

## In service of sustainable infrastructure:

How the UK's professional services sector can help the world meet net zero goals



## Foreword



The only way to net zero is through governments and business working together to transform the infrastructure powering our global economy.



**Catherine McGuinness**  
Policy Chair of the City of London Corporation

We are now at a **critical juncture for action on climate change**. Without immediate, rapid and large-scale reductions in greenhouse gas emissions, Paris Agreement goals will not be met. The only way to net zero is through governments and business working together to transform the infrastructure powering our global economy.

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Some sectors — such as **energy, agriculture, transport and real estate** — need **wholesale transformation**. Others, such as manufacturing, **need to adopt more circular design and production processes**. Transformation will be challenging, but it is possible if we all work together.

The UK has **one of the longest track records in green infrastructure, powered by an experienced professional and business services sector (PBS)**.

Our capabilities extend across the whole value chain from **consulting, engineering, recruitment and advertising to financial and legal services**. We have a broad set of skills to help decarbonise by shaping policy, designing strategy, **executing large-scale energy projects, and providing the finance as well as the legal services necessary to deliver success**.

After two decades of working to decarbonise the economy, we have identified **four key ingredients for success: innovation, talent, capital and an enabling business environment**. These, coupled with a strong regulatory backbone, make the UK — and the City of London — a global centre for green finance.

The upcoming COP26 summit in Glasgow is a real opportunity to map out a **realistic and actionable path to net zero through best-in-class green infrastructure**. By sharing key insights from leading UK projects, we hope to illustrate what's possible with the right team on your side.

With both professional services expertise and a collaborative global ecosystem, the UK is ready to help you — and ultimately all of us — transform the economy in this vital effort. We look forward to working together.

# The green infrastructure imperative

**Over 100 countries have committed to reaching net zero by 2050. We need to transform our economies and ecosystems and accelerate a Just Transition that leaves no-one behind.**

Meeting these needs requires significant investment in sustainable infrastructure — an estimated US\$6.9 trillion each year between now and 2030.<sup>1</sup>

Priority areas for investment include renewables (including transmission and distribution infrastructure), hydrogen and energy storage, e-mobility (including electric vehicle charging infrastructure), the built environment, and water and sanitation. In a May 2021 assessment, the International Energy Agency (IEA) laid out infrastructure goals for net zero success. These include reducing energy-intensive materials 30% per unit floor area, shifting regional flights to high-speed rail where feasible by 2050, and phasing out internal combustion engine vehicles in urban centres by 2030.

Cities are at the forefront of this transformation. According to the Coalition for Urban Transitions report: “By 2030, investment in urban infrastructure must be directed towards zero-carbon, resilient, and inclusive development if cities are to reach their potential for delivering the emission reductions needed for a well below 2°C climate scenario.”<sup>2</sup>

As the world decarbonises, it will also be necessary to consider the livelihoods disrupted by phasing out entire industries. Yet according to the Grantham Research Institute at the London School of Economics, “all the evidence suggests that the net-zero economy offers huge potential to create both more and better jobs.”<sup>3</sup> The UK’s offshore wind industry is a prime example of a green sector with exponential jobs growth.

There is both an imperative and opportunity to develop sustainable infrastructure at speed, in a way that serves all members of society. The UK has the talent, track record, and capital to enable a Just Transition, supporting developing and developed markets alike to achieve their sustainability goals.

# \$6.9tn

**of infrastructure investment is needed each year between now and 2030 to meet climate and development objectives**

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## The UK approach: why work with us?

The UK was first to commit to net zero, and has a long track record of bankable, sustainable infrastructure projects.

Over the last 20 years engineers, infrastructure specialists, designers, consultants, lawyers, and investors have been developing a wealth of knowledge and replicable best practice that can be distilled to four key components.

