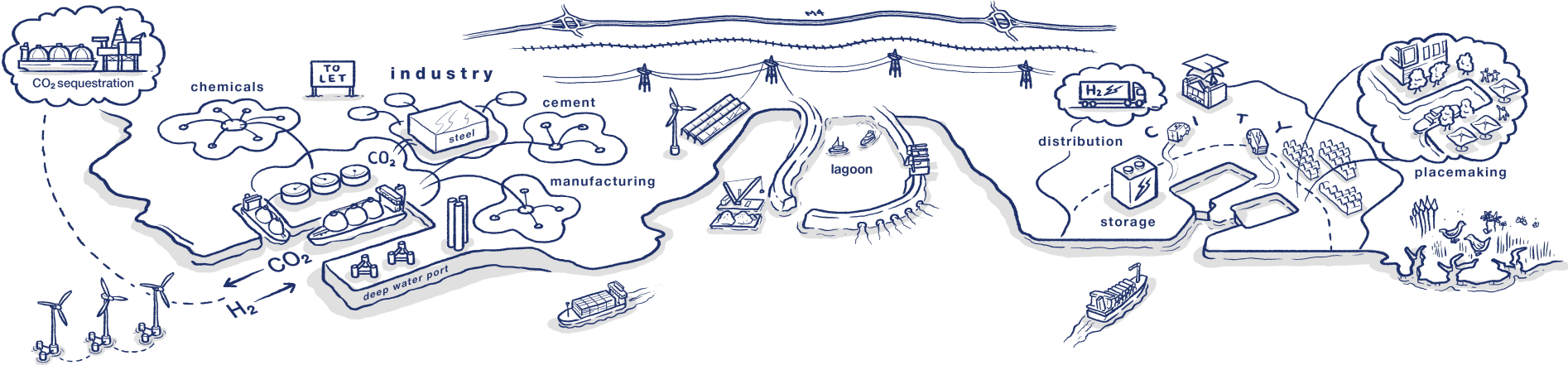


# Future ports: Wales vision

How ports can help deliver Wales' coming transformation



# Foreword

**ABP's five ports in South Wales have a revolutionary past.** Trading the ores, energy, chemicals and ideas sought by a globalising economy, ports in South Wales have played a key role in the creation of the modern industrial world.

**And now, as we look to the future, we can see that our Welsh ports have a revolutionary future, too.**

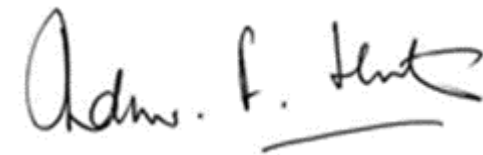
We think they will play a central part in the big moves that Wales needs to make towards a decarbonised and fully digitised economy over the next thirty years.

**Our objective is to make sure that the future works for Wales – which means we must understand that future, shape it, and invest in it.** The issues are complex: the only way through that complexity is to imagine a changed world, understand its opportunities,

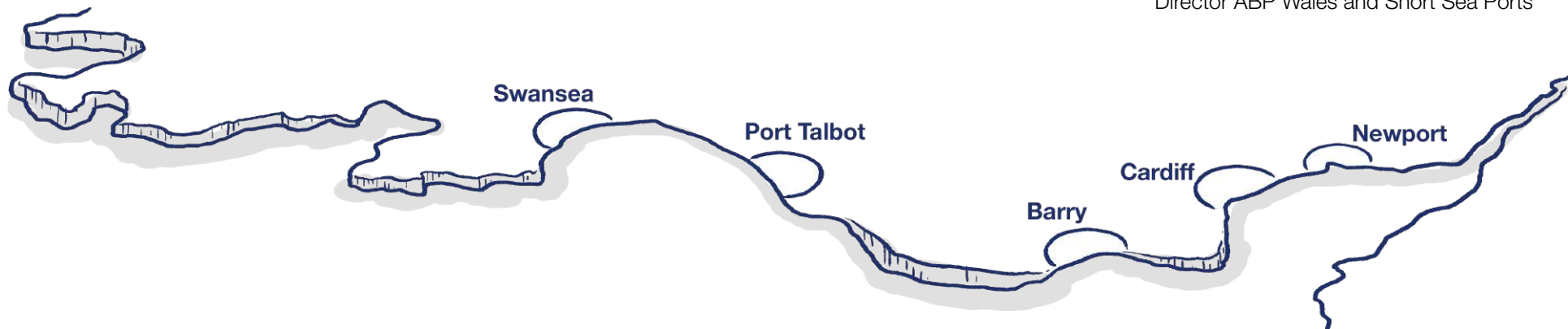
and focus on the outcomes we need. We cannot make firm predictions, but we can sketch the outlines of what needs doing, and how a new approach to realising the huge potential of Wales' strategic port locations could build the foundations of a new cycle of innovation and prosperity.

