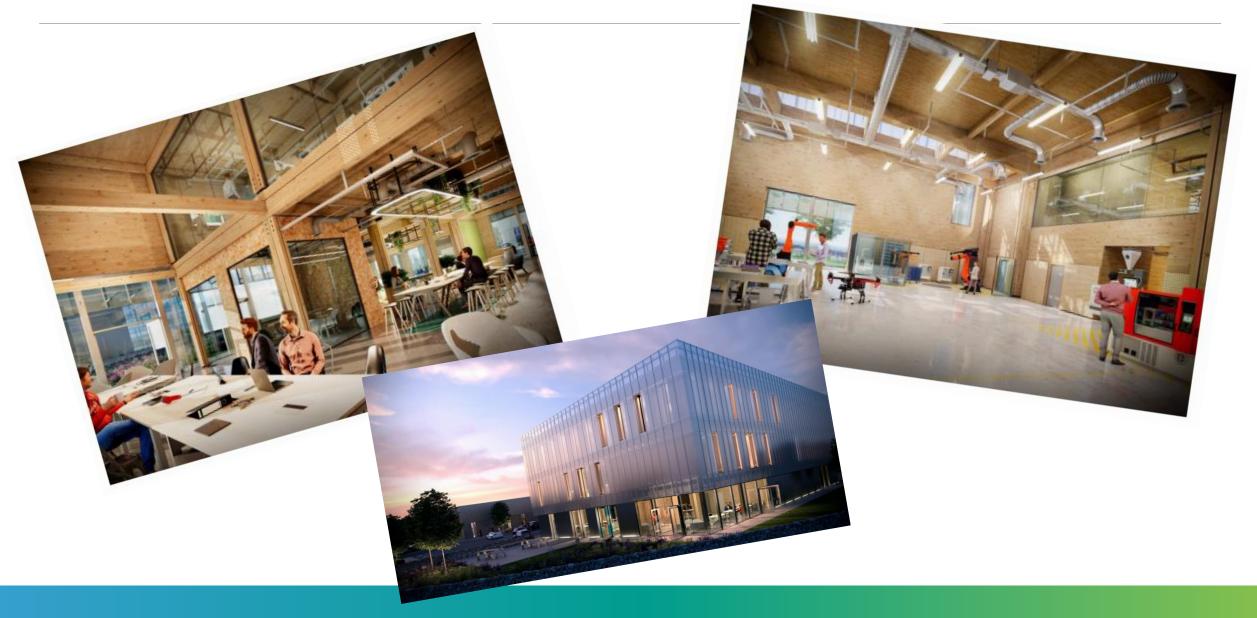






EISH Collaboration and Workshop Space





EISH Industrial Space



Introduction Slido Questions



Do you think we need an energy mix to meet our net zero targets? Yes / No

How important do you think the supply chain is to support Net Zero 2045 and 2050 targets? Crucial / Important / Not Important

We all know investment is required to support the supply chain transition, which do you think is more important, Resource spend or Capital Funding spend? Or an equal split?

Resource Spend / Capital Spend / Equal / Don't Know

Do you think we need 50% renewables or more than 50% renewables as part of the energy mix?



Less than 50% / More than 50%





ETZ Website: www.etzltd.com

Pathway Programme: https://etzltd.com/etz-in-action/get-involved/energy-transition-pathway

LinkedIn: www.linkedin.com/company/energy-transition-zone-ltd

Emails: david.wilson@etzltd.com jacqui.watt@etzltd.com freda.miller@etzltd.com



ENERGY TRANSITION ZONE

The Current Energy System is Changing Ian Phillips

Director and Principal Consultant, Energy Transition Advisory



Delivered by:





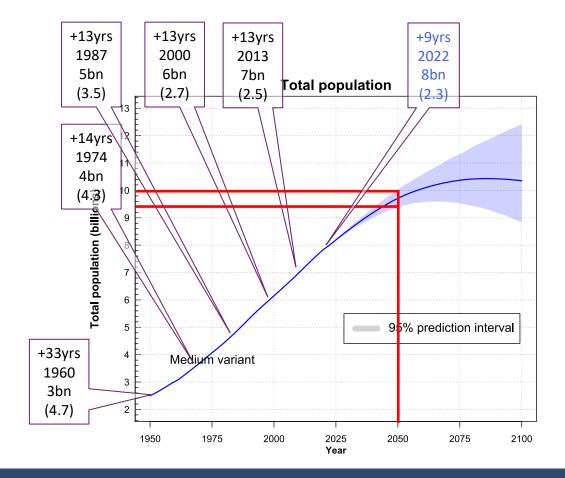


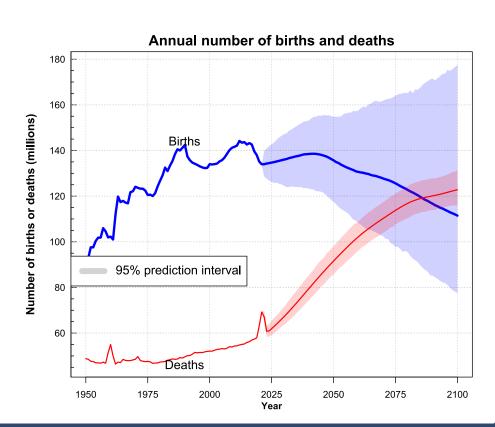
Change The Current Energy System is changing

Ian Phillips



What is driving the growth in energy demand Global population continues to grow





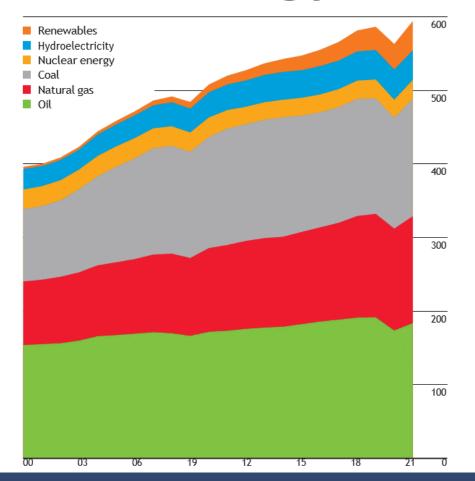
Fertility rates Stable population = 2.1 World in 2022 = 2.3 South Korea = 0.78 USA = 1.7 UK = 1.6 China = 1.2 India 2.1

> Transition Advisory

United Nations World Population Prospects 2022



These people aspire to a better standard of living Global energy consumption



- Hydrocarbons = 78%
 - Down from 84.3% in 2 years
 - Oil (29.3%)
 - Coal (25.4%)
 - Gas 23.3%
- Nuclear = 4.3%
- Hydro = 6.8%
- Renewables = 6.7%

Exajoules (1 exajoule = 10¹⁸ joules) 600 exajoules

- = 102 billion boe
- = 280.5 mmboe/day

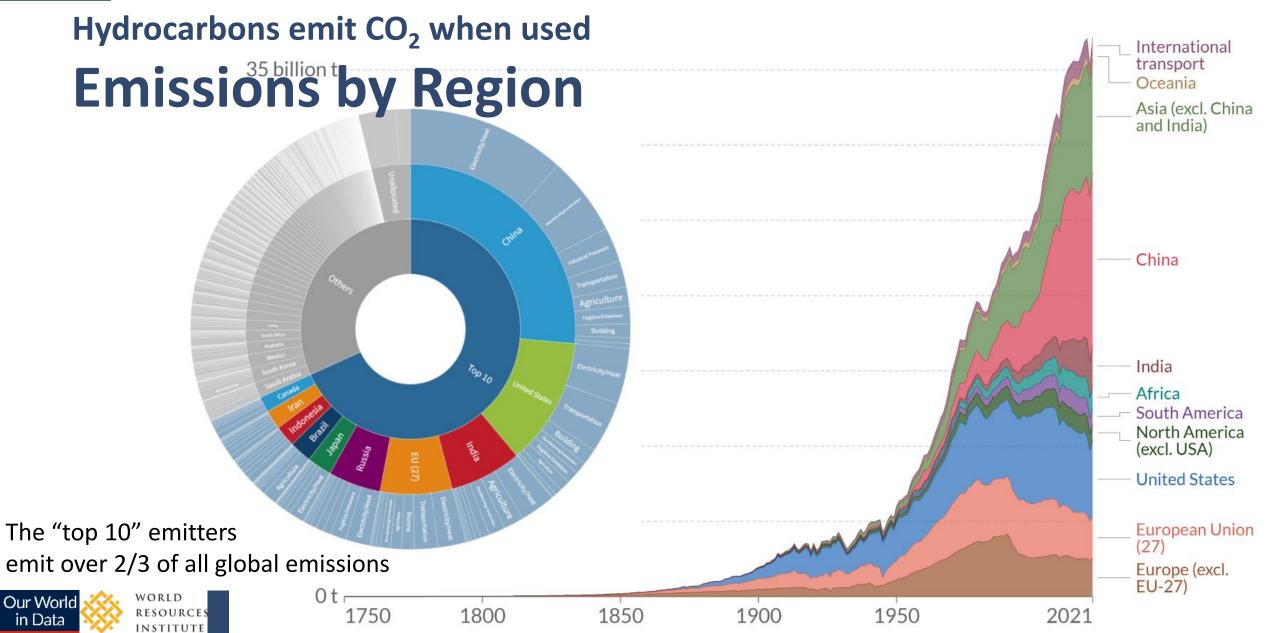




Hydrocarbons are everywhere What drives this consumption

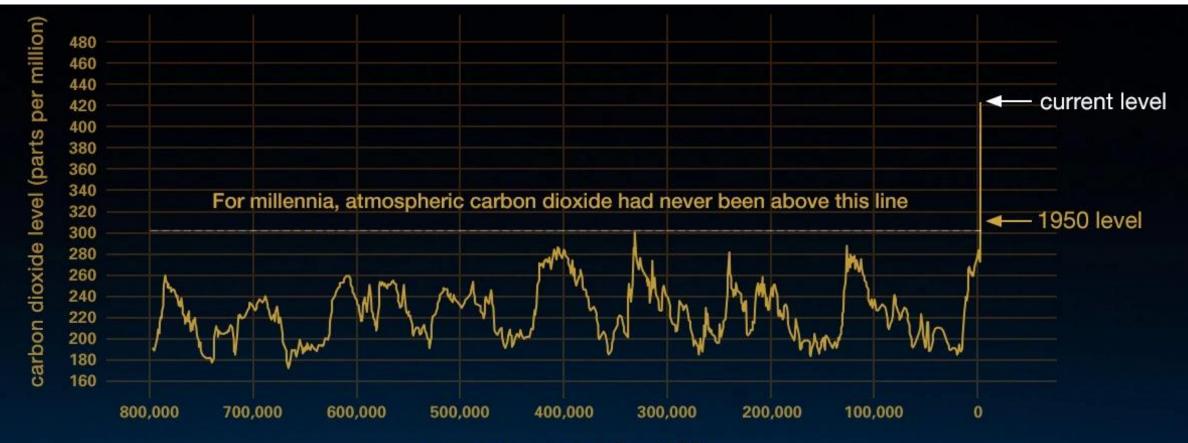








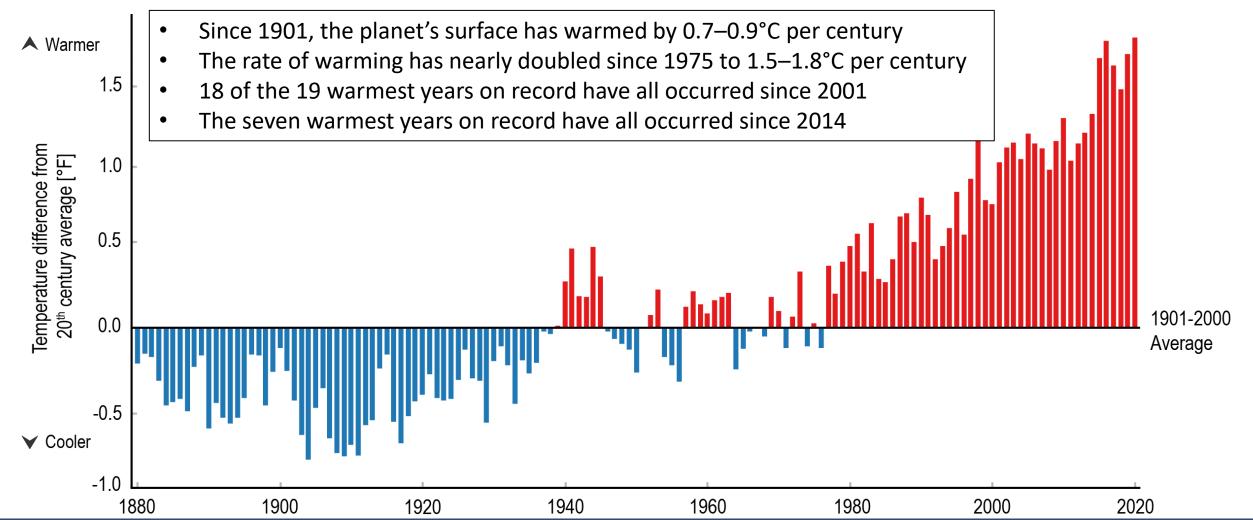
Hydrocarbons emit CO₂ when used Atmospheric CO₂



years before today (0 = 1950)