### 1. Innovation

In addition to hosting a major hub of software data and design, the UK is a leader in renewable energy. In 2020, 43% of the nation's electricity was from renewable energy sources, compared to 38% in the EU.<sup>4</sup> UK innovation drives the design and build of connectors and systems (batteries, pump storage, hydrogen) and supporting infrastructure (sensor equipment, data to manage intermittency), alongside the digital connectivity to bridge these innovations efficiently and seamlessly. This innovation is supported by a steady stream of growth capital vital to the success of climate entrepreneurs, and a regulatory environment with strict IP protection.



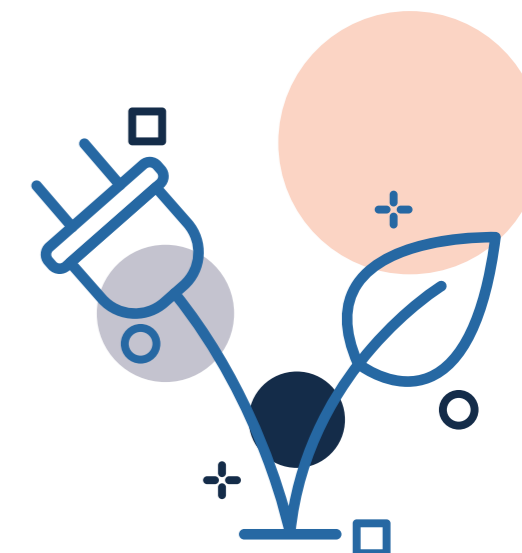
### 2. Talent

Complex, global infrastructure projects depend on competent, experienced individuals working together as a cohesive team. From scenario planning and impact assessments to engineering and financing, the UK, and London in particular, is home to a deep pool of skills and experience, backed by a global trading, financial services, and legal ecosystem. London tops the human capital competitiveness rating in the Global Green Finance Index (GGFI), and services providers can recruit from a pool of 4.8 million UK PBS talent.<sup>5</sup>

London also has unparalleled green infrastructure consulting expertise; its firms have spent decades advising government on sustainability policy and strategy. Three of the top five schools in the 2020 Better World MBA ranking are in the UK, including the Cambridge Institute for Sustainability Leadership. UK professional services firms also have significant in-house capability, such as law firm Osborne Clarke's international decarbonisation team which is focused on net zero regulation, environmental, social and governance (ESG) issues.

### 3. Capital and liquidity

The London Stock Exchange (LSE) is home to the first certified green bonds out of China, India, the Middle East, and Canada, and the first sovereign green bonds from Asia-Pacific and the Americas. Instruments listed on LSE's Sustainability Bond Market (SBM) come from 29 jurisdictions (including the UK), and are traded in 17 currencies.<sup>6</sup>



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The UK has a well-developed financial ecosystem that serves all markets and investors, and a strong green transition policy that fuels sustainable investment.

London's role as a leading global financial centre also means ready access to liquidity across the capital spectrum, from venture capital to private equity and institutional funds. The global city is a great place to finance sustainable infrastructure projects of all sizes and ambitions, with professional and business services on hand to ensure successful delivery.

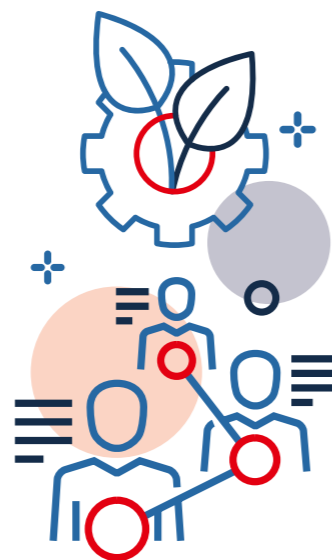
#### 4. Enabling business environment

From developing decarbonisation policies and creating a green finance market in London in the late 1990s, to enacting climate legislation in 2008, the UK has long been a sustainability first-mover. It is also at the forefront of agenda setting: the Bank of England is a founding member of the Central Banks and Supervisors Network for Greening the Financial System (NGFS), where it helps to size climate-related financial risks, among other activities.