**Time is of the essence.** We need a faster pace of change, both within our own business, and inside governance networks. Our suggestions here work within the policy framework established by both Welsh and UK Government, and now we need to move rapidly to make real progress on the ground – particularly given that our focused and capable neighbours in Spain, Portugal, Ireland and France have identified some of the opportunities we discuss here, and are backing them with EU investment right now.

**We are describing some big shifts here. These are not just port industry issues: they are part of a broader societal challenge. A coherent response will need teamwork across our stakeholders, academia, customers and communities.** We want to be a part of that team, and have the expertise and ownership structure to make a real contribution. At ABP, we have long provided an essential service. We are now also going to be an essential partner in creating the growth, innovation and thousands of new, skilled jobs that everyone in Wales wants to see.



Andrew Harston,  
Director ABP Wales and Short Sea Ports



# Ports and the future

**At ABP, we have been thinking about the future. It's clear that the next two or three decades are going to see dramatic structural changes in the economy as it decarbonises and digitises.** The pace of this change is likely to accelerate: a growth loop will be created as technological innovation and scale economies drive cost reductions, which drive further scale economies. This change will be rapid and wide scale; it will disrupt established ways of working, demanding new ones – creating major opportunities for companies and stakeholders which are ready to make the changes necessary.

**ABP connects Wales to the global economy as we deliver our commitment to Keep Britain Trading.** That will not change.

**But we see a developing role for ABP's South Wales ports in future. Our ports – located next to two-thirds of Wales' population – are going to be hugely important assets in helping Wales make the strategic realignments demanded by decarbonisation and digitisation, and will play a decisive role in Wales' coming economic transformation.** We know that the only way to prosper in future is to grow our capacity to do new things in new ways. And we must partner this capacity for innovation with an ability to design and implement change quickly.

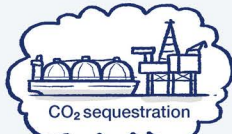
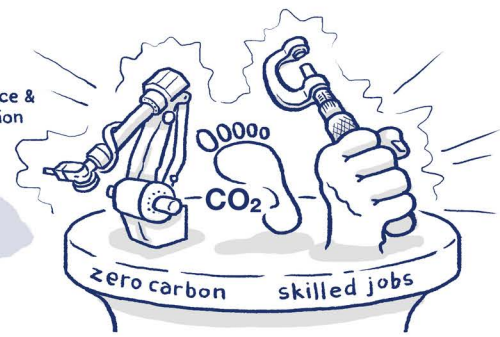
**We have organised this paper around four port-centric 'missions'.** They set out the innovations that we think will ensure that the South Wales ports achieve their potential system-wide impact, and set out time-limited, outcome-focused tasks that could cut through organisational silos and reconfigure the relationship between public and private sector.

**Ports cannot do everything – but if we work together, ports can help Wales to create skilled jobs, growing prosperity and a higher quality of life, all in a secure climate.** We just need to collectively decide on the future outcomes we want, and work towards them.





