

IT'S TIME TO CONNECT

**A critical link in the UK's offshore wind success –
and why high-voltage cable delivery must become a shared priority**

A strategic proposition aligned to the UK Offshore Wind Industrial Growth Plan

June 2025



EXECUTIVE OVERVIEW

Energy Transition Has a Cable Supply Challenge

Offshore wind has scaled faster in the UK than nearly any other energy technology. But it now faces a capacity challenge – not of ambition, but of delivery. High-voltage cable systems are becoming the critical path for future offshore wind projects and offshore grid upgrades.

This document outlines how XLCC is developing the UK's sovereign high-voltage capability – and how industry and government can collaborate with us to deliver it.

Cables are no longer a background component. They are now the constraint.

No Energy Transition without Transmission

The UK alone will require over 28,000 km of high-voltage cable for offshore wind and interconnectors by 2040. Europe-wide demand is expected to grow 14-fold by 2030. Converter stations and high-voltage cable availability are already influencing the timing of grid access.

Yet the UK has no domestic high-voltage cable manufacturing. All supply is imported, often with long lead times and rising costs.

What's at stake for Offshore Wind

Delivery schedules, procurement plans, and investor confidence are now being shaped by cable availability. High-voltage cables are no longer commodities; they are pacing items.

For UK developers, supply chain constraints are no longer a future issue, they are a present-day project risk.

XLCC Is Changing That

We are building the UK's first high-voltage subsea cable factory, with 2,700 km/year capacity. Our offering includes end-to-end project solutions, dynamic cable innovation, deepwater access for Cable Installation Vessels, and fully integrated installation and maintenance services.

We're creating 1,200 direct jobs and thousands more indirect jobs across operations and installation, all supported by a dedicated Skills Academy, and we are delivering £5.8 billion in direct GVA to the UK economy.

We Need Your Support

COMMITMENTS TO UNDERPIN OFFTAKE

Letters of intent, early-stage forecasts, or indicative demand signals help de-risk our investment case and demonstrate the commercial pull needed to unlock public and private funding.

PUBLIC INVESTMENT ALIGNMENT

The CIB scheme or any future evolution of it, GB Energy, the OWGP and the Green Industries Growth Accelerator exist to catalyse private investment in shared national infrastructure.

Developer alignment strengthens our case and unlocks the multiplier.

STRATEGIC DEVELOPER INVESTMENT

Equity participation or structured offtake-backed investment can secure long-term cable access, influence phasing and specification, increase UK content for CfD, ScotWind, or MPI portfolios, and de-risk grid delivery across assets. This model has worked for UK towers, blades, and foundations – high-voltage cables must be next.

SKILLS CO-INVESTMENT

The XLCC Skills Academy is training the UK's first generation of high-voltage cable jointers. But we're going further – seeking partners to co-develop placement, upskilling, and deployment programmes across wind, grid, and the wider energy transition

THE ENERGY TRANSITION HAS A CABLE SUPPLY CHALLENGE

Offshore wind has scaled faster than almost any other energy technology in the UK. But its continued success and the growth of the wider electricity system now rest on a critical enabler that few projects can control. High-voltage subsea cable.

Cables are no longer a background component; they are now the constraint.

Global demand for high-voltage cable is outstripping supply by more than 2:1, with delivery slots already booked deep into the 2030s. Transmission operators are pre-ordering capacity years in advance. Developers are being forced to plan around uncertainty. Converter stations and the high-voltage systems they depend on are becoming a bottleneck.

“There is no energy transition without transmission.”

The UK's own cable needs are substantial:

28,000km + of high-voltage cable required for offshore wind and interconnectors by 2040

European demand for export cables is set to grow 14-fold by 2030

Converter station and high-voltage cable availability is already shaping the timing of future grid access

And yet, the UK has no domestic high-voltage cable manufacturing capability. All supply is imported, often at extended lead times and increasing cost.