There are now mechanisms in place to support overseas customers in acquiring UK services and promoting UK exports. For example, the Clean Growth Direct Lending Facility from UK Export Finance (UKEF) has earmarked £2 billion for overseas buyers, enabling the purchase of UK clean growth-related goods and services. The UKEF currently has a project pipeline of almost £10 billion

globally, with over a third of its projects in Africa (32%), and a fifth in Asia-Pacific.<sup>7</sup> It also has dedicated Export Finance Managers across the UK to help companies secure finance and connect them to its network of international trade experts.

A successful transition requires clear, unhindered and open-ended dialogue between policymakers and business. The UK government is well versed in understanding the needs of international business and driving policy to create the best environment for sustainable infrastructure and investment.



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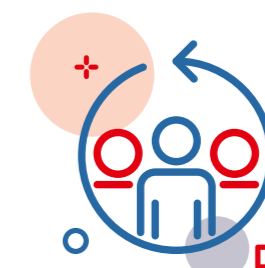
## Why UK: the facts

# £113bn



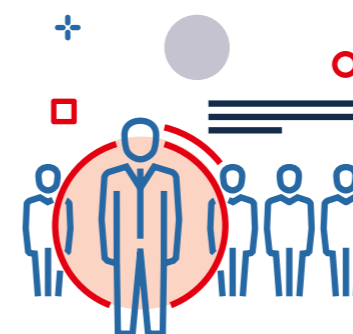
The UK is a major exporter of Professional and Business Services (PBS). It was the second biggest global exporter in 2019 with £113bn, following only the US and ahead of Germany.<sup>8</sup>

# 4.8m



The UK PBS has a large talent pool, with 4.8m employees.<sup>9</sup> It is also the largest PBS sector in Europe based on its Gross Value Added – £227.1bn in 2019, representing 12% share of UK GVA.<sup>10</sup>

# 1st



London now tops the human capital competitiveness rating in the Global Green Finance Index (GGFI).<sup>11</sup>

# 6



By revenue, the UK hosts global headquarters of six of the top ten accountancy firms and four of the ten biggest law firms internationally.

# 5.1%



The PBS sector has grown by 5.1% between 2010-2019 (three percentage points higher than UK growth over the same period).<sup>12</sup>

# 63%



Despite London being a hub for PBS, the sector is well represented across the UK with 63% of jobs in the sector based outside of London or the South East of England.<sup>13</sup>