intelligence & innovation



chemicals

TO LET

industry

cement

manufacturing

steel

lagoon

distribution

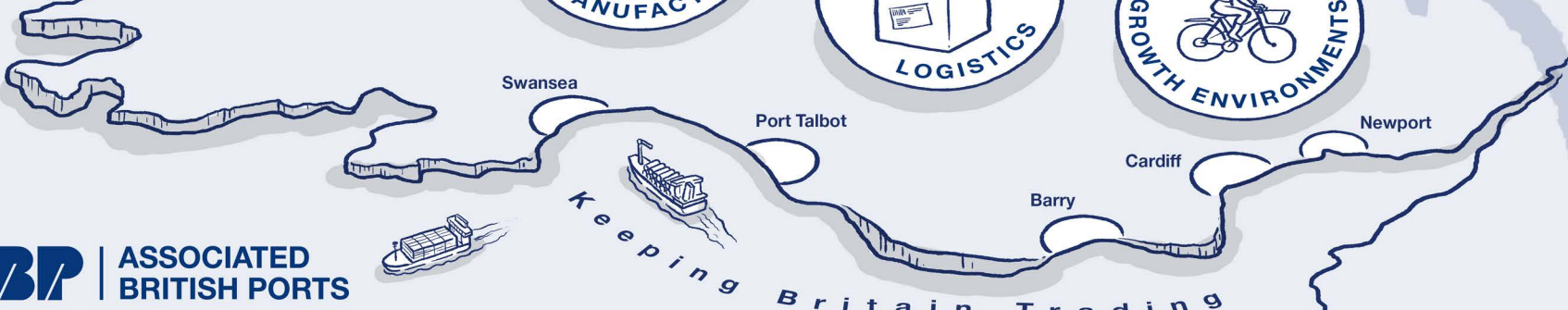
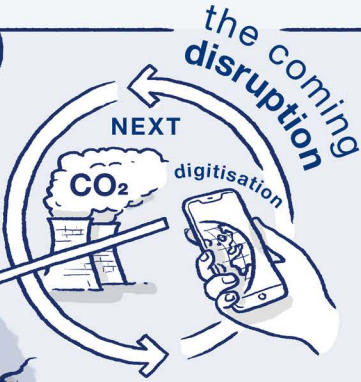
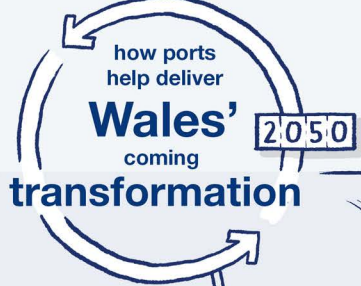
storage

placemaking

CO2

H2

deep water port



mission 1

## Decarbonising energy generation

Wales needs to position itself for a technological revolution in the way that energy is created, distributed and used. This emerging marketplace creates a transformational opportunity for Wales - creating a high-productivity strategic industry, and spinning out thousands of skilled jobs and new export opportunities. It must remain a major strategic priority for policy makers in Wales and beyond.



Co-creating world-class FLOW capabilities in Wales.

**Port Talbot and the wider Swansea Bay City Region has what is needed to become a hub for Floating Offshore Wind (FLOW) involving floating foundation assembly, turbine pre-assembly and mooring system manufacturing by the end of the 2020s.**

Port Talbot's unique proposition is its co-location of deep water, a brownfield land bank, steel and manufacturing capacity, rail capability, and skilled local labour market. Port Talbot's specialisms would work in partnership with a wider Swansea supply chain, whilst Milford Haven and Pembroke Dock are perfectly located for the operations and maintenance business FLOW will create.

**This is a huge opportunity, but we need major investment in new quay and landside facilities.**

ABP's experience at Green Port Hull shows us how this could happen, and we may need Government to be 'investor of first resort': creating momentum where the private sector cannot, and sharing the rewards of early investment.

**We need to get organised.** Good partnership work is already under way, but we need to develop a senior-level task force to really propel the co-ordination of money, policy and engineering across Swansea Bay and beyond, breaking through organisational silos. The Crown Estate

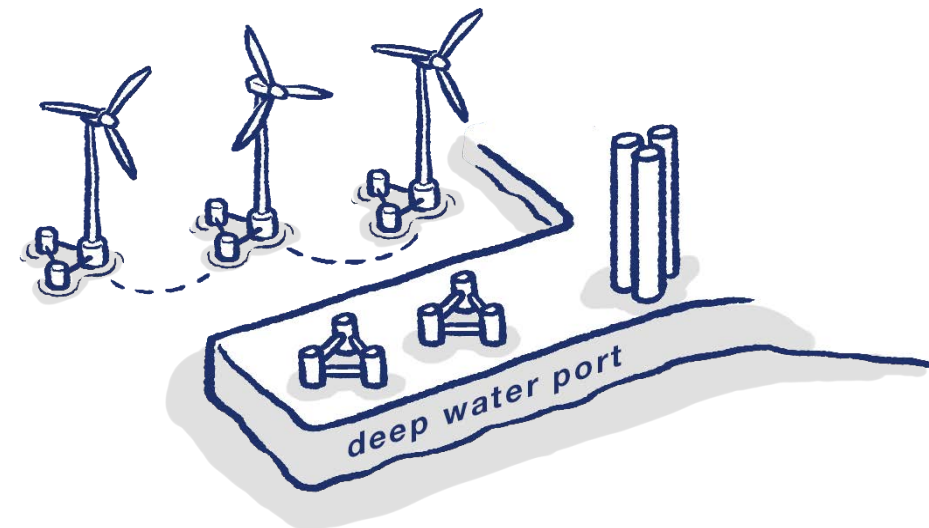
has announced that it is commencing work on delivering a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea, and we will need to co-shape the industry development pipeline that justifies major investment.