Direct linkage between CO₂ emissions and rising global temperatures Global temperature is rising





Climate change is now accepted as a major issue The political climate is changi

- Young people have a view
 - They blame the baby-boomers
- Paris 2015 Agreement
 - Global target net zero by 2050
 - Chinese net zero by 2060
 - India net zero by 2070
 - Only 25-30 years from now
 - Major change will happen sooner
- A global phenomenon
 - 1 billion people doing most of the damage
 - In Europe / North America / Japan / Australia
 - China and India outsourced emissions



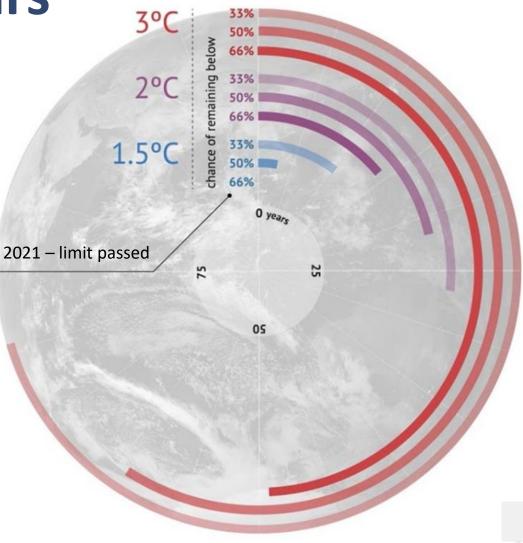
Million people



There is no time to lose

Carbon budget – 20-40 years

- 2021 emissions
 - 36.3Gt due to fuel use
 - +7 Gt due to agriculture and land use
- We have access to 2795 Gt of CO₂ from in current proven reserves
 - Worth ~US\$27 trillion @\$50 / bbl
 - Need to leave 80% in the ground to avoid exceeding 2°C – writing \$20 trillion off !!
 - **OR** we need to avoid the emissions





The oil industry response #1 Decarbonise production

- >80% emissions from gas turbines
 - Power and compression
- Need alternative source of significant power
 - Major initiatives in floating wind
 - Option of power from shore
 - Tidal and wave technology emerging



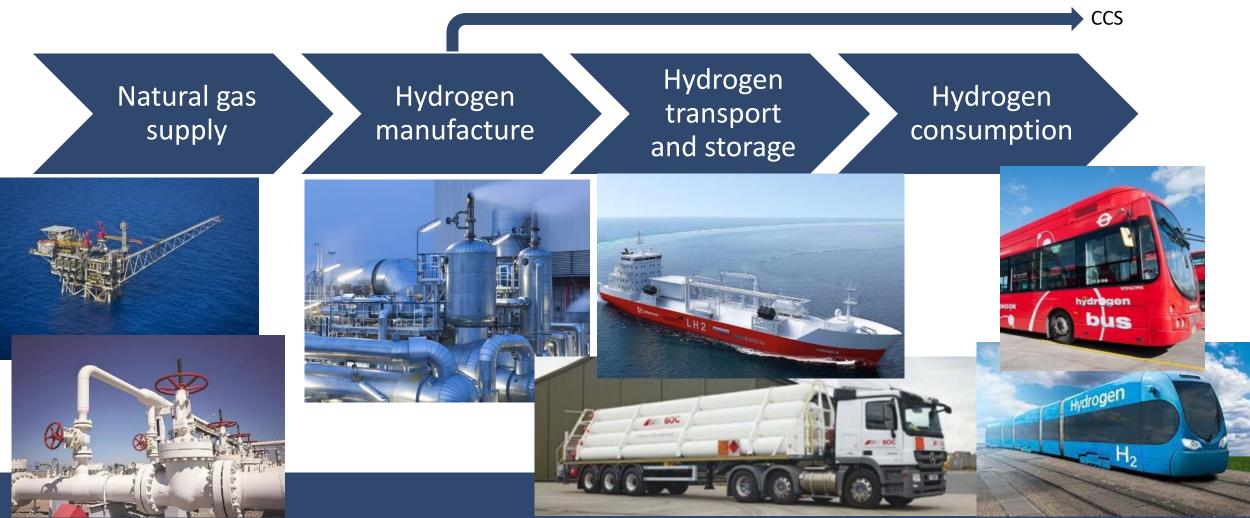


The oil industry response #2 Deliver Carbon Capture and Storage





The oil industry response #3 Deliver Blue Hydrogen





The rest of the worlds response #1 Energy generation is changing



1 Comments



The rest of the worlds response #2 Energy storage is essential





Salt cavern storage

Pumped Storage



The rest of the worlds response #3 Energy is changing – transport







The rest of the worlds response #4

The Green Hydrogen value chain

Renewable power generation

Hydrogen manufacture - electrolysers Hydrogen transport and storage

Hydrogen consumption





My view of the Energy Transition #1 A complex technological and political balancing act

- We are ruining our planet
 - By burning hydrocarbon in every aspect of our civilisation
 - If we don't do something the planet we live on will change dramatically
- Something has to change
 - Make hydrocarbons low carbon
 - Low carbon alternatives
- The public isn't connecting
 - They understand climate change
 - They want life to go on as we know it





My view of the Energy Transition #2 Life as we know it is going to change

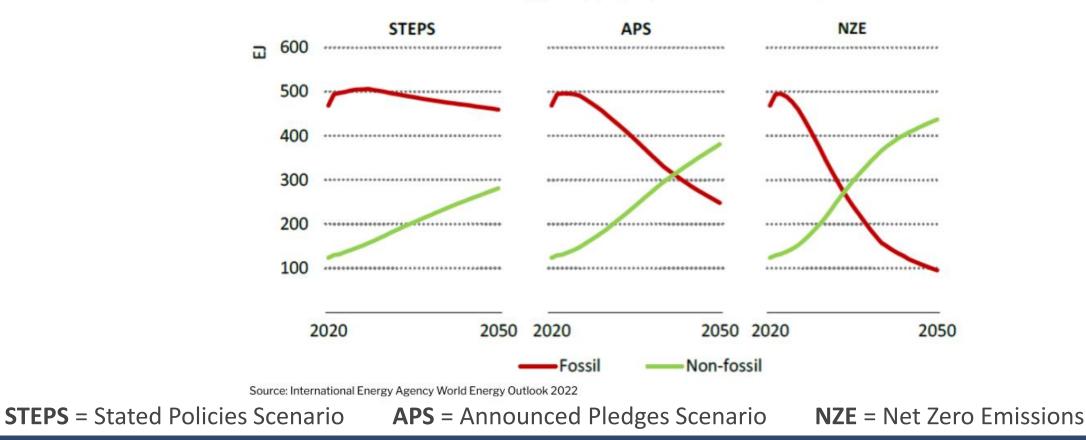
- The solution will be a mix of things there is no one "silver bullet"
 - We have to decarbonise electricity production
 - Major use of renewables; using hydrogen; extensive energy storage
 - We have to decarbonise heat
 - Use electricity; use hydrogen; phase out natural gas
 - We have to decarbonise transport
 - Maybe batteries; maybe hydrogen plus fuel cells
 - We have to use less energy
 - Improve energy efficiency insulation; improved technology
 - Use less energy
 - Accept major change in lifestyle travel; food sources; packaging



We need to do better

Current policies

Fossil and non-fossil energy supply by WEO scenario, 2020-2050







Want to know more? EIC Training Courses Aberdeen

- Oil and gas Training
 - One-day overview 23 August 2023
 - Three-day Business Development 23-15 August 2023

• Energy Transition training

- One day overview 25 October 2023
- Three-day Business Development 25-27 October 2023

London

• Energy Transition training

- One day overview 20 September 2023
- Three-day Business Development 20-22 September 2023
- Oil and gas Training
 - One-day overview 11 October 2023
 - Three-day Business Development 11-13 October 2023







The Current Energy System is changing

Ian Phillips

Energy Transition Advisory Limited <u>Ian.Phillips@energytransitionadvisory.co.uk</u> <u>www.energytransitionadvisory.co.uk</u> Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses **Demystifying Energy Transition**

Session One – Where and how should you invest your time and money?







Opening Remarks David Wilson

Energy Director, ETZ Ltd.





Opportunities in the Energy Market Neil Golding Executive Director, EIC







THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY

#JoinUs



Energy Transition in Scotland – Opportunities for the supply chain

ETZ Demystifying Energy Transition – 28 June 2023 Neil Golding, Executive Director, Energy Industries Council