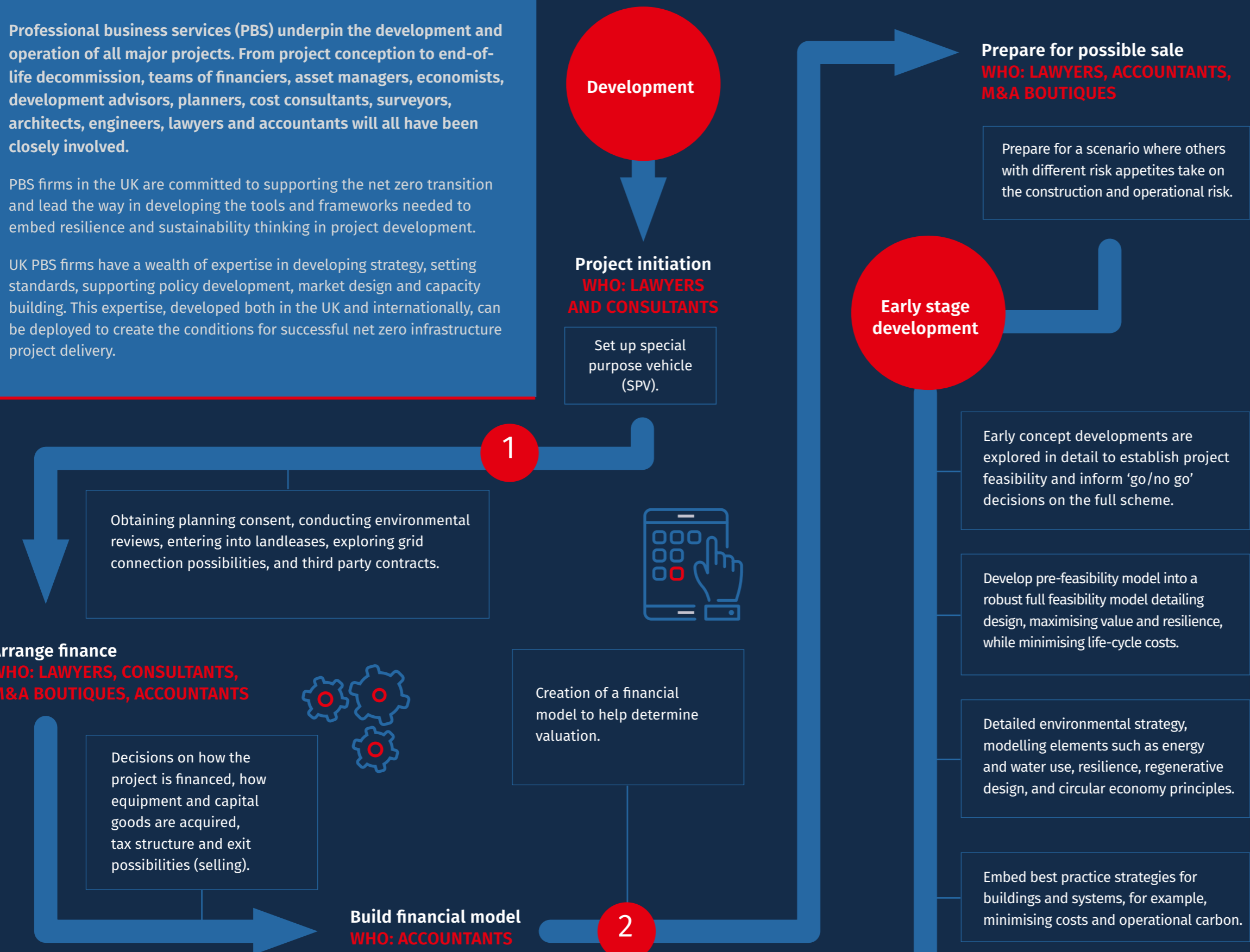


# Support at every step: the project lifecycle

Professional business services (PBS) underpin the development and operation of all major projects. From project conception to end-of-life decommission, teams of financiers, asset managers, economists, development advisors, planners, cost consultants, surveyors, architects, engineers, lawyers and accountants will all have been closely involved.

PBS firms in the UK are committed to supporting the net zero transition and lead the way in developing the tools and frameworks needed to embed resilience and sustainability thinking in project development.

UK PBS firms have a wealth of expertise in developing strategy, setting standards, supporting policy development, market design and capacity building. This expertise, developed both in the UK and internationally, can be deployed to create the conditions for successful net zero infrastructure project delivery.



## 1 CASE STUDY: MOTT MACDONALD

The UK Government's Department for Business, Energy and Industrial Strategy appointed Mott MacDonald to deliver the £3 million, three-year 2050 Calculator programme. The programme supports governments in developing countries to build their version of the UK's 2050 Calculator energy and emissions model – a tool that allows users to trial different options for reducing emissions and build a pathway that meets 2050 emission targets.

The 2050 Calculator brings scientific evidence into the energy debate to inform decision-making. It can be used to evaluate current policies and to inform the strategic direction of energy or climate change policy. Countries are encouraged to explore all possible pathways for low carbon development in a transparent and simple way. Participating countries include: Malaysia, Vietnam, India, Nigeria, Thailand, Kenya, Zimbabwe and the Philippines.

The award-winning programme has had an impact on reducing greenhouse gas emissions by supporting governments to assess a range of technology and development pathways while moving people out of poverty.