XLCC is changing that. But this can't be a passive wait-and-see. It needs coordination, dialogue and forward planning – now.

UK'S FIRST HIGH-VOLTAGE SUBSEA CABLE FACTORY

- **Location:** Hunterston, North Ayrshire – deep water port access
- **Fully consented site** – construction-ready

CABLE MANUFACTURING CAPACITY

- **Up to 2,700 km/year** high-voltage cable output (525 kV XLPE)
- Optimised for **long-run, high-voltage subsea export cables**
- Delivery cable lengths from factory of more than **200 km** each

JOBS AND SKILLS

- **1,200+ direct jobs** at full ramp-up
- **000's of Indirect jobs** providing huge opportunities for competency development
- **200 apprenticeships** via XLCC Training Academy

CABLE INSTALLATION VESSEL ACCESS

- Adjacent berth for XLCC's dedicated **Cable Laying Vessel**

ECONOMIC IMPACT

- £2 billion+ private capital project
- £5.8 billion direct GVA to the UK economy
- Identified in the IGP as a **priority** for Future Electrical Systems & Cables



WHAT'S AT STAKE FOR OFFSHORE WIND

THE RISK HAS BECOME A REALITY

For UK offshore wind developers, supply chain constraint is no longer a future concern it's a present-day project risk.

Delivery schedules, procurement plans, and investor confidence are being shaped by one key variable: the availability of high-voltage systems, cables, converter stations, and installation capacity. These are no longer commodities. They're pacing items.

HERE'S WHAT THAT MEANS IN PRACTICE:

- Regulated transmission operators have already secured long-term cable supply frameworks, placing pressure on remaining capacity for offshore wind projects
- High-voltage lead times now exceed CfD delivery windows, undermining developers' ability to meet regulatory milestones and investor expectations
- Far-shore Offshore Wind developments have no viable alternative to high-voltage export systems, they simply won't proceed without them
- Demonstrable UK content in supply chains is increasingly critical to secure CfD allocations, ScotWind obligations, and future Clean Industry Bonus eligibility

Meanwhile, the UK has no legacy high-voltage manufacturing base. Global suppliers are selective, prioritising major Transmission System Operators or developers with large volumes, strategic view, and fully financed contracts. Offshore wind developers' risk being crowded out unless they engage: **Early**, **Strategically**, and **Collectively**.

THE OFFSHORE WIND INDUSTRIAL GROWTH PLAN (IGP) RECOGNISES THIS CHALLENGE.

Published in 2024 by OWIC and Renewable UK, the IGP identifies high-voltage cables and converter systems as urgent national priorities and is part of the UK's priority list for strategic industrial capability.

Yet the success of the IGP depends on action. Developers must help create the conditions for supply, not just consume it.

XLCC is explicitly named in the IGP as a key enabler for Future Electrical Systems & Cables as a top tier "Make" priority for UK offshore wind.

Because procurement timelines are no longer in your control, and in this market, the early movers shape the solution.

"Cables are no longer a background component. They are the delivery constraint, now defining the pace, cost, and feasibility of UK offshore wind."

About XLCC

- **Founded:** 2020, to address global high-voltage supply constraints
- **Location:** Hunterston, North Ayrshire – fully consented site with deepwater port access
- **Backed by:** National Wealth Fund, Scottish National Investment Bank, private equity investors
- **Leadership:** Senior experienced team from industry, including Nexans, Global Marine, Hitachi Energy, Carlyle, Hellenic Cables
- **Mission:** To engineer, manufacture, install and maintain high-voltage cable, including building a world-class cable manufacturing facility in Hunterston, along with the necessary marine and project management capabilities.

WHY XLCC IS DIFFERENT

A STRATEGIC PARTNER - NOT JUST A SUPPLIER

XLCC is not simply entering the high-voltage cable market, we're reshaping it, with a **fully integrated, UK-based turnkey capability across the entire lifecycle of subsea transmission.**

What sets XLCC apart:

MANUFACTURING

Hunterston will be the UK's first dedicated high-voltage subsea cable factory which is capable of delivering up to 2,700 km annually of 525 kV XLPE cable at full ramp. A purpose-built facility designed for long production lengths, tight QA, and high-voltage performance.