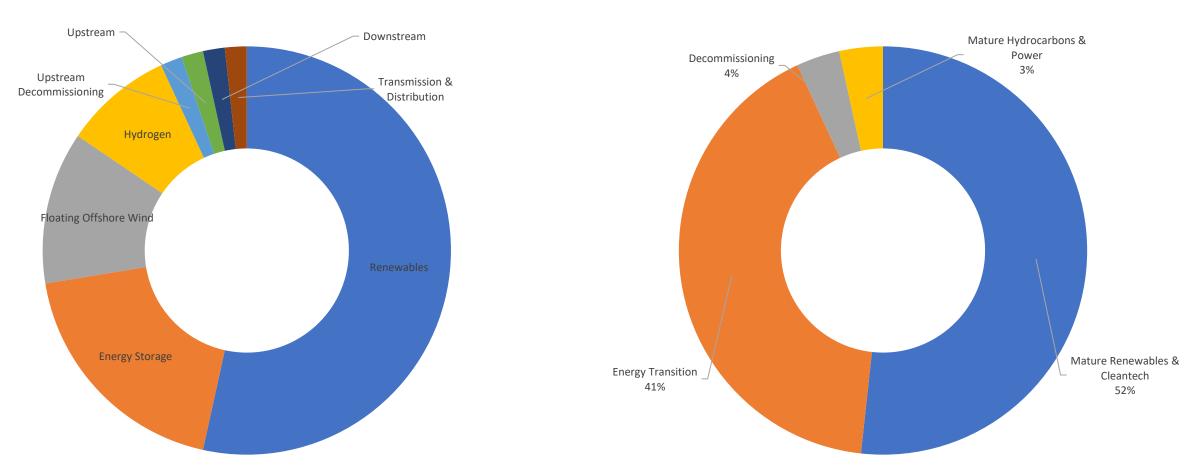
PROJECT ANNOUNCEMENTS SINCE JANUARY 2023 - SCOTLAND



THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY

Project announcements all sectors since January 2023

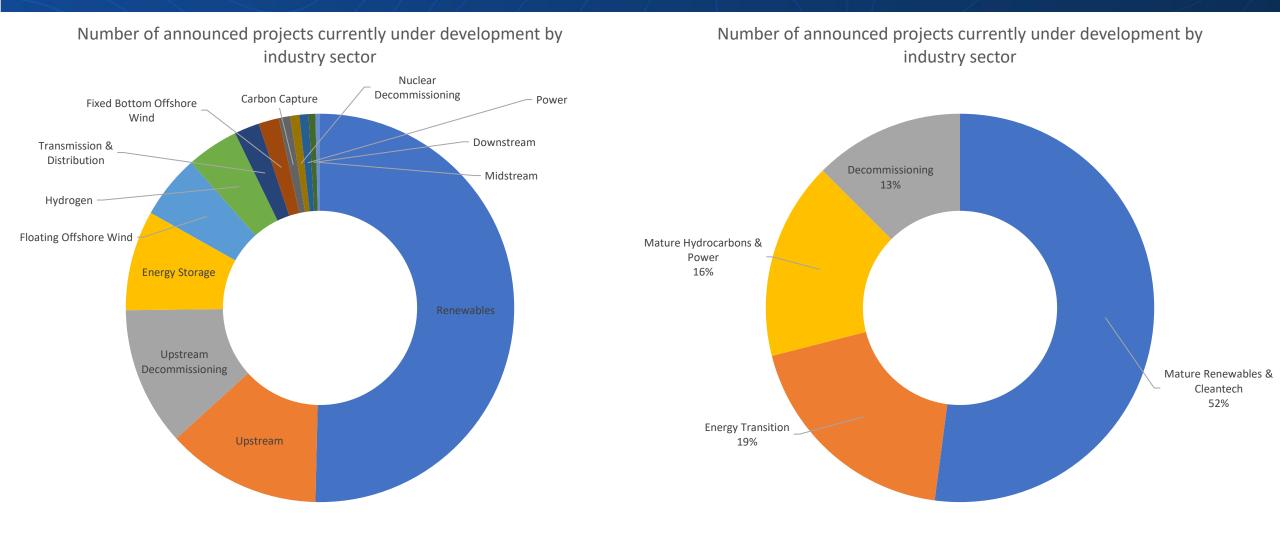




OVERALL NUMBER OF PROJECTS UNDER DEVELOPMENT - SCOTLAND



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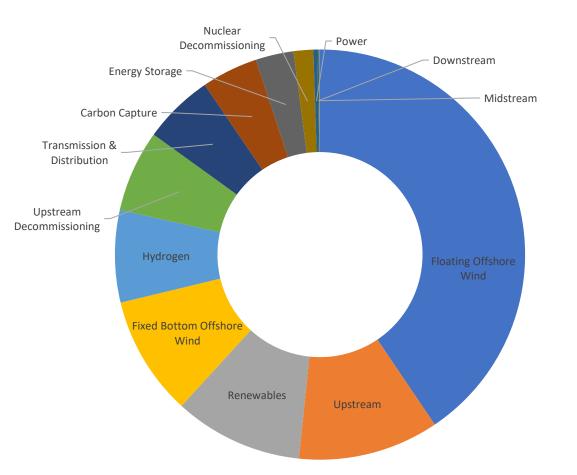
Source: EICDataStream (Note: data for upstream is inclusive of all UK projects)

ESTIMATED CAPEX OF PROJECTS UNDER DEVELOPMENT - SCOTLAND

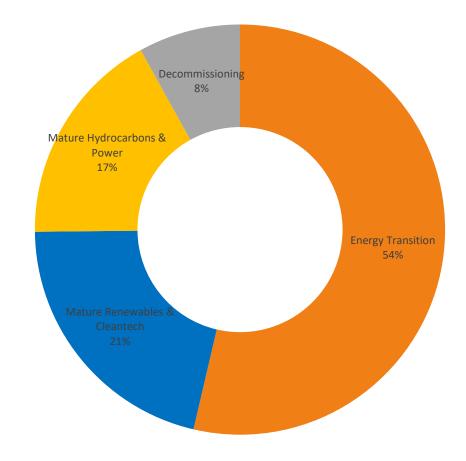


THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY

Estimated CAPEX and ABEX (\$million) on announced projects



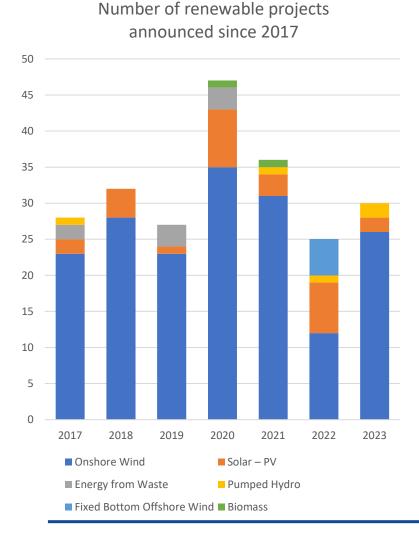
Estimated CAPEX and ABEX (\$million) on announced projects



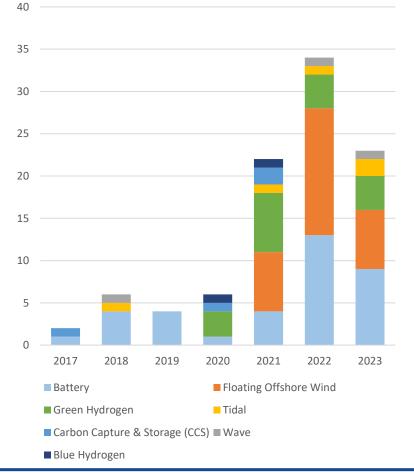
PROJECT ANNOUNCEMENTS SINCE 2017

BO VEARS

THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY

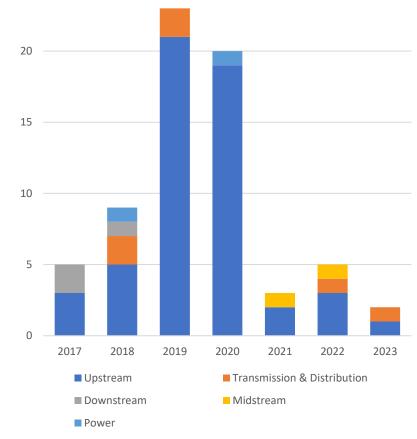


Number of Energy Transition projects announced since 2017



Number of Mature Hydrocarbon and Power projects to announced

25

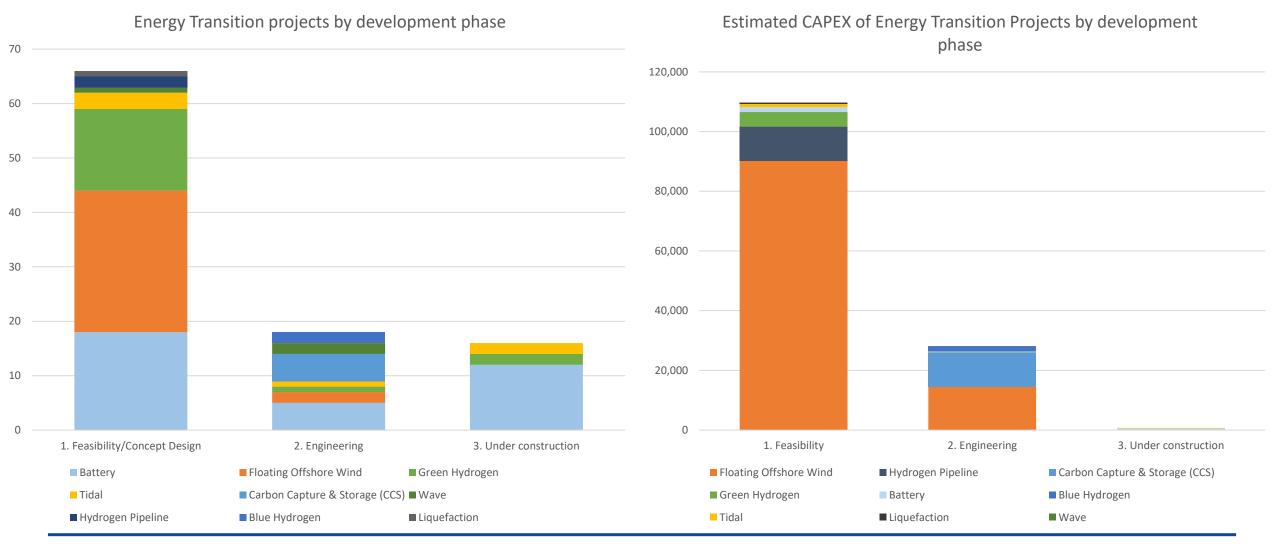


Source: EICDataStream (Note: data for upstream is inclusive of all UK projects)

ENERGY TRANSITION - FOCUS



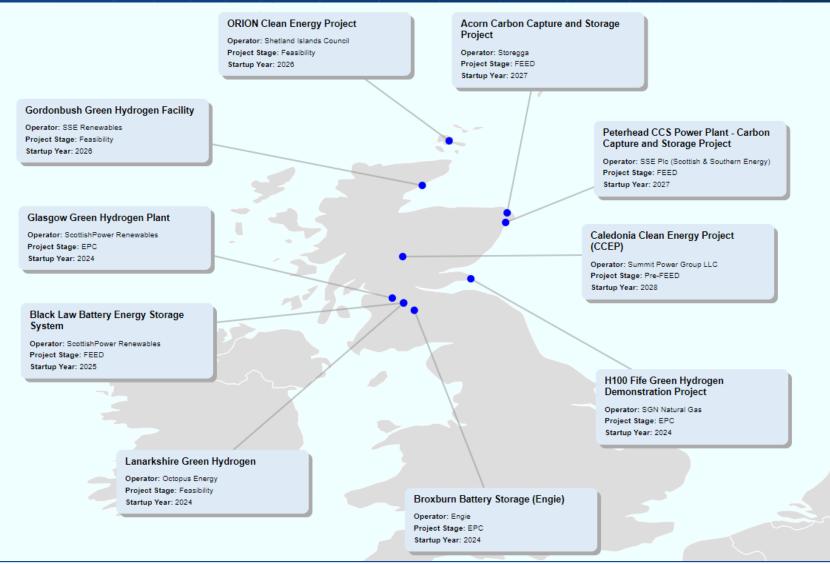
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ENERGY TRANSITION – PROJECT FOCUS



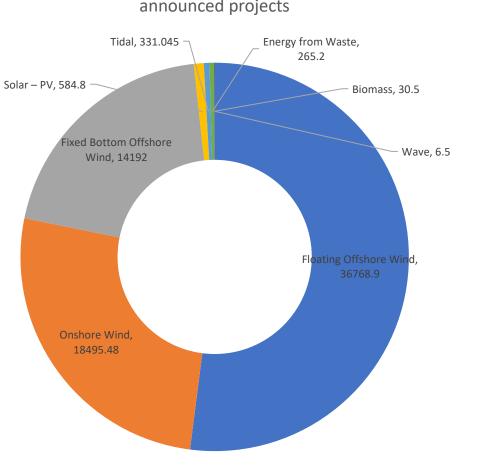
THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY



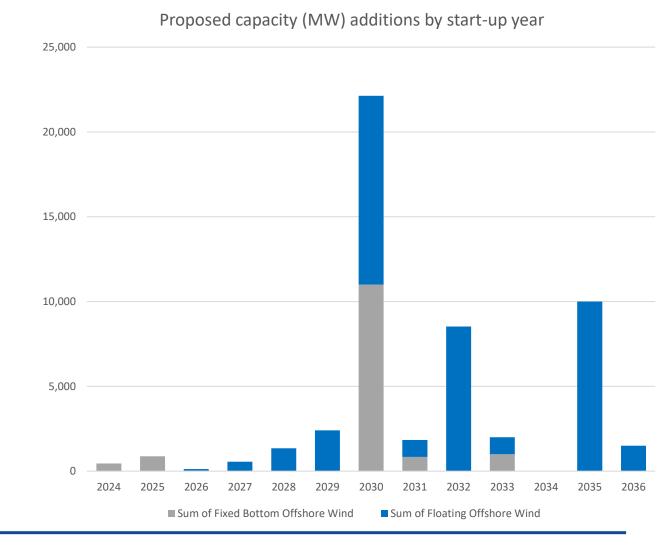
OFFSHORE WIND - FOCUS



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Proposed capacity (MW) additions by technology type on announced projects

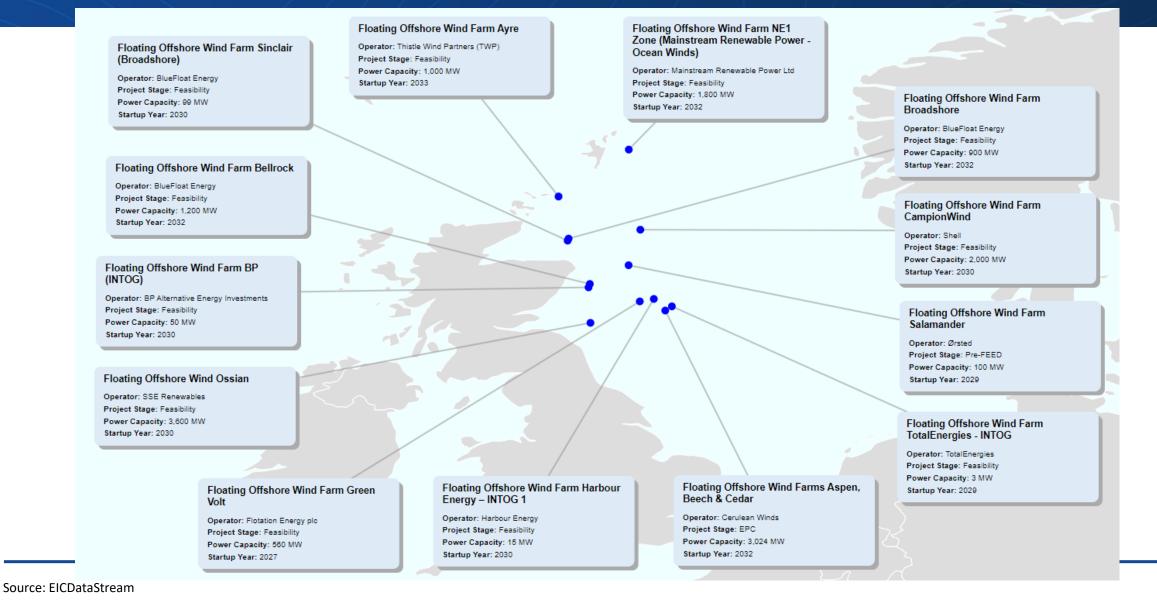


Source: EICDataStream

FLOATING OFFSHORE WIND – PROJECT FOCUS



THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY





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#JoinUs



UK supply chain – are we ready for the transition?





