

Floating LNG-to-Power for AI Data Centres

Why the next generation of compute will be built at the shoreline — and why the floating LNG-to-power platform is the fastest route to firm, low-carbon power for it

MIG International Ltd · Blue Sea Power S.A. · October 2026

Summary

Artificial-intelligence compute has become an energy and cooling problem before it is a real-estate problem. A single hyperscale AI campus now asks the grid for more firm power than many national utilities can connect inside five years, and it asks for that power with a reliability profile — 99.999 % and above — that intermittent renewables cannot deliver alone. Developers are responding by moving generation behind the meter, and increasingly to the coast, where fuel arrives by sea and water for cooling is unlimited.

Blue Sea Power Energy, a MIG International portfolio company, develops floating LNG-to-power plants: shipyard-built barges that store LNG or bio-LNG, regasify it and generate electricity on board, designed to replace oil-fired power stations on islands and coasts. The same platform is the natural power source for an AI data centre that needs no grid connection, no land acquisition and no freshwater abstraction — and MIG and Blue Sea Power Energy are now working on floating barge configurations designed specifically for AI compute.

This paper sets out the thesis and explains why MIG considers floating LNG-to-power the most bankable path to firm, low-carbon power for AI workloads in markets where the grid cannot keep pace.

1. The problem: AI compute needs power the grid cannot give it

Three constraints now govern where AI data centres can be built.

Firm power, in large blocks, quickly. AI training and inference clusters are built in blocks of 50–150 MW of IT load, and each block must run at near-constant load around the clock. In most of the markets where MIG operates — Southern Europe, the Gulf, Africa, Southeast Asia — grid interconnection queues for loads of that size run to three to seven years, and the grid that eventually arrives is often neither firm nor clean.

Cooling and water. Each megawatt of IT load must be removed as heat. Air-cooled halls in hot climates spend 30–50 % of their energy on cooling; liquid and immersion cooling cut that dramatically but need a large, reliable heat sink. Inland sites compete for scarce freshwater; coastal sites have the sea.

Speed and certainty of delivery. A land-based campus is a civil-works project: permits, foundations, substation, transmission line, each on its own critical path. Hyperscalers and GPU-cloud operators are now signing capacity years ahead of delivery and paying premiums for sites that can energise first.

The industry's answers — on-site gas turbines, battery farms, small modular reactors — each solve one constraint. Floating LNG-to-power addresses all three.

2. The platform: what a floating LNG-to-power plant is

A Floating Storage, Regasification & Power plant (FSRP) is a non-propelled barge, built in a shipyard and towed to site, that performs the three steps of LNG-to-power on one hull:

1. **Storage.** LNG or liquid biomethane, with hydrogen-blending capability, is delivered by LNG carrier and held in cryogenic tanks on board.
2. **Regasification.** The fuel is brought to engine conditions on board; no onshore regasification plant is required.

3. **Generation.** High-efficiency gas engines deliver power at medium voltage to a shore connection or directly to a co-located load. Blue Sea Power Energy's configurations range from roughly 50 MW to 200 MW.

None of this is new technology. Floating storage and regasification units have been in service since 2005 and are now a standard, charterable part of the LNG value chain; gas-fuelled power barges have operated commercially for over a decade; the engines, containment and ship-to-ship transfer systems all have a large installed base. The FSRP integrates proven components on a single hull, built and classed under a tier-1 classification society, so that a complete power plant is delivered from a shipyard rather than built on site. The lesson of the FSRU market is instructive: a "new technology" in 2005, FSRUs became ordinary within a decade. Floating power is following the same path.

3. The thesis: put the data centre next to the power barge

If the power plant floats, the data centre can too. Moor a compute barge alongside a power barge at the same berth and the site has, from day one, its own firm generation, its own fuel supply by sea, the sea itself as the cooling heat sink, and a shore cable only for surplus export. Nothing on the critical path of a land campus — interconnection, substation, land assembly, water rights — applies.

	Floating AI site	Typical land campus, same IT load
Grid connection required	None — behind the meter	100+ MW interconnection, multi-year queue
Land	Berth and shore cable only	20–40 ha plus substation corridor
Water for cooling	Seawater heat sink; no abstraction	Municipal or ground-water abstraction
Firm power	Own generation with redundancy and fuel on board	Grid plus diesel standby
Build location	Shipyard, controlled environment	Site civils, weather-exposed
Redeployable	Yes — tow to a new berth	No
Carbon	LNG / bio-LNG today; H ₂ blending-ready	Grid mix plus diesel

MIG and Blue Sea Power Energy are working on floating barge configurations designed specifically for AI compute — the power barge paired with a dedicated compute barge on a common hull design, built in the same yard and delivered to the same berth. We will publish more as that work matures; the point of this paper is the architecture: **one shipyard can deliver a complete AI site — generation, fuel, cooling and connectivity — in the time it takes a land campus to get through permitting.**

4. Why this is bankable

MIG looks at the floating AI site through the lens it applies to every project: can the asset be financed on its own cash flows, with institutional capital, at an investment-grade rating?

Two contracted revenue streams, one asset. The site sells power under a capacity-backed power purchase agreement and sells compute under colocation or GPU-as-a-service contracts with rated offtakers. The second stream does not depend on a grid tariff or a regulator; it depends on a market in which capacity is sold years ahead. Where the host grid can take surplus power, a third stream exists.

Shipyard delivery, shipyard security. Because the unit is built in a yard against milestones, construction risk is covered the way ship finance covers it — refund guarantees on advances, performance bonds and delay liquidated damages from the yard — rather than by the softer completion guarantees of onshore EPC.

A relocatable asset. If an offtaker fails, the barges can be towed to another berth and another contract. Lenders to land-based data centres have no such remedy.

The MIGCorp Bond™ take-out. The structure above is precisely what MIG's project bond was designed to fund: a dedicated SPV, a trustee-controlled collection account, PPA and compute receivables assigned as security, and a rating at the SPV level independent of the sponsor. MIG's companion paper, *Financing AI Data-Centre Power: non-recourse lending against PPAs and compute offtake*, sets out the full structure.

5. Where it goes first

Floating LNG-to-power was designed for islands and coasts that burn diesel and heavy fuel oil for electricity, and that is where it will first replace them. Blue Sea Power Energy is developing deployments in Greece and exploring further opportunities across South-East Europe, the Mediterranean and MENA. Each of these markets shares the AI site's constraints — no firm grid, scarce water, no time — and each can host a compute barge alongside its power barge once the power is there.

MIG's view is simple. The AI build-out will go where firm, clean, fast power is, and for a growing number of markets that power will float.

This paper is for information only and does not constitute an offer or solicitation. MIG International Ltd – RAK ICC Reg. No. A002/09/12/5254 – investments@mig-corp.com · mig-corp.com · blueseapower.eu