INSTALLATION

XLCC's integration of cable manufacturing and cable laying vessel operation **enables a turnkey cable delivery model** from design through to installation and commissioning.

XLCC will operate its own Cable Laying Vessel, designed to lay bundled high-voltage systems efficiently and reliably. This reduces interface risk, shortens delivery timelines, and ensures project schedule control.

MAINTENANCE AND OPERATIONS

Long-term asset performance matters. XLCC's proposition includes lifecycle cable services, from marine handling to fault response, helping developers and OFTOs manage reliability and insurance exposure.

SKILLS AND WORKFORCE

The XLCC Training Academy in North Ayrshire is already operational, creating the UK's first dedicated pipeline of high-voltage cable jointers and factory engineers. 200+ apprenticeships, multiple education partnerships, and a focus on long-term workforce resilience.

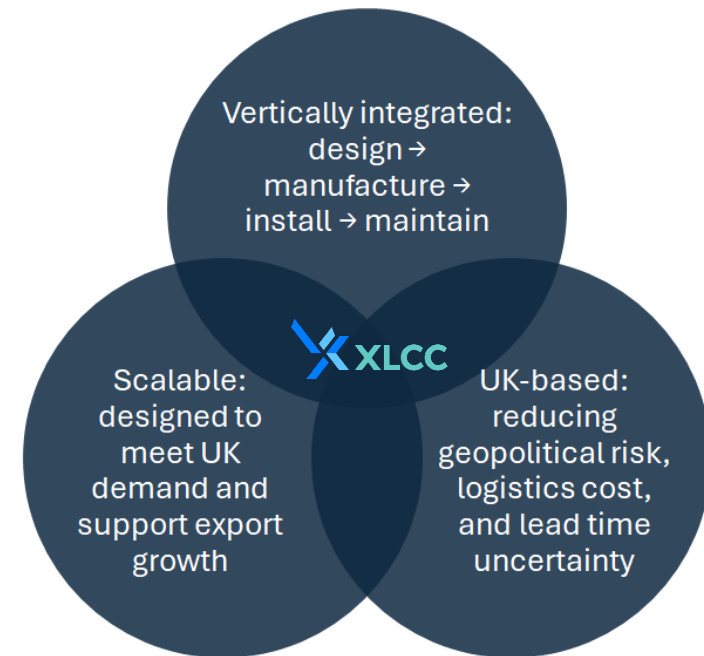
INNOVATION AND SYSTEM INTEGRATION

Backed by a senior team with experience, XLCC is pursuing joint innovation into:

- Dynamic high-voltage cable design for floating wind
- Interoperable systems with converter OEMs
- Failure reduction through materials and jointing techniques
- Integration with future offshore grid topologies (MPIs, hybrid hubs)

XLCC's factory is designed for long-distance, high-capacity high-voltage system and to meet both domestic and international demand.

We're not just building cable. We're building UK Capability and Content.



This is a strategic asset - built to serve the UK's offshore energy future

COLLABORATE. INFLUENCE.

WE COLLECTIVELY NEED TO PARTNER.

High-voltage cables have become the pacing item in offshore delivery, but most procurement models haven't caught up.

XLCC offers more than early capacity. We offer a unique opportunity to **influence how capacity is built** to shape a domestic supply chain solution around real-world project needs.

Engage early through a CIB investment (or a mechanism that replaces it) and you gain:

- Influence over production parameters, cable formats, and QA standards
- Input to route engineering, jointing methods, and installation sequencing
- The ability to align delivery phasing with CfD or TSO portfolio commitments
- Confidence in UK content for CfD Supply Chain Plans and ScotWind delivery frameworks

This is a unique opportunity.