**Port development is complex and time consuming. We need to begin planning now, or Wales risks getting left behind in its own market.**

The EU is already funding FLOW projects in France and FLOW R&D in Ireland, whilst floating foundations for UK projects are being manufactured and assembled in other European countries including Spain and the Netherlands. But Wales still has time to catch up, and has the opportunity to create an entirely new sustainable industry with huge export potential.

*'There is a first mover advantage with FLOW: success will go to those who can speculatively invest to establish a lead. State-owned European ports can do it, but UK ports struggle. That needs to change. The first mover will own the cluster, bringing a pre-eminent position in the industry.'*

Chris Willow,  
Head of Floating Wind Development, RWE





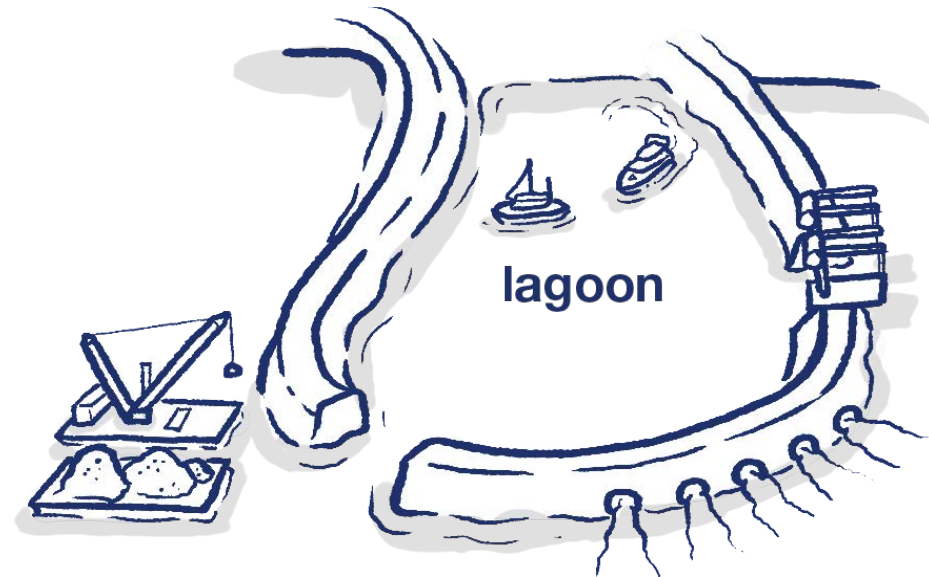
Co-creating zero-carbon energy from tidal and on-port sources.

**Nature has given South Wales a huge opportunity: South Wales' tidal range makes it one of the best places in the world to generate power from marine renewable energy.** A network of lagoons across South Wales would have a radical economic effect in a decarbonising world - in Swansea, for example, the lagoon would transform the city, creating an entirely new value zone that would reinforce SA1 city centre regeneration and give the city a competitive advantage as a zero-carbon industrial location. Swansea would be a pilot for an even larger lagoon powering Cardiff.

**Ports are going to be central in the construction and operation of this network,** and provide the crucial space to land the downstream investments attracted by the lagoons' zero-carbon energy.

**Wales is already taking an innovative approach here:** we fully support the Welsh Government's Tidal Lagoon Challenge, and think that Wales can use this approach to rework existing ideas and break the financing logjam.

**The resulting ideas will need backing with serious commitment. Once the Tidal Lagoon Challenge is complete, we think that a focused and single-minded delivery task force is needed.** We are ready to join that effort, and will also be looking to supplement tidal energy with further development of on-port resources of wind and solar power, helping power a wider industrial renaissance which will create thousands of skilled jobs.



mission 2

## Decarbonising manufacturing industry

Getting to net zero will demand fundamental changes in the way that South Wales' manufacturing industry works. From the foundational industries of steel and chemicals, to upstream manufacturing sectors, South Wales' ports will be indispensable in getting energy into manufacturing sites, emissions out to sequestration points and providing space to grow.





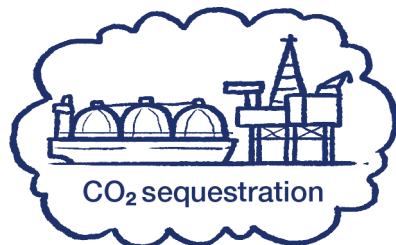
Co-creating a decarbonised Port Talbot Steelworks.