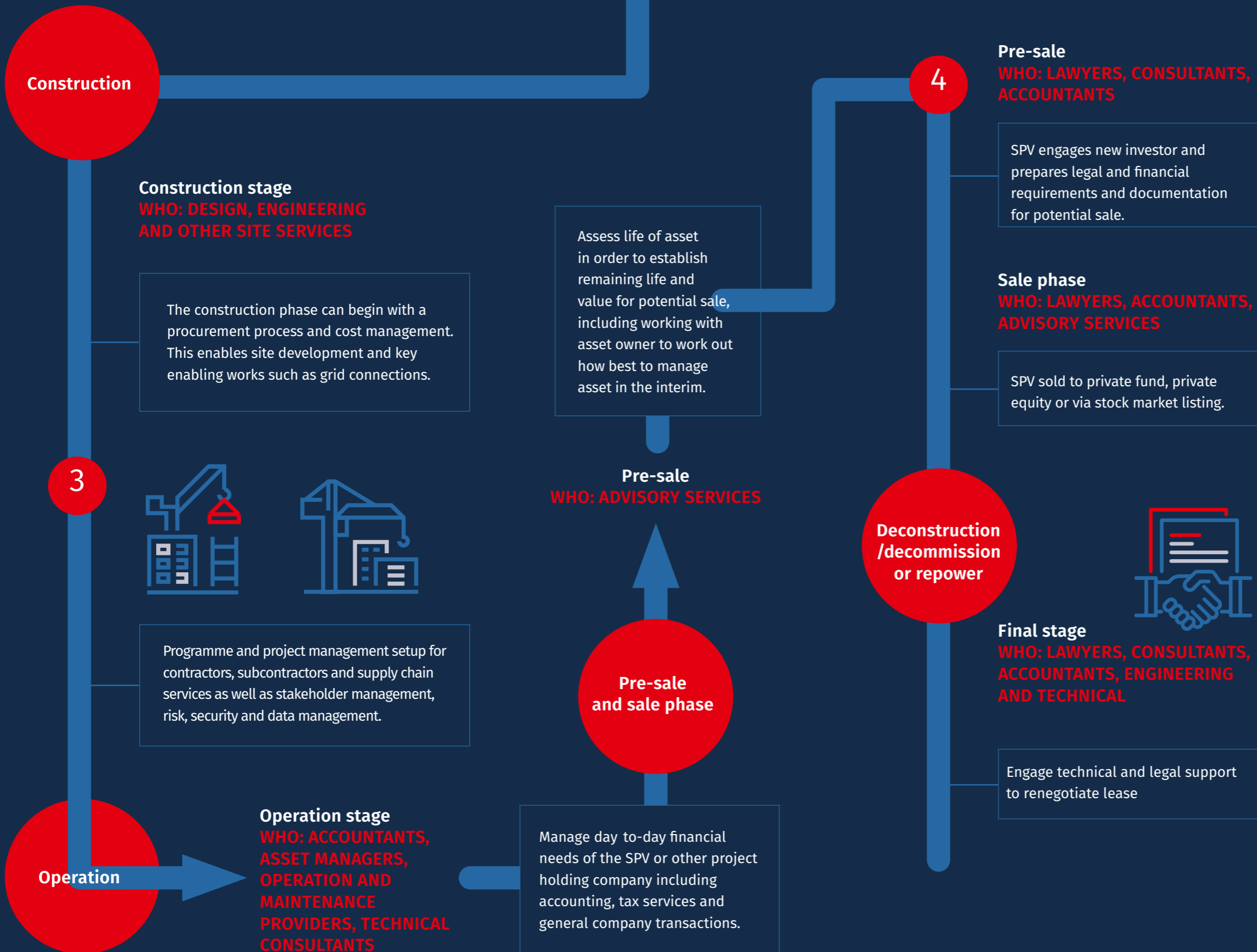
## 2 CASE STUDY: OSBORNE CLARKE

Osborne Clarke advised on the creation of AMPYR Solar Europe, a joint venture between Hartree Partners, AGP Group and NaGa Solar that will develop at least 4GW of solar projects across the UK, the Netherlands and Germany. This transaction is an example of Osborne Clarke's international decarbonisation expertise. Helping businesses to achieve net zero and meet the challenges of decarbonisation is a key part of Osborne Clarke's client strategy.