Hunterston is in delivery. Our vessel is being designed. Our systems are being designed now. Your involvement at this stage can shape what XLCC becomes commercially, technically, and operationally.

With your involvement in XLCC being a clear and obvious route for you to bring meaningful UK content to your project.

This isn't just a cable supply, it's a strategic asset in formation.

And the developers who help shape it now will be the ones best placed to rely on it later.

The UK needs this capability. But more importantly, it needs to be shaped by the people who will use it.

WE'RE INVITING PARTNERS TO HELP SHAPE:

AREA	WHAT WE'RE BUILDING	WHY IT MATTERS
Cable Design & QA	Standardised 320 kV - 525kV XLPE systems and if relevant, with very high conductor cross sections. To date our design of cable and our chosen accessories have been manufactured and successfully passed all testing, with all testing to conclude in 2025.	Developer input ensures compatibility and installability
Installation Interface	Integrated vessel operations, including installation, survey, repair, operations and maintenance	Minimises risk across the EPCI chain
High-voltage System Readiness	Collaborations with converter OEMs	Supports multi-terminal and MPI readiness
R&D Focus Areas	Dynamic cable development, jointing resilience	Relevant to floating wind and deepwater arrays
Workforce Capability	UK-based jointers, engineers, planners	Helps meet developer skills and UK content targets

SKILLS FOR A FUTURE ENERGY ECONOMY

BUILDING THE UK'S HIGH-VOLTAGE WORKFORCE - TODAY AND FOR THE LONG TERM

XLCC is not only creating the UK's first dedicated high-voltage cable manufacturing facility – it is also investing in the skilled workforce that will sustain it for decades to come.

The XLCC Training Academy, based in North Ayrshire, is already operational. It is the **first programme of its kind in the UK**, designed to train high-voltage cable jointers, electrical engineers, and marine operations professionals. Delivered in partnership with Ayrshire College and other local institutions, the Academy will support:

- **200+ apprenticeships** over the first five years
- A pipeline of talent in **high-voltage cable jointing and advanced manufacturing**
- A skills model that supports not only offshore wind – but also future interconnectors, floating wind, hydrogen and grid infrastructure projects

XLCC is also backing **PhD and R&D studentships** in areas such as high-voltage materials science, reliability engineering and system integration – in partnership with leading UK universities.

“The transition to a net zero power system will only succeed if we invest in people as well as technology. XLCC is creating new skilled jobs in the UK, not just assembling cable – but building national capability.”

STRATEGIC SKILLS OUTCOMES:

- **UK's first high-voltage jointer training programme** – accredited and industry-led
- **1,200 direct jobs** at full factory ramp, plus thousands more in the supply chain
- **PhD funding and knowledge exchange** partnerships underway
- **Inclusive economic growth in action** – investment in long-term careers in North Ayrshire and the wider UK energy workforce
- **Aligned with Offshore Wind Industrial Growth Plan workforce priorities** and Clean Energy Skills Strategy



BUILDING A UK-WIDE SUPPLY CHAIN

ENABLING DOMESTIC CAPABILITY THROUGH STRATEGIC CABLE MANUFACTURING

XLCC is creating more than just a factory – it is catalysing a new UK-based supply chain to support offshore wind, grid infrastructure, and the energy transition.

From raw materials to high-performance components, the Hunterston facility will source from across the UK, strengthening sovereign industrial capability and ensuring that the economic benefits of offshore wind are retained nationally.

KEY MATERIALS AND COMPONENT OPPORTUNITIES

- **Steel** – for cable armouring and infrastructure. XLCC can be a predictable anchor customer for UK steelworks (e.g. Scunthorpe, Port Talbot), helping to support green steel reinvestment and national energy security.
- **Aluminium** – used in conductor cores, with potential for UK-sourced extrusion and processing to support sustainable lightweight manufacturing.
- **Lead** – used as a moisture barrier in high-voltage cable systems. XLCC will draw on UK-based lead processing capability, supporting domestic metals resilience and circular economy principles.
- **Insulation and sheathing polymers** – high-performance compounds used in high-voltage cables present opportunities for UK-based compounding and chemical manufacturing (e.g. North East, Humber clusters).