**Change is coming to ABP's Port Talbot facilities.**

They are umbilically linked to steel production at Tata's works, bringing in the basic feedstocks of iron ore, coke and coal.

**But Tata's facilities need renewal, and it is clear that ABP's port facilities could be a big part of the solution.**

Shipping via ports will be critical: we are looking at a new role for ports bringing in hydrogen, or taking out CO2 for sequestration in redundant gas fields, creating the opportunity to jump to new decarbonised technologies that will create a modern, globally competitive and zero-carbon facility.

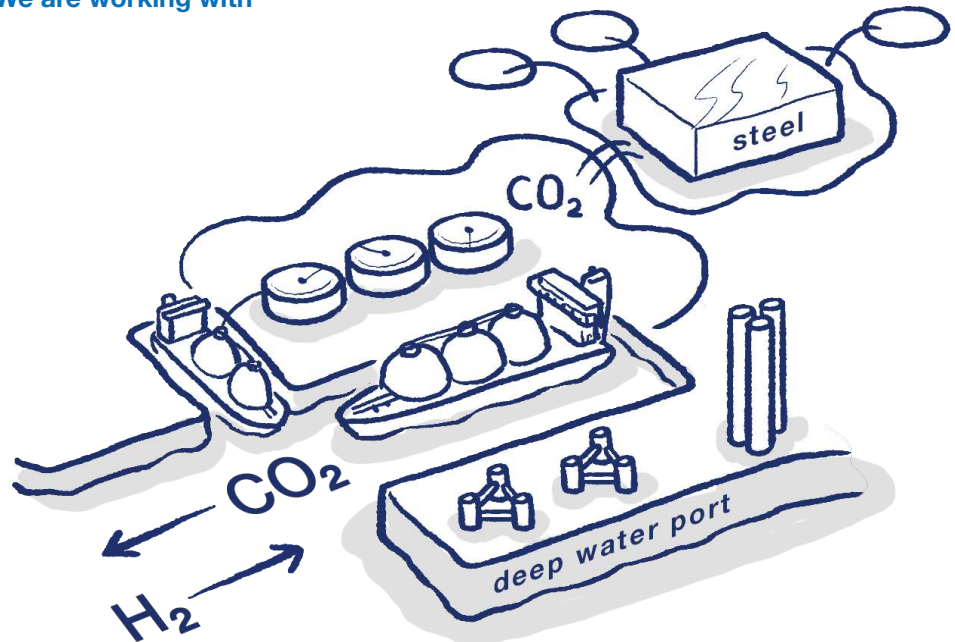


**Tata is working through the options now.** With the South Wales Industrial Cluster (SWIC), we are keen to work alongside all stakeholders to get the right package for South Wales, possibly taking a novel approach to emerging Freeports policy to drive innovation forward.

**As the way forward becomes clearer – as it will over the next two years – we will need to see very rapid policy development and implementation at both Welsh and UK level. We are working with partners to prepare.**

*'Decarbonisation is massive. It is unprecedented and people don't realise how big it is. But that doesn't actually mean it's grim'*

Professor Cameron Hepburn, Director, Oxford University



Co-creating low carbon port-centric manufacturing facilities.

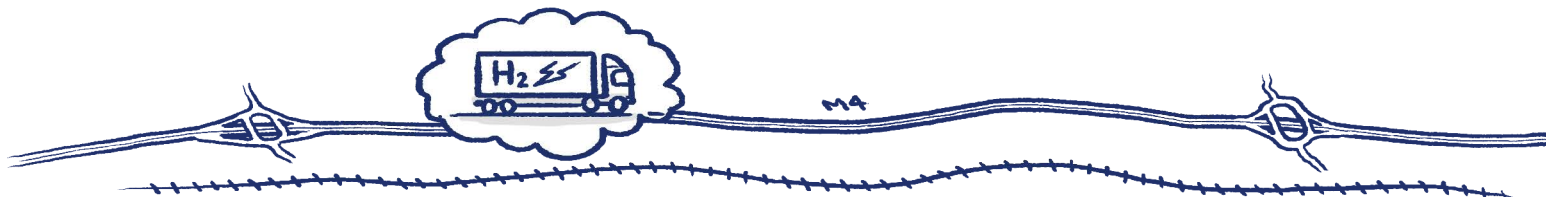
**Ports have always been great manufacturing sites, because they are able to co-locate proximity to skilled labour with great road, rail and sea links – creating real cost and efficiency advantages. These advantages are going to be amplified as carbon taxes get implemented, making South Wales' ports even better locations for a new cycle of manufacturing innovation** which will bring together a decarbonised and digitised supply chain with reshoring, 3D printing, and micro-manufacturing.