EICSupplyMap – UK Market Current State

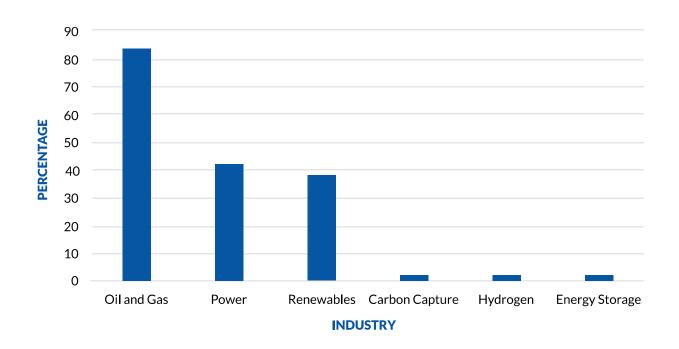
Source: EICDataStream

The UK Market Breakdown 2023

- Sector Overview: 3554 companies *
- 🚫 O&G: 2954
- 🤣 Power: 1500
- 🖶 Renewables: 1366
- 💮 Carbon Capture: 74
- Hydrogen: 67

Energy Storage: 59

PERCENTAGE OF COMPANIES WORKING IN MARKET



EICSUPPLYMAP - CARBON CAPTURE



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Equipment	UK capabilities
Air Coolers	
Absorbent Drain Vessels	
Absorbent Reclamation Units	
Absorbent Regeneration	
Units	
CO2 Absorption Units	
CO2 Metering Packages	
Deoxygenation Units	
Dehydration Units	
Flue Gas Blowers	
Flue Gas Quench Towers	
LP/HP CO2 Compressor	
Packages	
Solvent Storage Tanks	

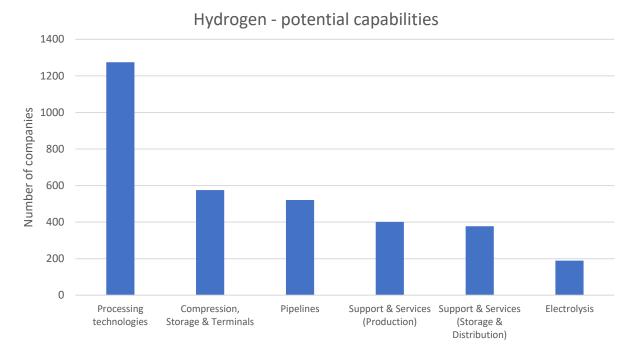
Full experience in the supply chain Experience but further investment needed Limited experience significant investment needed No experience identified

- Already showing that the O&G industry is pivoting into Carbon Capture with significant engineering capability.
- Some capability exist in delivering key equipment.....focus on developing some not all technologies needed.
- Huge opportunity for upstream O&G sector in the Storage element of CCS

EICSUPPLYMAP - HYDROGEN







- Focus to date has been on 'production' supply chain.
 - UK electrolyser capability/capacities could deliver UK H2 targets (Aurora/Siemens Energy)
 - Globally supply chain constraints expected to deliver the Green H2 project pipeline
 - Blue H2 production supply chain exists
- Storage / Transportation supply chain exists. Scale up needed?

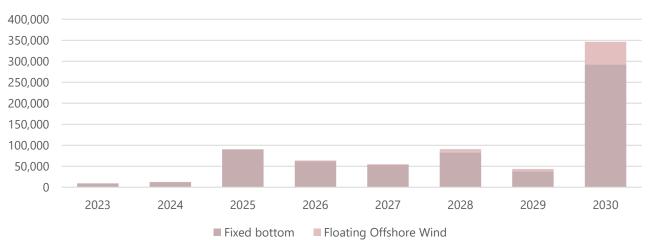
EICSUPPLYMAP - OFFSHORE WIND



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Offshore Wind Capacity (MW) global additions through to 2030



- Local supply chain development / UK doesn't have the capabilities to deliver an offshore wind farm
- Globally constrained market supply currently
 - Wind turbine manufacturing In 2021 global offshore WT manufacturing capacity was 26.56GW. Over 55% in China.
 - Cables
 - Foundations
 - Vessel installation
- Readying of port infrastructure.
- Floating offshore synergies with oil and gas



Summary remarks



Pipeline of opportunities becoming visible across the Energy Transition sectors, led by Floating Offshore Wind. Questionable pace, need to move faster.



While some supply chain companies are already working in the sectors, a large proportion of suppliers are yet to see tenders appear



Supply chain – capability is there to deliver much of the ambition but is the capacity? Focus on developing and scaling-up the existing strengths.



Going to be global competition for the supply chain to deliver the ET projects of the future.



Thank you!

neil.golding@the-eic.com Executive Director Energy Industries Council (EIC)



THE GO-TO ENERGY SUPPLY CHAIN TRADE ASSOCIATION, GLOBALLY



Shaping Tomorrow's Supply Chain Paul de Leeuw Director – Energy Transition, Robert Gordon University





Q&A Panel





David Wilson ETZ



Neil Golding EIC



Paul de Leeuw Robert Gordon University Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses **Demystifying Energy Transition**

Networking Break





Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses **Demystifying Energy Transition**

Session Two – Planning for the future





Opening Remarks Andy Rodden Energy Transition Programme Director, ETZ Ltd.







Future of the North East Russell Borthwick Chief Executive, AGCC







The future of the North-east

28th June 2023

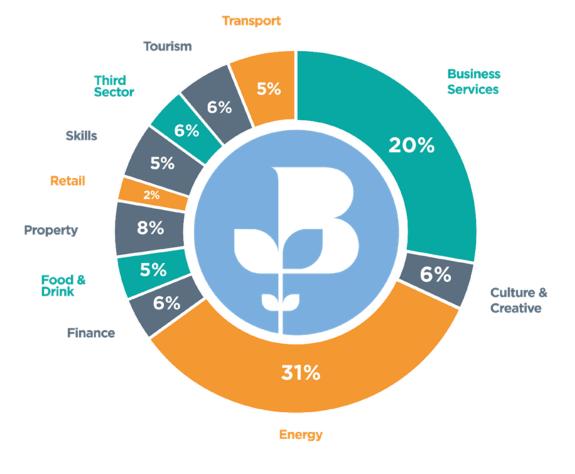






- We are a politically independent membership based <u>private sector</u> <u>business</u> <u>support and economic development</u> organisation at the heart of progressing the North-east economic growth agenda
- An SME operating on a not-for-profit basis to support business
- AGCC represents around 1,200 member organisations collectively employing 100,000+ people - that's circa half of the total workforce in a city region with a population of ½ million
- Covering all the key business sectors in the North-east
- From sole traders to multi-national corporations and from start-ups to long established companies
- One of the largest and **most influential** Chambers in the UK with a team of over 30 people supporting our members
- Accredited member of British Chambers of Commerce- regional focus with national and international scale

Membership by sector







What's our role?

- Providing a range of support to enable business success and growth today
- Helping create the economic conditions to ensure the future success of the region





The voice of business

- Ensuring the opinions of local business are heard and acted on by key decision makers in local government and from Holyrood to Westminster
- Regular briefings with politicians and senior civil servants | Election manifestos & reports Media campaigns & commentary
- Influencing and shaping the policy and economic conditions that will enable businesses in the region to succeed
- 'Wins' include no workplace parking levy, national insurance reduction, no increase in rates poundage, DRS delay and EPL changes
- Part of Regional Economic Strategy group, on Opportunity NE main board and work closely with Aberdeen Inspired, Visit Aberdeenshire and others to ensure alignment and action



2021 Scottish Election North-east business priorities Rebuilding our region



Europe's oil and gas capital...

The headwinds

EPL is strangling investment and costing jobs

Labour position on new licences is increasing uncertainty

Scottish Government has no legislative authority but the 'presumption against oil & gas' clearly dampening investor confidence

Skills shortages being exacerbated by retirement, staff leaving the sector and overseas job opportunities. An ageing workforce needs to be mitigated by improving the narrative and efforts to attract young people into the industry. Not doing so is a significant threat to the region/nation realising its ambition of becoming a global renewable energy hub

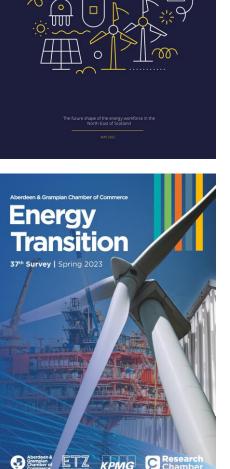
NE not being awarded Green Freeport status

Ongoing delays with UK Government green light for Acorn CCUS

Project cost inflation/ reducing attractiveness and ROI of North Sea activity

Renewables activity more location agnostic than oil & gas

Getting the policy and transition timing **wrong** will see a **reduction of 17,000** direct energy roles in the North-east alone by 2030



MAKING THE







Consider the impact of influencers on our kids Euan McColm - Page 27



'Anywhere but b***y Aberdeen'

• After green freeport blow, angry • Call to deliver carbon capture business leaders say 'punishment' boost as city and Peterhead lose of north-east must come to an end out to north and Central Belt bids

ADELE MERSON

north-east say the "punishment" expected to go to Forth Ports in given as a consolation prize. dished out by the UK and Scottish the Central Belt. governments must end, branding Mr Crighton said the the decision not to afford north-east was tired of Aberdeen and Peterhead green being "shafted" by freeport status the result of government, with the "damaging, job-destroying freeport blow coming ignorance".

on the heels of the Far from being "paved with windfall tax levied on gold", Aberdeen and Grampian the oil and gas sector Chamber of Commerce policy - which operators say director Ryan Crighton, pictured, will deter future

during a visit by Prime Minister carbon capture investment have inward investment - 'anywhere Rishi Sunak to the north later also been repeatedly dashed - but b***y Aberdeen?" BUSINESS leaders in the today, and the second award is though it appears that may yet be SNP Westminster leader

> missed opportunity for our energy lose out on green freeport status, transition, especially given Nicola it would have been a "bonus Sturgeon's stated ambition to rather than a necessity" and was turn Aberdeen into a green still well-placed to deliver the energy capital of the world. "And it begs the question:

just how much more can our MPs expressed their two governments punish the disappointment over the decision, north-east of Scotland?

"Excuse the Eurovision Scottish and UK governments

Stephen Flynn says that while Mr Crighton said: "This is a "disappointed" the north-east is to renewables transition.

Several other SNP MSPs and which was made jointly by the

City centre disturbance fears grow

ALASTAIR GOSSIP

Video footage showing a large group of youths staging fights in the newly reopened Union Terrace Gardens have raised fresh fears over antisocial behaviour.