- **Reinforcement materials** – including taping, high-tensile wraps, and composite strengthening – ideal for advanced materials SMEs.
- **Fibre optic integration** – embedded monitoring cables and digital diagnostics enable smart cable systems and could be sourced from UK fibre specialists.
- **Specialist kits, mechanical accessories and jointing components** – including sealing, filler, thermal compounds and accessories for factory and field use.

“XLCC creates a long-term, visible demand signal for a range of strategic UK industries – including steel, advanced materials, fibre optics and cable accessories. This is the industrial base of our energy transition.”

NATIONAL ECONOMIC IMPACT

- **£28.5 billion** in GVA over the project lifetime, factoring in avoided cable imports and system delays
- **An estimated average of 9,000 full-time equivalent (FTE) jobs per year**, including construction, operations, and supply chain employment across steel, logistics, marine, and high-tech manufacturing sectors
- **Predictable demand signals** help de-risk reinvestment into critical manufacturing sectors and reinforce the case for Clean Industry Bonus and OWGP support

DE-RISK. DELIVER. DECARBONISE.

The XLCC proposition is grounded in three strategic outcomes:

DE-RISK	DELIVER	DECARBONISE
Secure UK high-voltage capacity	Lock in schedule certainty	Reduce import emissions
Avoid project slippage	Align delivery with grid upgrades	Enable UK content, UK manufacturing, UK jobs
Reduce supply chain risk	Integrated install model	Strengthen sovereign net zero capability

Support XLCC today to de-risk your own pipeline, deliver on national infrastructure, and decarbonise through UK-made supply.

SMART STRATEGIC CO-INVESTMENT

This isn't about subsidy. It's about smart, strategic co-investment to secure a capability that underpins your own project pipeline.

If you know you'll need cable, investing in the supply chain that will deliver it is not just rational. It's overdue.

The opportunity is live. The risk is real. The invitation is open.

Let's build this together and ensure the UK has the infrastructure it needs to deliver on its energy ambitions.



A Playbook for Industrial Success

There is precedent. Major UK manufacturing facilities have only been delivered where developers have provided forward alignment and demand visibility. **High-voltage is no different**, and XLCC is asking for the same: strategic engagement and commercial signals that unlock infrastructure essential to offshore wind delivery.

This is how developers helped enable the UK's largest monopile and blade facilities, creating the confidence for investors and the government to step in. XLCC is now inviting the same partnership to secure sovereign high-voltage capacity.

Early engagement and demand signals from developers also support the case for government support, including investment guarantees, grant funding, or underwriting mechanisms that reduce risk and bring forward critical infrastructure.

EVIDENCE & PROOF POINTS

FROM VISION TO DELIVERY - XLCC IS ALREADY UNDERWAY

This isn't a speculative proposal. XLCC has moved from concept to implementation and is already contributing to the UK's industrial growth agenda.

Here's where we are now:

PROJECT DELIVERY MILESTONES

MILESTONE	STATUS
The Hunterston site is secured and fully consented	✓
£110m raised through National Wealth Fund, SNIB and private investors	✓
Factory design and delivery model in place	✓
525 kV XLPE high-voltage concept cable type testing underway	✓
Cable Laying Vessel (CLV) being designed	✓
XLCC Academy operational; first high-voltage apprenticeships in training	✓

"To complete the construction round and unlock full delivery, XLCC is now seeking strategic commitments, commercial, financial and policy-based from across the sector."