**Some of this future is already here.** We are working with Welsh Government and other partners to land new investments, with recent successes around the creation of new manufacturing jobs in Newport. We are also looking at exciting new opportunities around manufacturing to support the offshore wind industry.

**Ports with links to large-scale carbon capture and sequestration infrastructure could have an additional advantage: they will become strategic industrial locations.** The proximity of carbon capture facilities will attract other industrial processes – such as chemicals, cement manufacture and blue hydrogen production – that generate high levels of CO<sub>2</sub> emissions and need cost effective links to sequestration facilities. Those advantages will, in turn, attract industries that use CO<sub>2</sub> as a feedstock for other processes, further reinforcing the area's strategic advantages.

**Port Talbot is uniquely placed to be first in line to experience these benefits. Over time, we expect to see the development of a similar role at our other port locations** – such as at Newport, Cardiff or the Port of Barry, which is adjacent to Dow Chemicals' silicones plant. And all of our ports have development land suitable for the creation of a new generation of industries.

**We are accelerating our work around port-centric manufacturing, and want to work with partners to develop it further.** A highly sophisticated and creative policy approach will be required to capture the possible strategic benefits that decarbonisation creates: a wide number of actors will need to collaborate, across a range of industries and sites. At ABP, we are keen to play a big part of that team, anchoring new growth in South Wales.



mission 3

## Decarbonising the logistics industry

South Wales' ports are likely to increasingly play a new role in local logistics. The efficiency gains which accompany the 'internet of things' will drive down logistics costs, and stimulate the demand side further, creating an accelerating growth in activity.

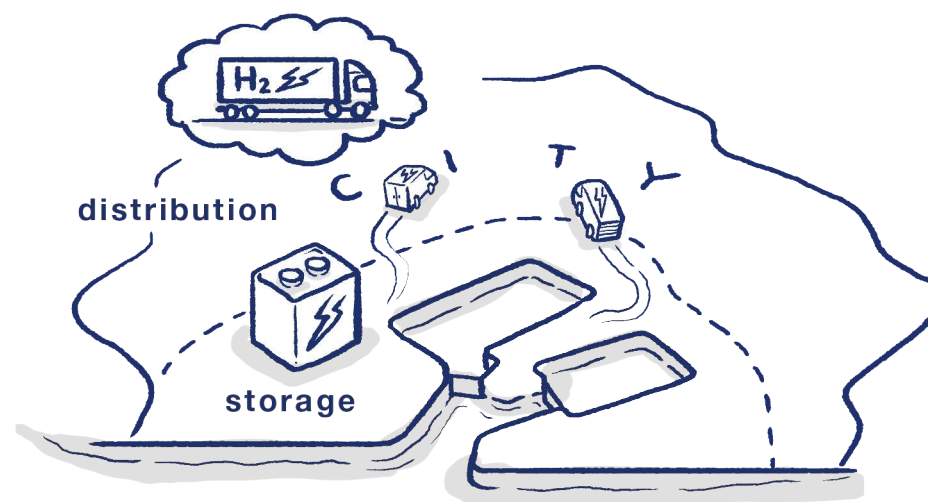
The sooner this shift happens, the sooner we will get the productivity benefits and carbon savings that Wales needs.



Co-creating new logistics efficiencies.

**The logistics industry is looking to innovate, and South Wales' ports have a unique offer.** We see the emergence of zero carbon freight villages on our South Wales port sites, driven by three core strategic advantages. The first is the connectivity between transport modes. The second is proximity of the ports to population centres, and the supply of labour and customers they generate. And the third is the ports' ability to decarbonise the 'last mile': high capacity energy connections are going to be a critical feature, allowing hundreds of delivery vehicles to recharge, likely balanced by energy storage facilities that iron out peaks in energy demand. Private wire agreements – which allow access to port-generated wind and solar power at below grid rates – will create further efficiency and decarbonisation advantages. On-site hydrogen production may also be necessary in order to refuel HGVs, which appear likely to run on hydrogen rather than batteries.

