

Corporate Services and Economic Growth Overview and Scrutiny Committee







Peter Rolton Executive Chairman





We have significantly grown our team in the last 18 months from our inception, with world-class talent from the automotive and battery sector





Capacity failure	 EV battery demand in Europe and North America is set to grow by 34% CAGR to 2030¹ Planned battery demand is forecast to outstrip supply by 378GWh in Europe and 284GWh in North America²
Technology failure	 Lack of differentiation for the highest value part of the EV (the battery) The engine has historically been the differentiator for OEMs, and this is rapidly disappearing Battery manufacturers have not been able to provide a differentiated battery for OEMs

- The battery manufacturing industry has 'happened' rather than evolved in planned way
 - The ESG agenda is currently non-core in the battery industry
 - As we move to decarbonize our world, we must do it in the right way; tracking and eliminating carbon is vital to sustainable production



European EV battery supply-demand outlook 2021 – 2028f (GWh)

North America EV battery supply-demand outlook 2021 – 2028f (GWh)





Environmenta

I failure (ESG)

We are uniquely positioned to take advantage of unprecedented growth in the battery market – focusing on the unmet need for more tailored, sustainable and locally sourced batteries

A proposition that aligns to customer priorities of quality and performance that is both sustainable and cost competitive

Customised and co-developed

- Advanced materials and battery innovation to improve performance
- **Customised and co-developed** products to meet customer specifications
- **Improved innovation outcomes** through supply chain collaboration

Cost competitive

- **Deeply networked** with a strong R&D partnerships including UKBIC and The Faraday Institution
- Optimised manufacturing operations and footprint
- Focused on continuous improvement across technology, manufacturing and operations
- Favourable government policies and wide political support for Gigaplant development



Sustainable

- **Ethical and sustainable** materials through transparent sourcing
- Efficient and renewable energy consumption
- Localised battery recycling capabilities

Localised supply

- Strong end-to-end **supply chain coordination and** collaboration
- Reduced working capital through local manufacturing
- **De-coupled from fragile supply chains** through localisation



We have a long-term vision to expand our product offering globally to provide clean energy storage that supports the wider global energy transition



Our rapidly growing world-class team of battery experts has deep public and private networks – we are putting ourselves at the heart of the UK battery ecosystem



Note: 1. Britishvolt ecosystem not exhaustive Source: Britishvolt, University websites



We have secured a ground-breaking first Gigaplant site in Blyth, UK, recognised by our peers for its ideal location close to critical infrastructure

We have secured the UK's leading Gigaplant site in Blyth, Northumberland as well as wider land ownership (~3m sq ft of further development), with associated planning permission granted on 6th July 2021.

The site was selected after a rigorous selection process and is one of the best UK sites for a Gigaplant due to the high maturity of surrounding critical infrastructure¹:



Water supply

Secure supply through private borehole facilities with **~2bn litre p.a. capacity** for both main site and supplier park occupants



North Sea Link Interconnector

£1.8bn investment joint venture between National Grid and Norwegian counterpart; ~1.4GWh capacity providing enhanced energy security commissioned from Q321



National Grid Substation

Secured grid connection offer for required capacity; securing equivalent position would require 5 year lead time and c. £50m+ capital investment





efficiency

Existing freight railhead to be reinstated, providing **supply chain flexibility and**



Private substation and grid for full estate Ensures control of supply for the Gigaplant and opportunity to provide power to other supplier park occupiers as needed



Deep Sea Port facility, Blyth Estuary £35m council and LEP funded upgrade works ongoing; provides additional logistics and supply chain options

We are also in active discussions with global supply chain providers and OEMs to co-locate in an adjacent supplier park: this will create an ecosystem of battery value chain players located in the North-East and provide Britishvolt with enhanced operational efficiency and security

Note: 1. The site was selected from a shortlist of five total sites (the others being Bro Tathan, Wales; Gravity, Bridgewater, Bristol; Ratcliffe on Soar; and Coventry Airport); Blyth was selected due to being an excellent site deliverable within the expected timeframe, while other sites had timing, cost, and power concerns