ECONOMIC AND SKILLS IMPACT

IMPACT AREA	DETAIL
Direct jobs at full capacity	1,200+ , including 200 apprenticeships
Supply chain jobs supported	Thousands , across steel, marine, electrical and logistics
GVA contribution to UK economy	£5.8 billion (EIA baseline), £28.5 billion with avoided import costs and energy system delays
Annual cable output (at full ramp)	Up to 2,700 km/year - enough to serve multiple major UK offshore projects simultaneously
Alignment with UK policy	Identified in IGP as a "Make" priority for Future Electrical Systems & Cables

STRATEGIC RELEVANCE

- Directly supports OWGP, IGP, and Clean Industry Bonus objectives
- Strengthens UK position in high-voltage manufacturing - a known supply chain constraint
- Contributes to CfD Supply Chain Plans, ScotWind commitments, and wider Net Zero infrastructure delivery

This is a live, investable, nationally significant asset - with visible progress and tangible benefits.

SECURING THE FUTURE - TOGETHER

SHARED RISK. SHARED DELIVERY. SHARED OWNERSHIP.

The UK's offshore wind success has always been built on a partnership between developers, suppliers, and the government.

The UK needs high-voltage cable manufacturing. But this capability won't deliver itself.

The Industrial Growth Plan says so. National Grid says so. Every offshore wind project beyond 2028 is built on the assumption that it will exist.

But it doesn't. Not yet.

XLCC is ready to build it. Planning permission is fully consented. The design is mature. The team is in place. But unlocking the full-scale build of the UK's first high-voltage factory now depends on visible support from **industry, government, and investors.**

This is a shared risk. And it demands a shared response.

WHAT'S NEEDED NOW:

COMMITMENTS TO UNDERPIN OFFTAKE

Letters of Intent, portfolio-aligned forecasts, and early-stage procurement dialogue can unlock capital. Even indicative demand helps de-risk the investment case and demonstrate the commercial pull that public funding depends on.

STRATEGIC DEVELOPER INVESTMENT

Developers have supported blade, foundation and tower facilities. High voltage is no different. Direct equity participation or structured offtake-backed investment in XLCC is a route to:

- Secure long-term supply chain access
- Influence delivery phasing and specification
- Create UK content for CfD, ScotWind or MPI portfolios
- De-risk grid delivery on a portfolio-wide basis

Developer investment or structured offtake-backed capital is not new, it has enabled UK blade, tower, and foundation facilities. High voltage must now follow.

This isn't financial engineering. It's industrial enablement.

"Strategic co-investment today unlocks the infrastructure your projects will depend on by the end of the decade. The timeline is tight, but the opportunity is real."

PUBLIC INVESTMENT ALIGNMENT

OWGP. Clean Industry Bonus. Green Industries Growth Accelerator. All are designed to catalyse private investment into shared national infrastructure. Developer alignment, even indirect, strengthens the case and unlocks the multiplier.

SKILLS CO-INVESTMENT

The XLCC Academy is delivering the UK's first high-voltage cable jointer training at scale.

But skills investment doesn't stop at the factory gate. We're seeking project partners to co-develop placement, upskilling and deployment models for wind, grid, and future sectors.

LET'S BUILD IT. TOGETHER.

The UK needs domestic high-voltage cable manufacturing, and the sector has made that clear.

- The Industrial Growth Plan calls for it.
- The UK Transmission Network is relying on it.
- Every major offshore project from 2028 onward assumes it will exist.

XLCC is ready to deliver.

But to realise the full potential of this nationally significant capability and unlock the investment required, we need the sector's support now.

Let's make the next step tangible – whether it's a letter of intent, a forward demand signal, a site visit, or an investment discussion, we invite you to talk to us now.

**Because the sector doesn't just need cable. It needs capability.
And it needs it to be built – together.**



GET INVOLVED

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📍 Hunterston site visits available – by appointment

🔗 Visit <https://xlcc.co.uk> for more information

This document is supported by a technical and investment pack which is available on request.

***At XLCC, we're not just building cable.
We're building capacity, resilience, and
long-term delivery for UK offshore wind.
Will you be part of it?***