**The investment that will create this decarbonised (and dramatically more efficient) supply chain will be from the private sector. But public sector involvement in this shift will be critical,** particularly through the planning system, and we hope to work with the public sector to create a supportive policy environment to allow this recalibration of port land towards new logistics markets.



mission 4

## Creating growth environments for communities, businesses and ecosystems

Our ports at Swansea, Cardiff and Barry have seen radical shifts over the past three decades: industrial areas have been reborn as successful new communities, using innovative relationships between ABP and Government. Over coming years, we will work with stakeholders to review whether there is scope for a new cycle of industrial, logistics and residential-led regeneration at South Wales' ports, alongside creating new opportunities for biodiverse natural environments.





Co-creating opportunities for new growth environments.

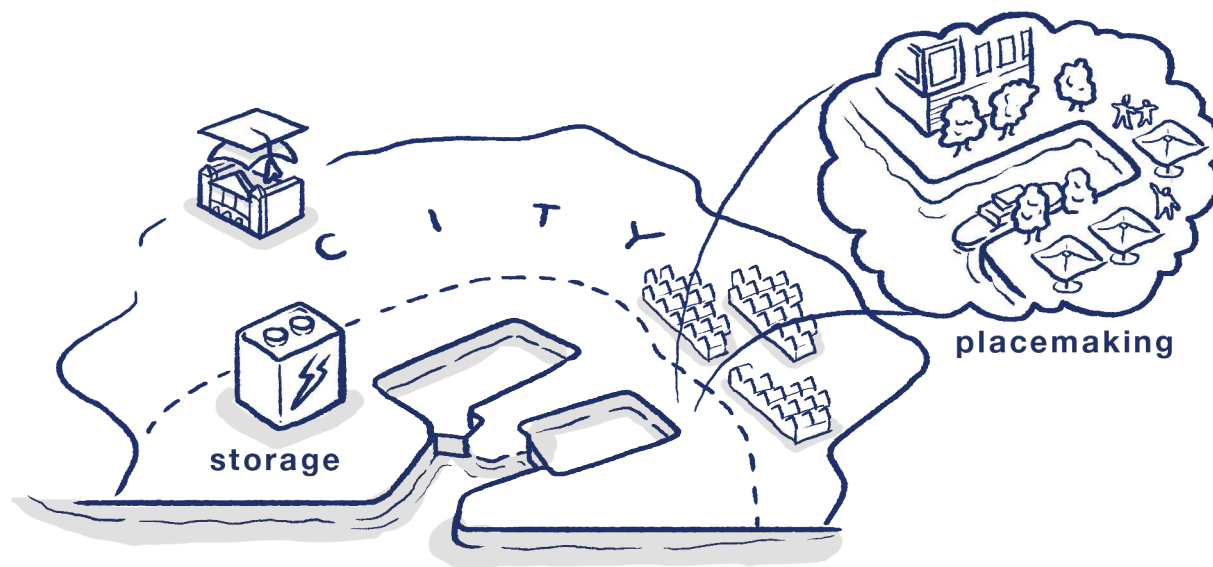
**Over the coming years, we will be considering the next cycle of change at our ports.** Non-port uses are possible at some locations, and we have land available at our ports to anchor new investments in our communities. As well as industrial and logistics uses mentioned above, residential uses are also possible. However, change of use decisions should not be rushed: we have to be sure that any new uses are more valuable than port infrastructure. Change would need the broad agreement of our stakeholders, shareholders and customers before it could go ahead.

**If we do go ahead with new uses at our ports, quality place-making will be at its heart.**

Port development in Copenhagen, Rotterdam and the Swedish city of Malmo would be our design benchmarks, and those examples – along with historic experience from Cardiff and Swansea - suggest that a new approach would need proper integration with urban growth plans plus public sector policy support, possibly including joint ventures and new delivery vehicles.

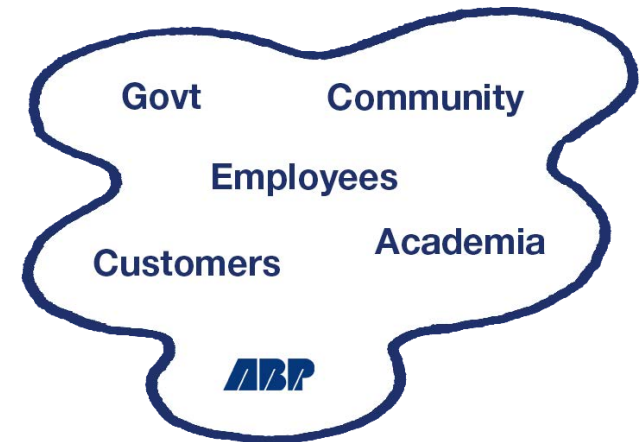
**Across the board, we will take a strategic approach to deliver environmental net gain and securing long term habitats.** Where we make change, we will plan for genuine sustainable development – playing an important role in carbon reduction alongside local biodiversity and amenity benefits.