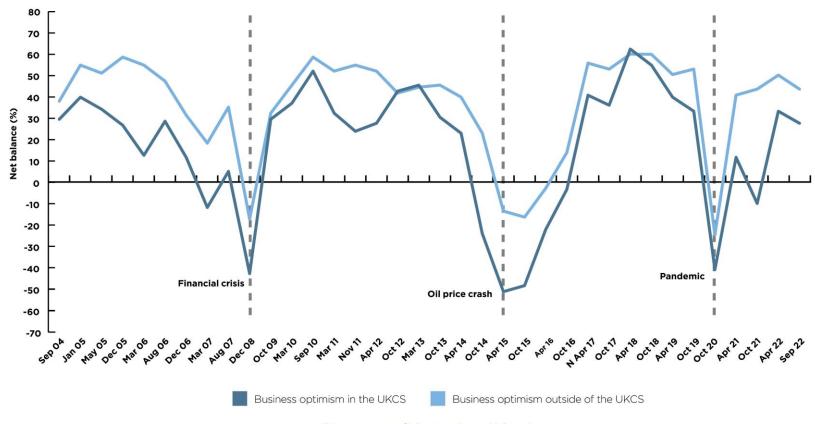
It has emerged police last year attempted to secure new banning orders to enable officers to disperse groups congregating on Union Street. CCTV systems have yet to be installed in the gardens. Full story: Page 6



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For 18 years a pretty dull data set

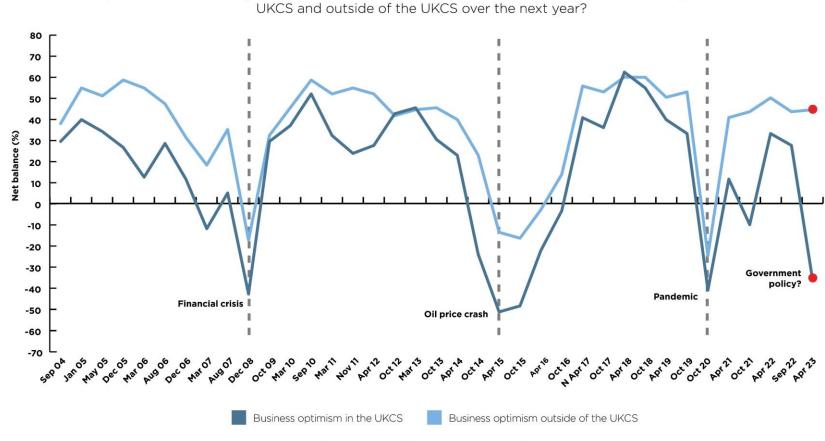
Q: Compared to 12 months ago, how confident are you about the business situation in the oil & gas sector in the UKCS and outside of the UKCS over the next year?



(% more confident minus % less)

Clear divergence in confidence levels UKCS v international operations.

Q: Compared to 12 months ago, how confident are you about the business situation in the oil & gas sector in the



(% more confident minus % less)

Aberdeen circa 2030?

COUNTER

BLOOM'S HARDWARE ETC

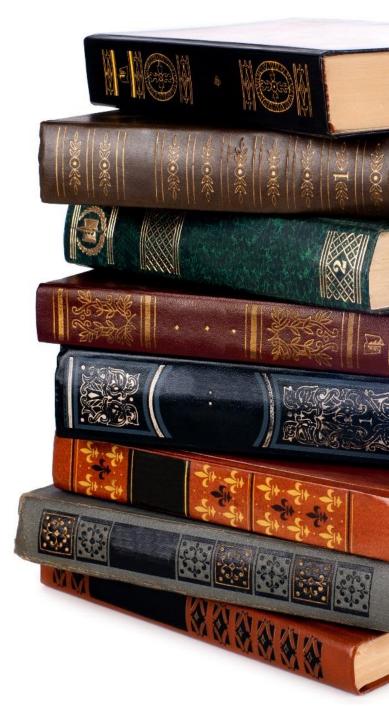


A quick history lesson

In that coffee table favourite, Society and Economy in Modern Britain 1700-1850, Richard Brown wrote:

> "Aberdeen had a number of striking characteristics one of which was its economic resilience based on the adaptability of business leaders who found new means of investment and employment when old ones faded".

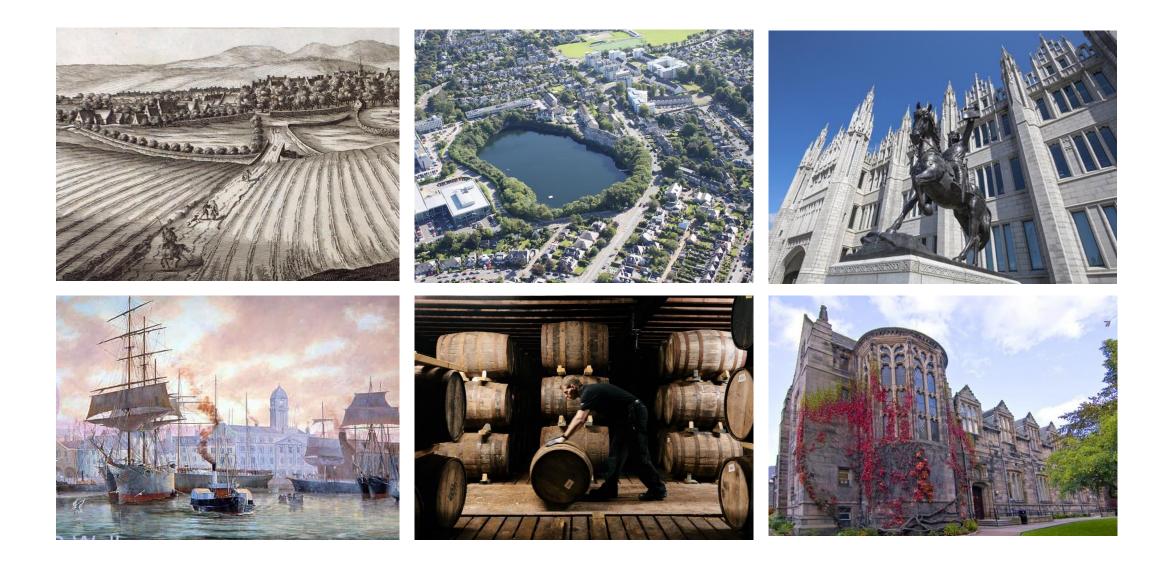
...and 170+ years on we continue to do so





So much more than just an energy city

through the centuries and today



A new dawn for Aberdeen?

Our resilience and diversified economy Regional partnership/RES City Region Deal & follow -up Just Transition Fund

Investment Zone?

World class cluster, supply chain and infrastructure

ETZ, NZTC, National Decommissioning Centre, National Subsea Centre, our universities

Inward investment and placemaking

RGU report tells us that direct energy jobs in region can increase from 45,000 to 54,000-if we achieve global energy hub status



Three in four businesses think the EPL has the most negative impact on energy sector/investor confidence. But some belief in the resilience of the region/sector to succeed.

Q: On scale of 1 to 10, where 1 is very negative and 10 is very positive, please rate the impact of the following on energy sector / investor confidence.

Energy profits levy	75	%		17%	8%
Delay with UK Government supportfor Acorn/Scottish CCUS cluster	68%	68%			6%
Scottish Government energy strategy	68%	22	?%	10%	
North-east not being awarded green freeport status	62%	30%		8%	
The resilience of businesses in the North- east to be successful in establishing the region asa global renewable energy hub	38%	27%		35%	
	% 1-4 %	5-6 % 7-10			



A unique private, public partnership

ONE

Renaissance Vision

Oil & Gas / Energy	Tourism	Food & Drink	Life Sciences	Digital Business
Maximising economic recovery	Exceptional customer experience	Leverage regional strength in agriculture and	Well connected sector community	Create the catalyst and facilities to establish a digital
"All-energy" approach	Great connectivity	fisheries	A career of choice	cluster
1		Generate critical	Articulate our	Link to other sector
Anchoring the	Famous for our	mass clusters for	strengths in	strengths
supply chain	unique offer	small producers	biologics and	
			research facilities	Build on our
Recognised as a	World class events	Create capacity to		reputation for
global hub of	and conferences	add value to raw	Partnership with	commercialisation
energy, innovation,	Devidence	produce	Universities	of ideas
technology &	Regular port of	Deflect changing	Tata bilahing	Attract and votain
project management	embarkation for European Cruises	Reflect changing lifestyle trends	Establishing production capacity	Attract and retain skills: talent pipeline

Cross-cutting themes and enablers:

Digital: World leading infrastructure | connectivity | technology | big data

Aspirational Culture: entrepreneurship | intrapreneurship | ambition | positive narrative

Funding: private sector | public sector | partnership | VC & angel finance

Once in a lifetime opportunity to be a world leader in energy transition

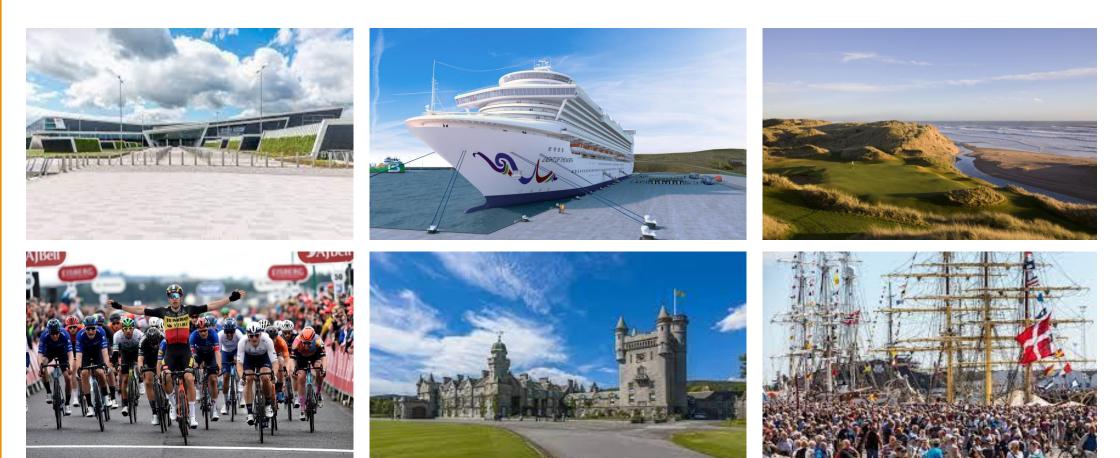
But only with sensible and supportive government policy

- Oil & Gas will continue to play a key role in our energy mix for decades
- Policy needs to support ensuring **security of supply** from domestic production to avoid importing with a much higher carbon footprint and economic cliff-edge
- This region has a unique energy eco-system of skills which can power the transition from fossil fuels to renewable energy sources
- RGU 'Making the Switch' report demonstrates the opportunity to retain and create tens of thousands of high value jobs if we
 get it right
- Getting the policy and timing wrong will see a reduction of 17,000 direct energy roles in the North -east alone by 2030 + many the loss of many more indirect jobs
- Scotwind and INTOG will release tens of billions of investment, much of it centred off the coast of this region
- Acorn CCUS and DAC projects vital to achieving carbon reduction targets
- Opportunities to build on Aberdeen's hydrogen leadership
- Plans for Scotland's largest ever solar farm in Aberdeenshire and the region is rich in the raw materials needed for EV batteries
- The £500m NE Just Transition Fund can help unlock the necessary investment, encourage diversification, protect and create jobs
- And much more



New strategy to be a leading tourism destination





The importance of place and placemaking

- Placemaking is a multi-pronged approach to the planning, urban design and management of public spaces. It maximises a local community's assets, inspiration, and potential, with the intention of creating public spaces that promote people's health, happiness, and wellbeing. In essence, transforming places to live
- To enable our economic vision to be realised, we need people and organisations to bring investment, innovation, skills and jobs here. And to retain those we already have. We are operating in a highly competitive international space, and if we don't provide a place that they want to call home, we'll fail
- Successful city regions have been responding to this with strategies to create exciting, cool, attractive multifunctional places that people choose to live, work and spend their leisure time and the Chamber is at the heart of this here





Aberdeen City Region

Investment Tracker A place leading the transition

Issue 6 - May 2023







Completed projects

Total value of projects completed since the last Investment Tracker is £3.3billion

This brings the total since 2017 to Dilione

City Region Deal - Transport, innovation and infrastructure

SeedPo

The Aberdeen City Region Deal was signed in 2016 with £250million of unding provided evenly by the UK and Scottish Governments.