AMPYR Solar Europe brings together AGP's experience in developing large-scale renewable power projects, Hartree's cutting edge power trading analytics and zero-carbon solutions, and NaGa's in-depth local knowledge and land development prowess. Combining these complementary skills will speed up the build-out of solar capacity and offer an attractive opportunity for institutional investors to deploy in excess of €1 billion of capital and generate a reliable, long-term income.

Osborne Clarke's wider due diligence and transaction team was made up of colleagues from their Dutch, UK and German offices. Legal support was provided across corporate, real estate, regulatory, finance and commercial teams.

# Project lifecycle continued



## 3 CASE STUDY: ARUP

The Shougang Industry Services Park near Beijing was China's first C40 Climate Positive Development Project. The collaboration between Arup, Shougang Group and Beijing Municipal Institute of City Planning & Design (BMICPD) ran from the early planning stages to develop a comprehensive low-carbon urban development and ecological plan, rehabilitating the 8.6km<sup>2</sup> former steel plant.

Minimising emissions during development was key to the project's Climate Positive status. Low-carbon and sustainable urban development principles were core to master planning the site, incorporating elements such as green buildings, clean energy, green transport, waste management, green spaces, and heritage. The post-industrial legacy scheme also included a complex sponge city strategy for half of the site to meet the ecological rehabilitation challenge.

## 4 CASE STUDY: BDO

Greencoat UK Wind PLC ("UKW") was the UK's first listed renewables investment fund or "yieldco". It has historically invested mainly in operational onshore and offshore wind farm assets based in the UK. It is a closed ended investment trust and aims to deliver an annual dividend which increases in line with retail price index (RPI) inflation. The fund is managed by Greencoat Capital LLP, a specialist renewable energy investment manager with over £6 billion AUM.

BDO acted as reporting accountant on the initial IPO in March 2013. This role covers many aspects, including due diligence, reviewing forecast financial information, giving comfort regarding the financial reporting environment and providing assurance on financial information in the prospectus relating to the assets initially being acquired by the fund. BDO continues to act as auditors to the fund and has also acted as reporting accountant on each of UKW's many secondary fundraisings over the last 8 years.

Greencoat UKW achieved a successful IPO raising £260 million proceeds and by September 2021 had a market capitalisation of £2.6 billion and assets with a total capacity of almost 1.3 GigaWatts. In many ways UKW set standards for the numerous renewables investment funds that have since followed and which continue to seek a London listing. BDO has since acted for many of the UK's listed funds including Foresight Solar Fund, Bluefield Solar, NextEnergy, Octopus Renewables Infrastructure Trust, Gore Street Battery Storage Fund, Triple Point, Ecofin, Downing Renewables and US Solar and Gresham House Energy Storage Fund.

# Tees Valley Industrial Cluster: the world's first net zero carbon industrial hub

Teesside is a replicable model of an end-to-end green infrastructure project supported by UK professional and business services.

Deploying Carbon Capture Utilisation and Storage (CCUS) at scale by 2030 is essential to meeting UK emissions targets. The Tees Valley industrial cluster, including Net Zero Teesside (NZT) is a CCUS project in the North East of England with ambitions of becoming the UK's first decarbonised industrial cluster. It will do this by capturing the carbon emissions from power and industrial facilities at Teesside and storing the captured carbon in the North Sea. NZT is a bold but credible pathway to storing up to 10 million tonnes per annum (Mtpa) of CO<sub>2</sub> by 2030, unlocking potential climate and economic benefits, and promoting transformational infrastructure investment for Teesside and the UK.

Teesside is an example of a replicable end-to-end green infrastructure project, and it was supported by a large number of UK professional services firms:

**Vivid Economics** was commissioned to identify the potential short- and long-term economic benefits for NZT. They also assessed the capacity of the national supply chain and the local labour market to ensure maximum benefits for Teesside and the UK. Analysis includes (1) estimates of the potential direct economic benefits from CCUS at the NZT project level, the national level and from export markets; (2) estimates of the wider economic benefits from NZT, including indirect and induced benefits and employment supported, safeguarded and enabled by NZT; (3) the impact of higher and lower levels of UK content on economic growth and employment; (4) assessment of the Tees Valley labour market and skills availability in the region, and interventions that could increase local participation in the project.

