



3rd December 2024



VSA Transitional Energy Comment

Invinity Energy Systems (IES LN)[#]: Next Generation VFB Launch

Invinity Energy Systems (IES LN), develops Vanadium Flow Batteries (VFBs) for utility scale grid storage. IES, through its Joint Development and Commercialisation Agreement with **Gamesa Electric**, has been developing a next generation VFB named “Mistral” which is suitable for very large-scale wind, utility, and solar installations (+500MWh projects). Today the Company announces the launch of **ENDURIUM™**, its next-generation VFB previously code-named “Mistral”, for general sale. The new product is available with configurable charge/discharge durations spanning 4 to 18 hours to target the high growth longer duration energy storage required for electricity grid stability and renewables penetration grows. The IES technology is backed by 81 granted or pending patents and the Company will sell **ENDURIUM™** directly into the core markets of the UK and North America whilst Asia and ROW will be an IP-protected licence and royalty model with strategic partners. IES has stated that first shipments of **ENDURIUM™** are on track to commence before the end of 2024.

Early Commercial Interest

The Company’s Longer Duration Energy Storage (LDES) technology has technical advantages over competing lithium-ion batteries, but lithium-battery prices have been falling. **ENDURIUM™** product key improvements include a lower cost of storage, greater energy density, simplified maintenance and improved round-trip efficiency. IES already has confirmed customers including Gamesa Electric and Everdura Technology Co. in Taiwan. Everdura has a 14.4MWh order with IES and a reseller agreement which targets 255MWh. Everdura will undertake the manufacture of **ENDURIUM™** VFBs under licence in Taiwan and IES will secure royalties on product shipments. For the UK and European market, **ENDURIUM™** will be produced at IES facilities in Scotland. IES also has facilities in Canada and USA and expects to meet enhanced U.S. domestic content requirements from 2026. As IES disclosed in September 2023, the new VFB product is earmarked for 84 MWh of projects backed by the U.S. Department of Energy (DOE). IES have also stated that the product qualifies as a Stream 2 technology for use in projects looking to apply for support under the UK Government’s recently announced LDES Cap and Floor Scheme.

High Growth Opportunity

In FY 2023 (year-end December), IES shipped 32.5MWh of product. Our FY 2024 forecast is for revenue of £4.8m on shipments of 7.5MWh and an EBITDA loss of £21.2m. We estimate FY 2025 revenue growing to £24.0m from sales of 51MWh of systems and ancillary services to result in an EBITDA loss of £19.8m. For FY 2026, our estimated sales of 243MWh of VFBs and ancillary services produce an estimated revenue of £111.1m and EBITDA of £0.8m. IES previously reported June 30th 2024 end cash of £49.0m. We estimate FY 2025 end cash of £25.9m rising to £26.7m by FY 2027 end. The Company is financially resourced to support the growth opportunity for **ENDURIUM™**. The opportunity in grid scale battery storage is significant. BloombergNEF forecast 100GWh of Battery Energy Storage Systems (BESS) to be installed globally in 2024. BESS markets are currently dominated by (shorter) sub 2-hour duration storage. **ENDURIUM™** is specifically designed to address the growth of Long Duration Energy Storage (LDES) within the global BESS market and to offer competitive advantage over Lithium-ion in LDES. News of **ENDURIUM™** commercial success, now it is being formally launched and is scheduled to ship by year end, will be a major driver for the share price. **We reiterate our Buy recommendation. Target price 105p.**

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Transitional Energy**

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Stock Information

Stock	BBG TKR	Exchange	Currency	Mkt Cap (m)	Last Close (p)	Rec	TP	Date of Recommendation
Invinity Energy Systems PLC#	IES LN	LSE AIM	£/p	51.8	0.12	BUY	1.05	30/06/2020

NOTE: #VSA house stock. **SOURCE:** EIKON data, VSA Capital estimates. Pricing as of last close.

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Equities breakdown: 26/02/23	BUY	SPEC BUY	HOLD	SELL
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