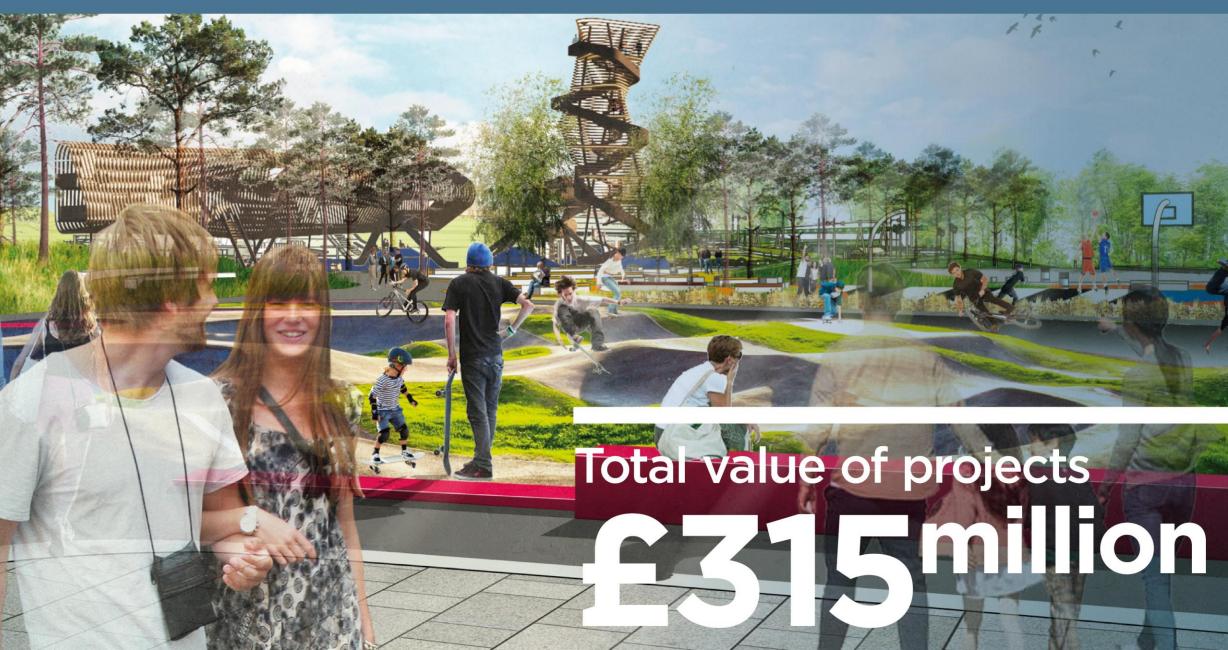
Further funds have been committed by local authorities, universities, private sector and other investors bringing the total deal envelope to over £1billion. At the time of publication, around two thirds of this amount has been spent.

In addition, there was further MOU funding of £254million committed by the Scottish Government with the main focus on key strategic transport priorities.

The projects highlighted on pages 16 and 17 make up £780million of the overall package. Some other projects, such as the ONE BioHub, have now been completed or are referenced elsewhere in the tracker.

Total value of highlighted projects

Investment in our city centre and towns



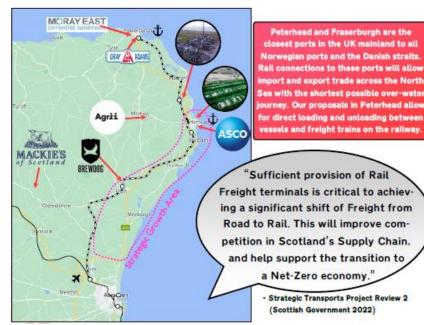
Transport and infrastructure



Training our focus on connecting the region



3.1 The Buchan Coast produces a diverse range of produce including beer, fish, ice cream, grain, and oil and gas materials. Most of these products are perfect candidates for rail freight, they're bulky, are transported regularly, and over iong distances. CNER propose freight terminals in Ellon, Peterhead, Fraserburgh and 51 Fergus. Pictured below is a selection of businesses we believe could benefit directly from the introduction of rail freight to the area.



https://www.youtube.com/watch?v=L_vv47CK0S4

Connecting Buchan to the Rail Network



Supporting the Just Transition - Connecting Our Communities - Boosting Local Business - Decarbonising Transport

Commercial and residential

Total-value of projects 511100

Health and education



Sport, leisure and culture



Energy and environment

ScotWind awarded sites



ScotWind

The initial and subsequent Scotwind licencing rounds saw 20 projects given the go-ahead, a mix of fixed and floating fields with a total generating capacity of 27.6GW - representing a substantial proportion of the 100GW of offshore wind energy that the Climate Change Committee states in needed by 2050 to deliver our net zero ambitions.

Three-quarters of the fields are within 100 miles of Aberdeen and number of the licence holders have committed to locating significant offshore wind operations centres in the region, demonstrating the potential of North-east Scotland to become a global player in these emerging technologies.

It is estimated that development costs will be between £1billion-£4billion per gigawatt depending on a number of factors including whether the turbines are fixed or floating. Local content commitments suggest that the Scottish supply chain (much of it centred around Aberdeen) will see an average spend of at least £1.4billion per project.

£755^{million} (option fees only)

INTOG

The Innovation and Targeted Oil & Gas (INTOG) leasing round for offshore wind projects that will support green innovation and help decarbonise the North Sea by directly reducing emissions from oil & gas production has recently concluded with thirteen exclusivity agreements awarded by Crown Estate Scotland.

One of the successful applicants, Cerulean Winds and partner Frontier Power International are to develop three sites in the central North Sea featuring hundreds of floating wind turbines with their delivery consortium of partners including NOV, Siemens Gamesa, Siemens Energy, DEME and Worley. They will invest £20bn creating an offshore integrated green power and transmission system that oil and gas platforms will plug into for clean power.

This demonstrates the huge potential for companies in the energy supply chain, including subsea engineering firms, operating in the North-east of Scotland resulting from INTOG.

£262^{million+} (applicant fees only)

Energy and environment

Energy Incubator and Scale Up Hub (EISH)

Energy Transition Zone

Adjacent to Aberdeen South Harbour, ETZ will become a focal point and catalyst for high-value manufacturing, research, development, testing and deployment; with significant opportunities in offshore wind, hydrogen, carbon capture and storage. It will develop a sustainable long-term international industry base that delivers sustainable jobs and growth for the region. ETZ, anchored by transformational projects such as the Advanced Manufacturing Skills Hub (AMSH), Energy Incubator and Scale Up Hub (EISH), National Floating Wind Innovation Centre (FLOWIC) and Green Hydrogen Test & Demonstration Facility (GHTDF), will generate up to £130million of investment over the next decade.

£130^{million}

Advanced Manufacturing Skills Hub

The AMSH is supported by the Scottish Government's Just Transition Fund, to provide new flexible teaching spaces, a Technologies Demonstration & Teaching Facility, and a Welding & Fabrication Academy, which will be operated in collaboration with North East Scotland College. The facility will also include a net zero community hub, providing space for training and activities.

Energy Incubator and Scale up Hub

EISH, founded in partnership with BP and Scottish Enterprise will provide around 3,000m² of flexible industrial and collaboration space and will foster manufacturing, supply chain company building, technology research and development and commercialisation.

National Floating Wind Innovation centre

FLOWIC, developed in partnership with ORE Catapult, will provide test and demonstration infrastructure to deliver the accelerated commercialisation of floating wind and support the incubation of new products, services and businesses within the sector.

Energy and environment

Total value of projects E745billion





City Masterplan- great work in progress



But we need to do more to re-imagine our city centre



https://www.ourunionstreet.com/



Together, we can make change happen

How are we going to do it?

We want to build a community which can deliver a thousand small steps for the city centre that, collectively, can make a big difference for Aberdeen City Centre.



We want to build a community that is passionate about Union Street.





We want to listen to everyone's ideas for the future of our city.

Share ideas



We want to mobilise a volunteer force that will make a difference.

Volunteer



What's happening?



- Strategy to make Aberdeen the blueprint for successful smallmedium size city centres in the 21st century
- Creation of a vehicle to deliver the programme- chaired and run pro-bono by Bob Keiller and his AB15 team
- Located at the Pavilion at the corner of Union Street and Union Terrace
- Key partners and funders shaping the plan include AGCC, Opportunity North East, Aberdeen City Council, Aberdeen Inspired, Shell and TotalEnergies
- Significant financial commitments already secured
- We have 1,000+ volunteers ready to do their bit and over 10,000 ideas submitted...now focused on 17 themes
- Projects to repopulate the city centre under the headings: LIVE | WORK | PLAY
- Activity could include: Making inward investment propositions to independent retailers and hospitality businesses operating successfully in peer cities, campaign to attract businesses to relocate their offices in the city centre, discussions with student accommodation providers, creation of visitor attractions etc
- The Chamber's UMF events will bring 3,000+ people into the city







P

A strong, shared place narrative

- Our story, told by the people and organisations of the region
- Civic pride and citizen-focused engagement- if we don't talk it up, no one else will
- Research carried out into perceptions and intentions
- National media PR campaign "a city region with energy" (not just an energy city)
- Media activity
- Shared resources hub at <u>www.abzolutely.com</u>





ABERDEEN? ABZOLUTELY.



What's in the Abzolutely resources hub?

This is the Aberdeen city region.

The north-east has a new story to tell. From music hall to harbour, brew house to art house, science lab to shoreline; there is a huge amount happening. Our area, with a proud and global history, has an astounding future. We remain, of course, the oil and gas capital of Europe. However, as 2019 unfolds, Aberdeen and the wider region around it is celebrating a series of events, investments and new openings that show how broad, modern and vibrant our area is, including in the field of energy where we continue to be a world leader.

What's in the pipeline? Everything from the re-opening of our magnificent art gallery to new investments in areas of industry like food, drink, digital and life sciences. Our new events complex, P&J Live, opens its doors later this year. Major developments are breaking ground at the harbour and the airport. And once again Nuart brought the very best in contemporary street art to Aberdeen. Our story is focused on knowledge and innovation, and on the waves of opportunity that break out from our two award-winning universities. Scotland is famous for its passion for learning but here in the Granite City we think we are a place where ideas become action.

Bright minds and people with energy? Here our region also wins through. The area is a magnet for talented and dynamic folk from far and wide. Who can blame them? We've got good schools, a bustling city centre, a beautiful coastline and countryside on the doorstep; there are big skies and fresh, clean air. It's a great place to call home and a tough place to leave once you've arrived. Together, we are taking a new and positive look at the north-east, its future and how people and organisations from all walks of life and all sectors are working together as never before to make sure the great city region that we love gets even better and stronger in the future.

Are you proud of what's happening across Aberdeen and Aberdeenshire? Of course. Do you want to shout about it? Naturally. Will some amazing facts about our region help you be part of sharing the story?

Abzolutely.





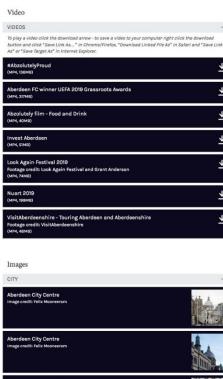


Words, facts, case studies, images, video, infographics- all free to use

Toolkit resources

Abzolutely has been developed to ensure all of the materials produced under its banner retain a consistent look, and the way we talk about Aberdeen across all campaign touch points has a shared tone of voice.

To access the material simply right click the relevant sections here and you'll be able to download resources ranging from the story itself with key facts and case studies, supporting publications, gorgeous photographs and videos, presentation templates and even 'Abzolutely' branded artwork.



Aberdeen Music Hall Imago crodit: Felix Mooneeram

Aberdeen Music Hall Image credit: Felix Mooneeram





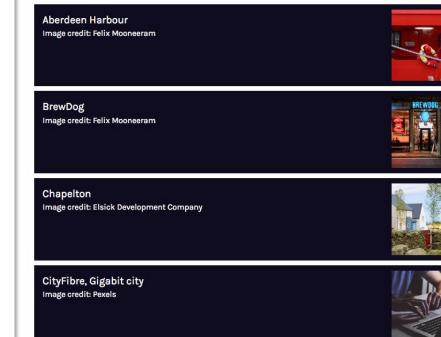
Spread the word Share the facts, tell your stories and spread the word about Mardeen city region on your social channels. Remember to use the healtagil relation to the conversation. The project has been supported by the specialist agency Creative Concern, working with Absreden-based writers, photographers and other creative agencies in partnership. Follow us **y** @Absroit.ety/MBZ 6f Absroit.ety/MBZ 6g (mAbsroit.ety/MBZ) 6g (mAbsroit.ety/MBZ) 6g (mAbsroit.ety/MBZ)

info@abzolutely.com

Find out more Economic development Opportunity North East → Inward investment Invest Aberdeen → City Centre Aberdeen City Centre Masterpian → Business and leisure tourism VisitAberdeenshire → Study in the legion Robert Gordon University → University of Aberdeen →









CASE STUDIES



Keep your finger on the pulse

The Chamber is on top of everything that matters to the region and its business community

- Morning Bulletin distributed to the mailboxes of 17,000 business people daily
- Business Bulletin- the best-read high quality monthly regional business magazine
- Annual web pages views of 1million+ and growing
- 21,000+ social followers







The end... or a new beginning?