**Pinsent Masons** act for BP in relation to all aspects of the infrastructure consenting process (a development consent order, or DCO). This includes obtaining a direction from the Secretary of State to bring the CO<sub>2</sub> gathering network into the DCO regime and advising throughout on consenting strategy. Pinsent Masons also act on all property transactions required to deliver the project.

**Mott MacDonald** led on the production of a masterplan for a multi-modal hydrogen transport hub to facilitate the use of hydrogen powered vehicles in place of petrol and diesel models. The masterplan detailed the infrastructure requirements, costs and associated benefits, as well as forecasting future demand to underpin operational trials and longer-term use and investment. The proposed hub concept encapsulates a centralised electrolyser to produce

the hydrogen fuel, a distribution network of pipelines connected to a suite of refuelling stations, salt cavern storage facilities and a supporting innovation R&D campus to test and develop the technology and manage and monitor its implementation.

The UK is a strong competitor in CCUS goods and services given existing strengths in engineering, construction management, and sector strengths in oil and gas and speciality chemicals. NZT could generate substantial direct economic benefits for Teesside and the UK, and support £4.8 billion in cumulative direct gross value added (GVA) (undiscounted) throughout the project lifetime.

During the construction phase, NZT could support £370 million in direct GVA and 4,500 direct jobs annually from 2024 to 2028, reaching a peak of £450 million in direct GVA and 5,500 direct jobs in 2025. In addition, NZT direct project spending will flow through the local and national economy, generating wider-economy benefits, and safeguarding energy-intensive jobs.

**NZT is a bold but credible pathway to storing up to 10 million tonnes per annum (Mtpa) of CO<sub>2</sub> by 2030**





## How UK professional services can help you

The UK is home to internationally-renowned experts skilled in delivering innovative, commercially-viable and sustainable infrastructure projects.

The UK has an unrivalled range of capabilities across the infrastructure project lifecycle:

- surveyors, architects, engineers and designers
- policy development specialists
- experts in sustainability reporting, risk management and return measures to leverage sustainable finance
- legal expertise to deliver robust governance, commercial certainty and arbitration solutions

We invite you to explore how UK professional services can help you.

[www.theglobalcity.uk](http://www.theglobalcity.uk)  
[PBSC@Cityoflondon.gov.uk](mailto:PBSC@Cityoflondon.gov.uk)

The Professional & Business Services Council (PBSC) is the main independent forum for the Professional & Business Services (PBS) sector and the UK Government, working together to promote the long term success of the sector in the UK and globally.

Comprised of a diverse range of subsectors, the PBSC includes the following among its members: Accountancy, Actuarial, Advertising, Architecture, Consultancy, Engineering, Law, Recruitment and Surveying.

[www.pbsc.uk](http://www.pbsc.uk)



## With thanks:

ARUP

JBDO

EY Building a better working world

M M  
 MOTT MACDONALD

Osborne Clarke

Pinsent Masons

PPS  
 PUBLIC POWER SOLUTIONS

pwc

:vivid economics

### Sources

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11. The Global Green Finance Index, 2021
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13. ONS, 2019

## About The Global City:

The Global City campaign is The City of London Corporation's overarching initiative to promote the UK as a world-leading international financial centre. It showcases the UK as a great place for financial and professional services firms to invest, locate and grow.

**theglobalcity.uk**



**THE  
GLOBAL  
CITY**

## About the City of London Corporation:

The City of London Corporation is the governing body of the Square Mile dedicated to a vibrant and thriving City, supporting a diverse and sustainable London within a globally successful UK.

We aim to:

- Contribute to a flourishing society
- Support a thriving economy
- Shape outstanding environments

By strengthening the connections, capacity and character of the City, London and the UK for the benefit of people who live, work and visit here.

**[www.cityoflondon.gov.uk](http://www.cityoflondon.gov.uk)**