

AESC Plant 3, IAMP Green Belt: Very Special Circumstances Report

AESC UK Ltd

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Contents

1.0	Introduction	1
	Purpose of the Report	1
	The National Context	1
	AESC UK and the Proposed Development	2
	Structure of the Report	4
2.0	Planning Policy Context	5
	National Planning Policy Framework	5
	International Advanced Manufacturing Park Area Action Plan	5
	Sunderland Core Strategy and Development Plan 2015-2033	8
	Summary	8
3.0	Effect on the Green Belt	9
	Purpose of the Green Belt	9
	Openness of the Green Belt	11
	The Need to Demonstrate VSC	13
4.0	Recent Battery Plant and Employment Development Precedents in the Green Belt	14
	Coventry Battery Manufacturing Facility, Coventry Airport	14
	Land to the West of Denby Hall Business Park, Denby	14
	Land off South Staffordshire Railway Walk, Castlecroft	15
	Wolverhampton West Sub Station, Langley Road	16
	Rawfield Lane, Fairburn, Selby	16
	Summary	17
5.0	Exceptional Circumstances for IAMP	18
	The Exceptional Circumstances for IAMP	18
	The Future Growth Opportunities and Scenarios	18
	Lack of Suitable Alternative Locations	19
	Summary	19
6.0	Demonstrating Very Special Circumstances	20

7.0	The Demand and Need for Gigafactories	21
	Context	21
	The Demand and Need for Gigafactories	22
	The Global Battery Race	24
	Pipeline of Gigafactories and EV Investment in the UK	27
	Macroeconomic Context	31
	Summary	33
8.0	Locational Requirements	34
	Existing Automotive Cluster	34
	AESC UK	35
	Need to share facilities with AESC Plant 2	36
	Access to a Skilled Labour Force	39
	Accessibility	40
	Infrastructure	40
	Summary	41
9.0	Socio-Economic Benefits	42
	Introduction	42
	Economic Benefits from the Manufacture of Batteries	42
	Economic Policies and Strategies	43
	Sunderland – Local Economic Conditions	46
	The Proposed Development	47
	Summary	49
10.0	Environmental Benefits	50
	Climate Change Emergency and Need for EVs	50
	AESC Internal Carbon Neutral Strategy	52
	Carbon Savings from the Switch to EVs	52
	Environmental Credentials of AESC Plant 3	52
	Summary	53
11.0	Lack of Alternatives	55

Alternative Sites	55
Alternative Layouts	55
Size of Buildings	58
Summary	59
12.0 Conclusion	60
1. There is a demonstrable need for the development	60
2. There is a specific locational requirement	61
3. Delivery of Significant Socio-Economic Benefits	62
4. Delivery of Significant Environmental Benefits	62
5. There are no Alternative Sites / Layouts	63

1.0 Introduction

Purpose of the Report

- 1.1 This Green Belt: Very Special Circumstances Report has been prepared by Lichfields on behalf of our client, AESC UK ('the Applicant'). Its purpose is to accompany a full planning application for the erection of a gigafactory for the manufacture of batteries for electric vehicles ('EV'), with an associated Assembly & Warehousing Building and an office headquarter building on land west of International Drive and north of the A1290 at the International Advanced Manufacturing Park ('IAMP'), Washington, Sunderland ('the Application Site').
- 1.2 The Application Site is located adjacent to the gigafactory which is currently under construction at IAMP (hereinafter referred to as 'AESC Plant 2') and lies within the Green Belt as designated in the Sunderland City Council ('the Council') Core Strategy and Development Plan 2015-2033 (adopted January 2020). This Report has therefore been prepared to present the very special circumstances ('VSC') case to justify the development in accordance with national planning policy.

The National Context

- 1.3 The Proposed Development directly responds to the urgent need for the UK to develop large scale EV battery production capacity. The UK Battery Strategy¹ states:
- “Batteries will play an essential role in our energy transition and our ability to successfully achieve net zero by 2050”.***
- “The Government’s 2030 vision is for the UK to have a globally competitive battery supply chain that supports economic prosperity and the net zero transition. The UK will be a world leader in sustainable battery design and manufacture, underpinned by a thriving battery innovation ecosystem. Batteries represent one of the highest growth clean energy sectors and the UK is well placed to reap the rewards thanks to its comparative advantage in research and advanced manufacturing.”***
- 1.4 The House of Commons, Business and Trade Committee report 'Batteries for electric vehicle manufacturing'² states:
- “Large scale production of batteries takes place in gigafactories. The UK faces a gigafactory gap, because of insufficient domestic manufacturing capacity to satisfy UK industry’s demand for batteries.”***
- “Building an industrial base of gigafactories in the UK is strategically important for the UK’s energy security, for national security and for the UK’s ability to reach Net Zero and to unlock the benefit of economic growth, new jobs and new tax contributions from green industries.”***

¹ UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 3

² Batteries for electric vehicle manufacturing (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023), page 3

- 1.5 The Faraday Institution³ predicts that there will be demand for 100 giga watt hours ('GWh') of supply of batteries by 2023 and 200 GWH by 2040, which is the equivalent of five UK-based gigafactories (large, high volume battery manufacturing facilities) by 2030 and ten by 2040. The size of the economic opportunity provided by this change is significant. The need for the electrification of transport is essential to decrease the emission of greenhouse gases to meet the net zero commitments. This is in response to the Climate Change Emergency which has been declared by the UK Parliament, as well as by Sunderland City Council.