Working together we can and will create a place that we are proud of for future generations.



Supply Chain Principles Graeme Rafferty Supply Chain Manager, OEUK







Supply Chain Principles

OEUK Supply Chain Principles

Made by industry for industry - Setting good procurement practice



Risks and costs should be borne appropriately, proportional to the work scope and the opportunity for good performance should benefit everyone.



Contractual terms and conditions will seek to utilise industry standards including mutual payment terms. Buyers shall strive towards supporting the Government Prompt Payment Code and 30-day payment terms.



All parties should ensure they have the competence and skills to deliver the work being tendered.



Contract cancellations should not be without good reason or cause. If buyers and suppliers must have the ability to terminate a contract, the circumstance or risk should be outlined, explained and understood.



Purchasers shall endeavour to optimise their tendering and audit requirements to respect the supplier's time and resources.



Tender processes and evaluation should be based on valueadded rather than unit rates and be flexible to evaluate alternative offers as part of the bidding process.



An alternate bid (either technical or commercial) which a buyer sees as a winning proposition should be selected for award on its merit.



Buyers and suppliers should discourage the practice of "low-ball" bidding which will lead to contracts being renegotiated early on.



Buyers should agree clear rate escalation mechanisms and move away from the practice of fixing labour rates for several years.



Where a supplier (or potential supplier) feels unfairly treated, it should notify the buyer's CEO to ensure that speaking up is not held against it.



2023 Working as One Survey

Promoting good procurement practice

What Is It?

Measures adherence to the Supply Chain Principles, providing a unique insight into collaborative contracting relationships

Opportunity for purchasing organisations to gain valuable feedback from their supply chain

Supports continuous improvement

How Do I Participate?

If you are a purchasing organisation and/or supplier, follow the link or scan the QR code:

bit.ly/WorkingAsOne2023Interest



The survey will open soon.



Live from July - September!

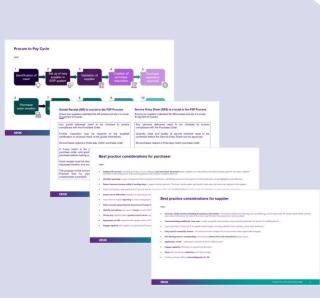


What Will We Do With The Results?

Promoting good procurement practice



Provide individual feedback and work with purchasing organisations to drive improvements



Inform areas of focus and establish working groups to develop good practice Inform Supply Chain Report and the asks of government and key stakeholders





Supply Chain Principles Awards

Promoting good procurement practice



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Based on the results of the Working as One survey, the awards celebrate companies who are committed to good procurement practice and who show positive collaborative behaviour.

20 Companies Awarded: 5 Gold 7 Silver 8 Bronze





Intellectual Property essentials for the Energy Transition Jill MacCormack Patent Attorney, HGF Ltd.







Intellectual Property Essentials for the Energy Transition

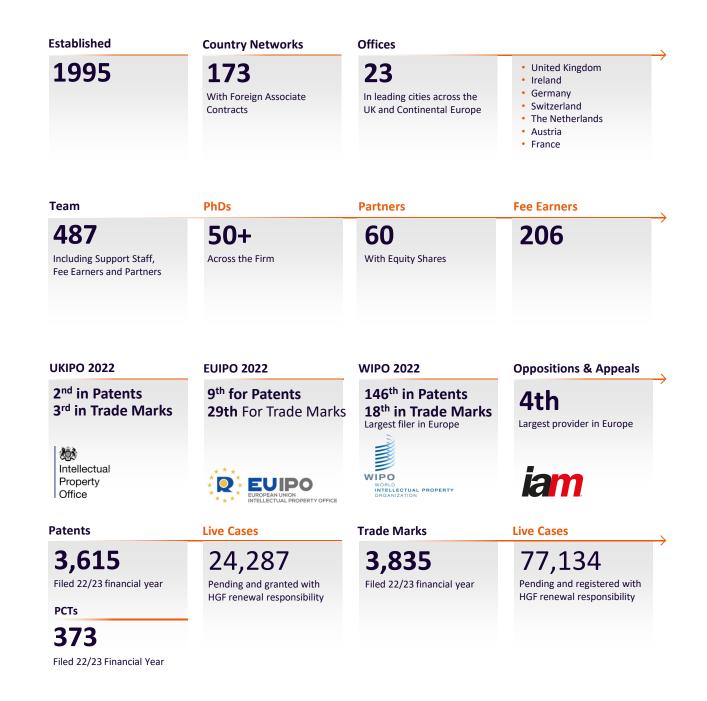
Jill MacCormack Patent Attorney jmaccormack@hgf.com

HGF Ltd



HGF by numbers

HGF is one of the largest intellectual property firms, bringing together patent attorneys, trade mark attorneys, IP solicitors and attorneys-at-law across 23 offices in seven European countries to provide a dynamic and complete IP solution.



Engineering team

The HGF engineering team is a powerhouse of experience and expertise across the sector.

With over 35 professionals across Europe, and hubs in both the UK and Europe, HGF works with a domestic and global client base from a diverse range of high-growth industries.



IP and the Energy Transition

- Profound shift in the industry from O&G to greener energy
- Significant investment required
- Presents challenges but also opportunities
- Having a robust IP strategy can help navigate challenges the energy transition presents

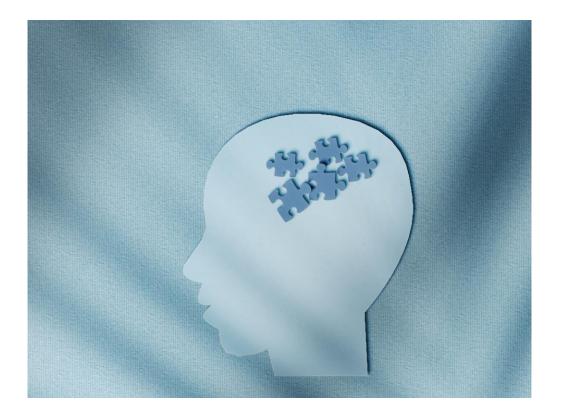




Your IP strategy

Protect your invention

- ➤Stop infringers
- Establish your position in the supply chain
- Know what your competitors are doing
 What if you had to stop making your product tomorrow?
- ➢IP auditing
- Maximise your return on investment (ROI)





Maximise ROI – Negotiation Leveraging

- IP rights provide leverage during supply negotiations
- Owning the IP rights means you can exclude competitors from tendering processes
- Competitors may have to resort to less desirable products
- Establish yourself as the "go-to" in the market





Maximise ROI – Raising Capital

➢R&D is expensive!

- Capital is key for continuing development and maintaining cash flow
- Robust IP portfolio and strategy can make you attractive to investors



hgf.com

Maximise ROI - Licensing

- Can generate additional revenue streams
- Can licence new technology specifically developed for the energy transition
- Could licence patented technology already used in Oil and Gas
- Collaboration with established O&G companies

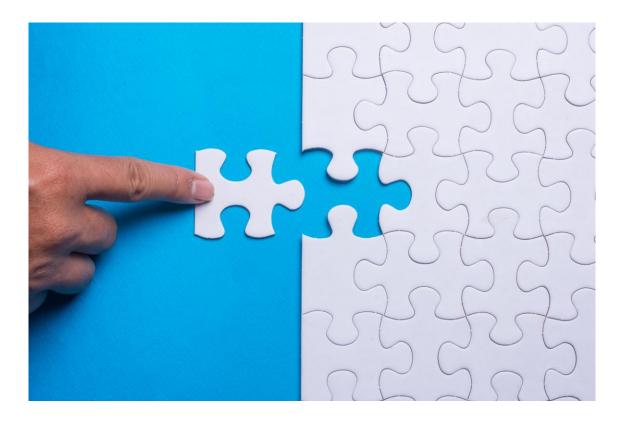




Take aways

Position yourself in the market as the "go-to"

- Protect yourself from infringers
- Protect yourself from alleged infringement
- Help secure investment
- Generate additional revenue streams



hgf.com



Any questions?









Andy Rodden ETZ



Russell Borthwick AGCC





Graeme Rafferty OEUK

Jill MacCormack HGF Ltd.

Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses **Demystifying Energy Transition**

Lunch & Networking Break





Energy Transition Zone Ltd. (ETZ) 2023/24 Energy Supply Chain Masterclasses **Demystifying Energy Transition**

Session Three – Unlocking the Potential





Opening Remarks Andy Rodden Energy Transition Programme Director, ETZ Ltd.







Unlocking your commercial potential as part of your energy transition journey Steve Johnson Director, Paratus Commercial Services

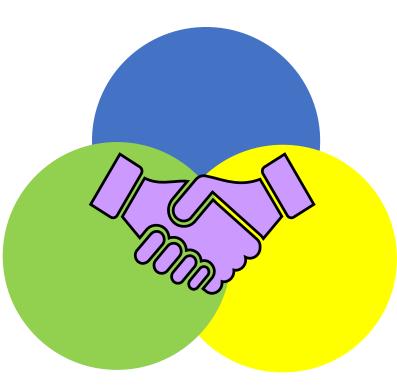




Unlocking Your Commercial Potential As Part Of Your Energy Transition Journey

Energy Transition Zone (ETZ) Demystifying Energy Transition Masterclass 28.06.2023

Paratus (Latin) Ready / Prepared



Steve Johnson steve@paratuscommercial.com

Paratus Commercial Services Ltd

Consultancy - Training - Support

www.paratuscommercial.com Email: enquiries@paratuscommercial.com

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Extracts from our one-day workshop

Unlocking Your Commercial & Contractual Potential

Sharing the tricks, tips, pitfalls and slips to help navigate the road to commercial success

Who is the workshop designed for?

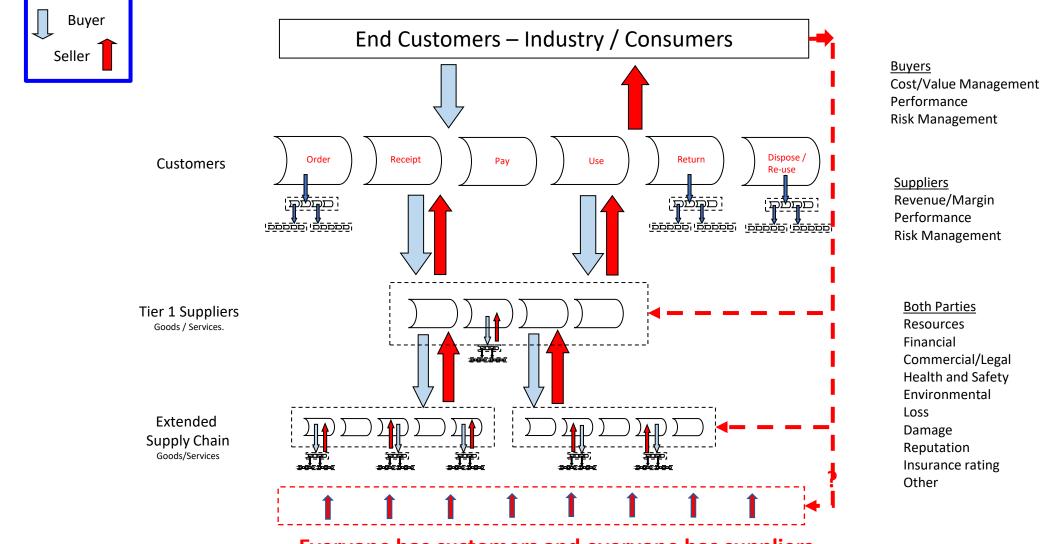
Individuals looking to develop their commercial and contractual knowledge at an operational level

Early stage or developing businesses looking to unlock their commercial and contractual potential utilising our proven tools and techniques to deliver value to their customers and grow their business.