**We will work with key stakeholders to test concepts and to think through the viability of change.**



## What to do now

At ABP, we know that innovation is central to growth. But the innovation we need is not just about changes in technology and markets. Instead, it is about business practices, mindsets, and the way that the public and private sectors work with each other. ABP plans to make some big investments in Wales, but we cannot make them in a vacuum: effective change can only really be delivered within a supportive policy environment and close liaison with Government at all levels, to ‘crowd-in’ innovation by using Government intervention to increase private sector investment.



**When it comes to the implementation of innovation, we know ABP does not have all the answers, and others will see angles we cannot.** This is why we are

keen to work with our customers, stakeholders, academia, local communities and investors to imagine and then implement the innovations we all need to prosper in the long run. Some of the relationships and policies needed are already in place, but we would like to develop them further, to

- **map out a practical, joint vision** of the transformation in South Wales' ports we collectively think is desirable, allowing us to connect future challenges to clear solutions;
- **use that vision to develop a comprehensive plan, including clear, time-bound 'missions'** which share risks and rewards between public and private sector – perhaps along the lines suggested above – to create an integrated, co-ordinated strategy;
- **get things to happen on the ground by creating a 'taskforce' approach to implement the chosen missions** combining public and private know-how and capital with academic expertise to fully marshal Welsh and UK Government's procurement, funding and regulatory muscle in accelerating growth;
- **apply real project management disciplines** across delivery partners, taking a 'blended finance' approach, just as the two City Deals are hoping to achieve in South Wales;
- **create the policy flexibility and fast-track consenting needed to harness innovation**, for example by broadening uses to include wider employment uses on port land, not just port-related uses; and to

- **create mechanisms that allow us to continuously improve and self-correct**, by building on opportunities, understanding competitive threats, and by learning from other countries.

**This adds up to an innovative new approach to delivery that fundamentally rethinks how we work together.**

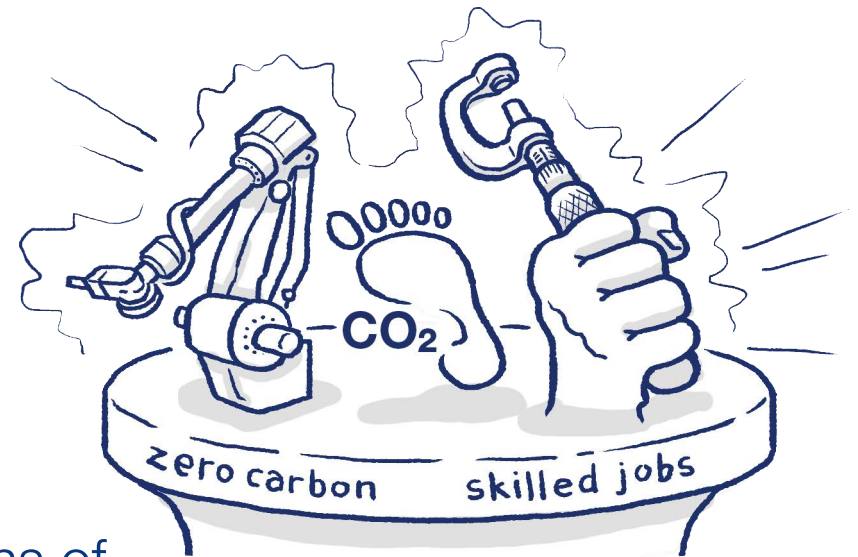
*CBI: 'we have now reached a tipping point, based on our renewed commitment to net-zero targets, that require a totally different metabolic rate of economic decision making, dynamism and collaboration'*

Tony Danker, CBI Director-General



## Wales' future success

By 2030, South Wales' ports have translated their central role in the first industrial revolution into a key role in the decarbonisation and digitisation revolutions of the future. That transformational role is the result of a new relationship between South Wales' ports, our customers, investors, academia and the public sector, based on a sharing of intelligence, risk and reward. The ports have helped put Wales on a new pathway, and the outcome is an obvious success: a keen appetite for further social and economic innovation, a dramatically reduced carbon footprint, and thousands of high productivity, high skill and globally competitive jobs for Wales.





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