The Gigaplant will be built over 4 phases, allowing for flexibility to respond to customer demand and evolving market dynamics



Britishvolt is using:

- 1. A 4-phase approach to project development, scaling up production capacity in line with forecasted UK demand
- 2. A considered approach to factory layout, keeping efficiency and flexibility at the heart of factory design
- A focused approach to process excellence, enabling adaption to market dynamics and new technologies

This ensures we have flexibility inbuilt into manufacturing operations; aligning and integrating our product strategy, customer strategy and evolving market dynamics





The Gigaplant's ESG credentials score above comparable buildings in the industry due to its ability to run 100% on renewables and considerable use of recycled energy

Background to EPCs:

- Non-dwellings in the UK are required to have a EPC when the building is constructed, sold or rented out
- Rating is on A–G rating scale similar to those used for fridges and other electrical appliances
- Assessed based on energy efficiency of building fabric and heating, ventilation, cooling, and lighting systems for non-domestic buildings
- Assessed by trained and accredited assessor (Department for Levelling Up, Housing and Communities has register of assessors)
- · EPCs are valid for 10 years

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	Roof mounted solar PV: 20,194 MWh Near offshore wind farm 1: 154,710 MWh Near offshore wind farm 2: 221,274 MWh		Process electricity input: 721,633 MWh		Total expended energy: 1,091,358 MWh
	Ground mounted solar PV 1: 43,174 MWh Ground mounted solar PV 2: 39,976 MWh	Electricity supplied: 1,091,358 MWH	Services electricity input: 369,725 MWh		
e potential ergy ategy ludes over m MWh of cycled ergy	Far offshore wind farm 1: 358,438 MWh Far offshore wind farm 2: 109,133 MWh offsite renewable energy from Grid: 144,459 MWh Total energy consumption – 2,939,983 MWh p.a. Local renewable electricity – 946,899 MWh p.a. Grid supplied renewable electricity – 144,459 MWh p.a. Recycled energy – 1,848,625 MWh p.a. 38% of energy supplied would be renewable. 62% of energy consumed would be recycled.		Services energy output: 2,218,350 MWh Recycled energy input: 1,848,625	Total energy consumed: 2,939,983 MWh	Recyclable energy output: 1,848,625 MWh
	Battery energy consumed would be zero carbon. Battery energy storage would also be used to increase local renewable energy consumption and decrease grid supplied renewable electricity required.		Recycled energy: 1,848,625 MWh		

Note: 1. BV's rating is based on a design certificate to be peer reviewed and certified by an independent body; a final certificate is not issued until verification of plant and operations, which has not occurred for the Gigaplant yet given its early project stage Source: Department for Levelling Up, Housing, and Communities





Indicative site plan





 BV FutureGen Foundation is a registered charity to support hard to reach groups in the communities near our factories. It will work with other like-minded organisations and individuals to develop relationships, training programmes, and employability programmes to provide and enable those with the correct level of desire to transition, with a pathway into a career at Britishvolt.

 We have purchased a former M&Co store in Ashington, and we plan to fit this out as the BV FutureGen Hub. Providing STEM learning for schools, skilled and semi-skilled training, community engagement and employability skills.





Apprenticeships

Britishvolt will make full use of the Apprenticeship Levy and will encourage apprenticeships for new entrants and experienced team members

We are currently in a process of competitive dialogue with two apprenticeship providers for our bulk programmes of level 2 and 3 apprentices for the Factory and Scale-up facility. Pilot schemes will commence in September '22 and will facilitate between 30 and 250 apprentices per annum.

Graduates

Britishvolt sees the value in creating exciting opportunities for recent Graduates and have established graduate roles and a Operations Graduate Scheme (pilot underway since February '22). From '24 onwards, we would expect up to twenty graduates per annum plus internship and dissertation project opportunities.

We have signed an MOU with Northumbria University, Newcastle University and Durham University.

PhDs

We are currently developing a programme to attract PhDs and EngDs into Britishvolt to support the R&D function and anticipate funding up to ten new individuals per annum.

In addition to this, as part of BVs talent management suite, a Fellowship programme is being developed to focus on the continuous upskilling and retention of deep technical expertise.