People in larger organisations who have influencing or decision-making responsibilities where they might sometimes find themselves having to make well intended decisions in an operational environment which can result in commercial or legal consequences for the organisation.



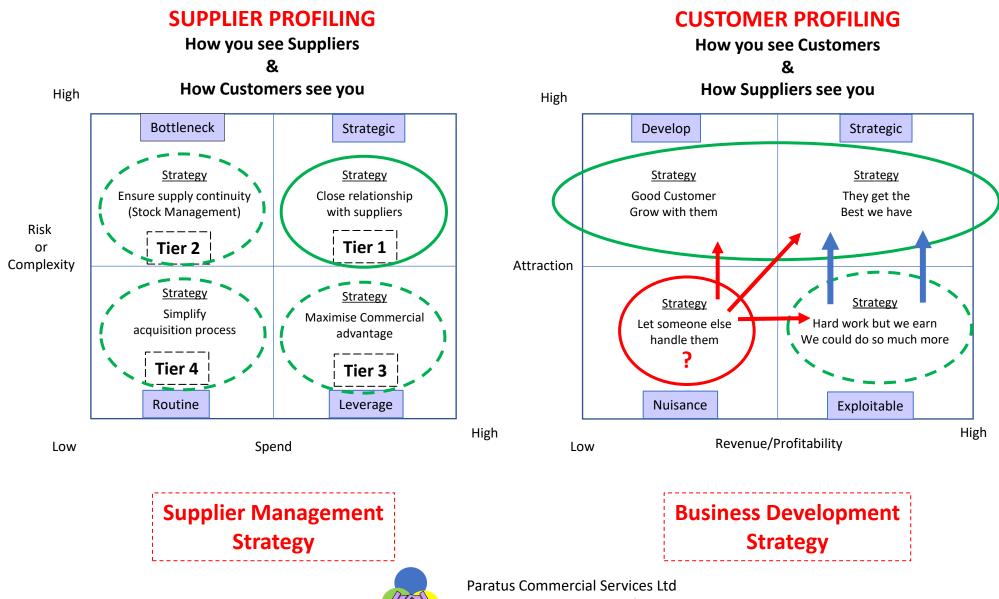
Extended Supply Chains



Everyone has customers and everyone has suppliers



Customer and Supplier Profiling – A key procurement and sales strategy

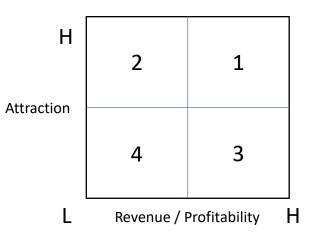


www.paratuscommercial.com

BD Market Presence – Which customers do YOU want to do business with?

. .		P MARKET SECTOR PRESENCE PR			
Sector	PRODUCT/SERVICE	PRODUCT/SERVICE	PRODUCT/SERVICE	PRODUCT/SERVI	
Main Sector Heading					
Subsector	2	2	1	4	
Subsector	3	3	4	2	
Subsector	3	3	2	4	
Subsector	2	4	4	2	
		Main Sector Heading	Ι		
Subsector	2	3	2	1	
Subsector	2	2	4	3	
Subsector	3	3	3	3	
Subsector	4	4	4	2	
		Main Sector Heading	5		
Subsector	2	2	2	2	
Subsector	2	1	4	3	
Subsector	2	3	2	2	
Subsector	2	3	3	4	
		Main Sector Heading	5		
Subsector	3	3	2	1	
Subsector	4	3	4	1	
Subsector	3	2	3	1	
		Main Sector Heading	5		
Subsector	4	4	4	2	
Subsector	3	4	4	2	
Subsector	3	4	4	4	

Customer / Market Profile



Current Presence

No/Very Low Presence
Emerging Presence
Established Presence

Hunting or Farming?



Value Creation – A joint approach

Supplier input to Value Creation

- Risk
 - Reduce
 - Manage
- Production
 - Increase output
 - Improve quality
- Will vary across sectors
- CapexOpexAbex
- G&A
- People

Cost

- Planet Triple Bottom Line
- Profit
- ESG Profile
 - Environment/Emissions
 - Social
 - Governance

Should be clear in bids



Customer input to Value Creation

Insight into what 'Value' looks like 'The Spice Girls Principle'

- Detailed Specification V Functional Specification
 - " quote to supply this" versus "quote to supply this outcome..."
- Challenges and needs
 - Share concerns NDA if required
 - Use historical data/examples
 - Examples from similar scopes
 - Resources, legislation, cultural
- Opportunity to offer alternatives
 - Materials
 - Innovative technologies / methods
 - Commercial models Risk / Reward
 - Whole life modelling
 - Short term and long term plans
- Clear, weighted award criteria
 - Cost / Value / Price (3 very different things)
 - Risk
 - Speed
 - Other

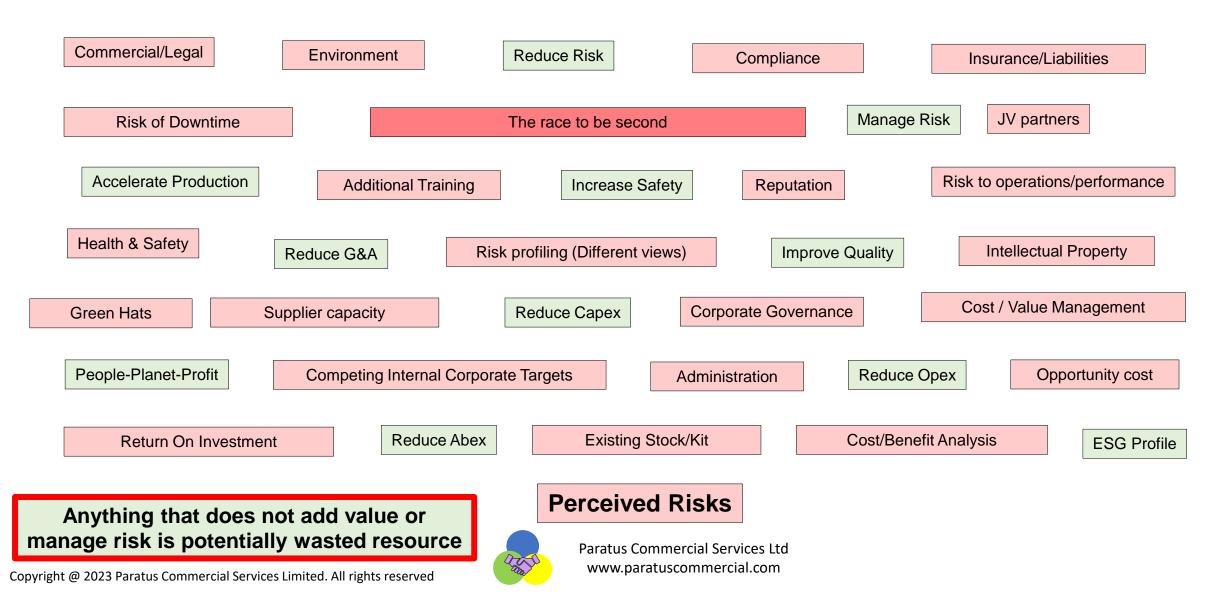


Paratus Commercial Services Ltd www.paratuscommercial.com Should be clear in ITTs/RFQs

____ 'Enabling' Contracts that allow Value 'in'

Reasons to say no – Be ready for them

Added Value - Perform Safe Operations - Improve Production - Reduce Costs – ESG – Triple Bottom Line



Key Points

- There is rarely a 'one size fits all' solution to different or multi-disciplinary scopes
- You don't need to know all the answers, but it's good to know the key questions
- Every business has customers and suppliers
- Different businesses can have similar business drivers
- Similar businesses can have different business drivers
- Understand where you fit within the supply and demand chains you operate in
- Walking away from a toxic contract is ok How and why you do it is key



Thank You



Steve Johnson steve@paratuscommercial.com +44 (0) 1224 900400

Extracts from our one-day workshop

Unlocking Your Commercial & Contractual Potential

Sharing the tricks, tips, pitfalls and slips to help navigate the road to commercial success

Energy Transition Zone (ETZ) Demystifying Energy Transition Masterclass 28.06.2023





Upskilling Today for Tomorrow's Future Gerardo Arteaga VP Origination and Project Delivery, X Academy







Upskilling Today for Tomorrow's Future

ETZ Masterclass, 28th June 2023

gerardo.arteaga@xodus.academy

WWW.XODUS.ACADEMY

Ecosystem Model

X-Academy sits at the heart of an ecosystem – driving and fulfilling the industry mandate for transition skills and jobs, whilst enabling the success of both individuals and organisations

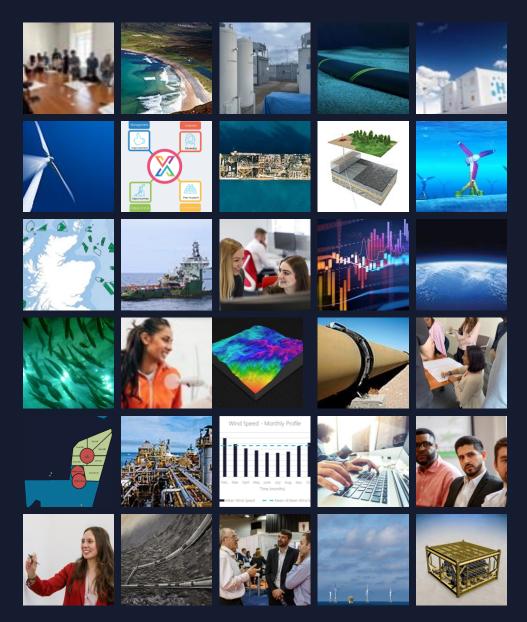


X-Academy wants to address three energy sector needs

- I. Create opportunities for individuals to get on the pathway sooner
- 2. Create capacity in the right place and at the right time, at scale
- 3. Harness resources and activities of the existing ecosystem

Pathway Model #1: Professionals, Jobs, Projects

- Secure funding
- Create jobs
- Fill them
 - with those graduating from first degrees or Masters or those seeking to reskill;
- Develop people ("Xccelerators") on the job and through real life projects for a maximum of 23 months
- Transfer into permanent positions within the energy industry



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Relevant examples

Type of company	Type of engagement	Benefits
Technology Facilitation	Multiple Secondments	Timely support for each Technology Programme
		Feedback on role
Energy generation / Services	Research or standalone project	Market framing, new country entry review
Supply Chain Specialist / Industry Body	Part time Secondment	Timely research and delivery of work
Marine Energy Body	Long term project	Human resources to progress opportunity and conduct pre-feasibility study
Cluster / industry initiative	Ad hoc support	Communications, Member Management, Member Recruitment, Business Planning

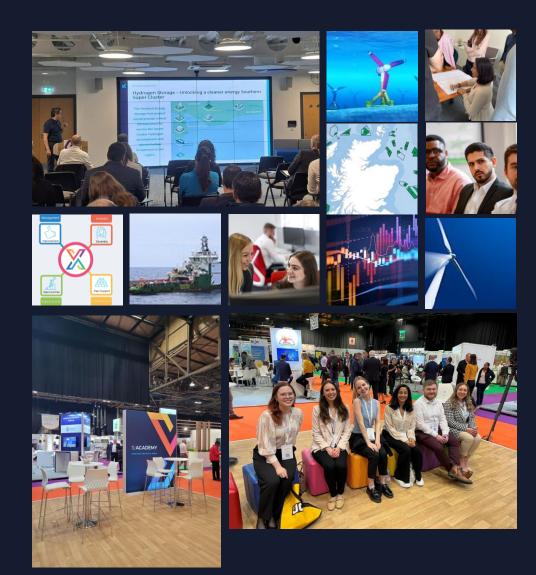


ScotWind JV

- 5-year partnership contributing to skills development.
- Potential access to Xccelerators for full time roles after the programme.
- Xccelerators add value to external partners via:
 - Resolve short-term resource gaps in the targeted delivery team
 - Supporting delivery on supply chain commitments to government
 - Supporting engagement within local communities
 - Execute mentored projects, focussed on targeted offshore wind development

Pathway Model #X: Individuals/Organisations, Experience, Jobs

- Being asked to develop alternative models
- Knocking heads together
- Piloting



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gerardo.arteaga@xodus.academy

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X







Andy Rodden ETZ



Steve Johnson Paratus Commercial Services



Gerardo Arteaga X Academy

Closing Remarks





Thank you