AESC UK and the Proposed Development

AESC UK and the Existing Battery Plant (AESC Plant 1)

- 1.6 AESC UK is a world leading battery technology company and manufacturer of lithium-ion batteries for the automotive industry. It already runs what was Europe's first EV battery plant (hereinafter referred to as 'AESC Plant 1'), which opened in Sunderland in 2012 to produce batteries for the Nissan LEAF, the company's best-selling all-electric model.
- 1.7 The business is headquartered in Japan, with manufacturing sites in the United States and here in Sunderland where over 470 workers are employed. The company has a track record of quality and safety having just produced its fifty million battery cell.
- 1.8 Since 2012, AESC has produced batteries for more than 1,000,000 electric vehicles across 59 countries, achieving a flawless record of 'zero critical incidents'. AESC Plant 1 was the first mass scale battery plant in Europe and since 2019 the company has invested significantly in securing its market leading position.

Second Battery Plant – the gigafactory under construction at IAMP (AESC Plant 2)

- 1.9 As the demand for EVs is forecast to grow significantly over the coming years supporting the transition towards a net zero carbon future, additional capacity for battery manufacturing is needed. To meet this increased future demand, AESC is investing £450 million to build AESC Plant 2 at IAMP. Plant 2 will build AESC's latest generation of battery, with 30% more energy capacity, offering improved range and efficiency.
- 1.10 Full planning permission was granted for Plant 2 in October 2021⁴. Construction is underway and it will be operational soon. This gigafactory will have a capacity of 12 gigawatt hours ('GWh') and will be capable of producing batteries for ten times as many EVs per year than at present. This will play an important role in accelerating the transition to net zero carbon mobility.

Third Battery Plant – the gigafactory subject to this application at IAMP (AESC Plant 3)

- 1.11 AESC is now seeking to expand its operations with the development of a third battery plant (hereinafter referred to as 'AESC Plant 3') to meet demand with capacity to produce 12 GWh of batteries per year, with an associated Assembly & Warehousing Building and a headquarter office for AESC UK which will operate as a shared facility with AESC Plant 2.

³ <https://www.faraday.ac.uk/ev-economics-study-2022/>

⁴ Planning application reference 21/01764/HE4)

Gigafactory developments require funding of hundreds of millions / billions of pounds. Importantly, AESC is fully committed to this major capital investment.

- 1.12 The development of the two new gigafactories is a unique, most exciting and once-in-a-lifetime opportunity to help Sunderland and the UK become one of the best international locations for automotive and advanced manufacturing. The Proposed Development will help ensure that AESC and Sunderland are at the forefront of innovations in battery technology and are playing a critical role in leading the de-carbonisation revolution through the promotion of clean energy and new energy EVs.
- 1.13 The gigafactories will support the continued localisation of the EV battery supply chain and will help make EVs more accessible to the UK and European consumers.
- 1.14 Demand for batteries is growing rapidly, the Faraday Institute predicts 100,000 jobs could be created in the UK's battery manufacturing sector by 2040, with Sunderland well placed to capture a large amount of that job creation thanks to AESC and their supply chain.

Structure of the Report

- 1.15 The remainder of this Report is structured as follows:
- Chapter 2: Planning Policy Context;
 - Chapter 3: Effect on the Green Belt;
 - Chapter 4: Recent Battery Plant and Employment Development Precedents in the Green Belt;
 - Chapter 5: Exceptional Circumstances for IAMP;
 - Chapter 6: Demonstrating Very Special Circumstances;
 - Chapter 7: The Demand and Need for Gigafactories;
 - Chapter 8: Locational requirements;
 - Chapter 9: Socio-Economic Benefits;
 - Chapter 10: Environmental Benefits;
 - Chapter 11: Lack of Alternatives; and
 - Section 13: Conclusion.

2.0 Planning Policy Context

2.1 This chapter considers the national and local planning policy in relation to development in the Green Belt.

National Planning Policy Framework

2.2 The National Planning Policy Framework (December 2023) ('NPPF') sets out the Government's planning policies for England and how they are expected to be applied by Local Planning Authorities. The policies contained within the NPPF are a material consideration in the determination of this planning application.

2.3 Paragraph 142 of the NPPF sets out that:

“The fundamental aim of Green Belt Policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.”

2.4 Paragraph 143 states that the Green Belt serves the following five purposes:

- a To check the unrestricted sprawl of large built-up areas;
- b To prevent neighbouring towns merging into one another;
- c To assist in safeguarding the countryside from encroachment;
- d To preserve the setting and special character of historic towns; and
- e To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

2.5 Paragraph 150 notes that once Green Belts have been defined, local planning authorities should plan positively to retain and enhance landscapes, visual amenity and biodiversity. Paragraph 152 further states that inappropriate development is harmful to the Green Belt and should not be approved except in very special circumstances.

2.6 Paragraph 153 of the NPPF stipulates that when considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. Paragraph 153 further states that:

“Very Special Circumstances’ will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.”

2.7 Paragraph 154 provides various exceptions to when the construction of new buildings is not inappropriate. The Proposed Development does not fall within any of the exceptions.

International Advanced Manufacturing Park Area Action Plan

2.8 The International Advanced Manufacturing Park Area Action Plan ('AAP') provides the planning policy framework for the comprehensive development of approximately 392,000 sqm of floorspace for uses relating to the Automotive and Advanced Manufacturing sectors.

The AAP was jointly adopted by both the Council and South Tyneside Council on 30 November 2017.

2.9 The AAP's vision for the IAMP is:

“A nationally important and internationally respected location for advanced manufacturing and European-scale supply chain industries. A planned and sustainable employment location that maximises links with Nissan and other high value automotive industries as well as the local infrastructure assets, including the ports, airports and road infrastructure.” (paragraph 26)

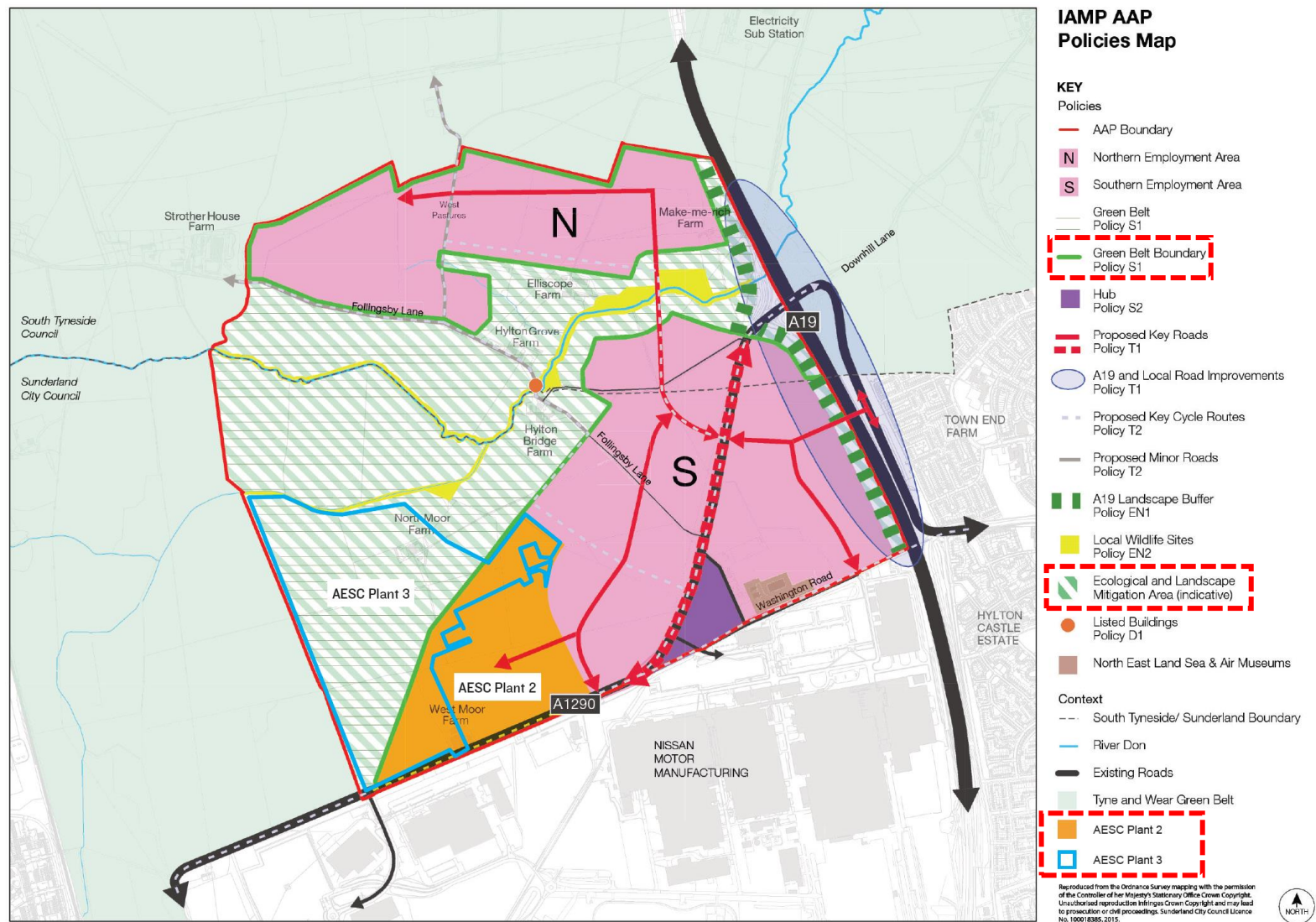
2.10 The AAP states that the type of place which the Councils want to create is:

*“an attractive working environment that creates the conditions in which businesses can establish and thrive and where people choose to work. A **unique opportunity for increased job and business creation and the promotion of regional prosperity** whilst taking advantage of natural assets and green infrastructure including the River Don corridor.”* (paragraph 27)

2.11 In order to deliver the IAMP, 150ha of land was removed from the Green Belt and was allocated for advanced manufacturing and automotive uses through the adoption of the IAMP AAP. The development areas are split across the Northern Employment Area and Southern Employment Area, with 110ha of land running between these two areas which remains in the Green Belt and is designated as an Ecological and Landscape Mitigation Area (known as the 'ELMA').

2.12 Figure 2.1 shows the IAMP AAP Policies Map. Onto this map Lichfields has marked the location of the site boundaries for AESC Plant (orange shading) and AESC Plant 3 (blue line). As can be seen, much of the AESC Plant 3 boundary lies within the Green Belt and the ELMA.

Figure 2.1 Extract from the IAMP AAP Policies Map with AESC Plants 2 and AESC Plant 3 added



Sunderland Core Strategy and Development Plan 2015-2033

- 2.13 The Sunderland Core Strategy and Development Plan ('CSDP') (adopted January 2020) sets out the Council's long-term plan for development across Sunderland up to 2033. It seeks to ensure that the right type of development is focused in the right places to meet the needs of local people and businesses.
- 2.14 CSDP Policy NE6 (Green Belt) states that the Green Belt (as designated on the Policies Map) in Sunderland will serve the following purposes:
- 1 Check the unrestricted sprawl of the built up areas of the city;
 - 2 Assist in safeguarding the city's countryside from further encroachment;
 - 3 Assist in the regeneration of the urban area of the city;
 - 4 Preserve the setting and special character of Springwell Village and Newbottle Village; and
 - 5 Prevent the merging of Sunderland with Tyneside, Washington, Houghton-le-Spring and Seaham, and the merging of Shiney Row with Washington, Chester-le-Street and Bournmoor.
- 2.15 Policy NE6 further states that in assessing development proposals, development which is inappropriate in the Green Belt will not be approved except in VSC.

Summary

- 2.16 As the Application Site partly lies within the Green Belt, it will need to be demonstrated that there are VSC for allowing such a development in the Green Belt.

3.0 **Effect on the Green Belt**

3.1 In account of the Proposed Development's location within the Green Belt, this section of the Report considers the following:

- The effects of the Proposed Development on the five purposes of the Green Belt;
- The effects of the Proposed Development on the openness of the Green Belt; and
- Whether the proposed development is considered as inappropriate development in the Green Belt and the need to demonstrate VSC.

3.2 It should be noted that the Green Belt is a planning designation to restrict urban sprawl and encroachment of the countryside, prevent coalescence, preserve the setting and special character of historic towns and to assist with urban regeneration rather than a landscape designation which are made where areas are of high landscape value.

Purpose of the Green Belt

3.3 As a first step in assessing the Proposed Development against relevant Green Belt policy, consideration is given to the overall purposes of the Green Belt. Such an assessment provides the context for discussion on the impact of the development on the openness of the Green Belt, and the extent of harm to the Green Belt that would arise as a result of the development.

3.4 The NPPF considers Green Belt policy at section 13, with paragraph 143 stipulating:

Green Belt serves five purposes:

- a *To check the unrestricted sprawl of large built up areas;*
- b *To prevent neighbouring towns merging into one another;*
- c *To assist in safeguarding the countryside from encroachment;*
- d *To preserve the setting and special character of historic towns; and*
- e *To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.*

3.5 Table 3.1 below considers the impact of the Proposed Development against the five purposes of the Green Belt set out above.

Table 3.1: Assessment of the Proposed Development against the five purposes of the Green Belt

Green Belt Purpose	Assessment
<p>a) To check the unrestricted sprawl of large built-up areas</p>	<p>An industrial development on the Application Site would introduce built form onto greenfield land lying in the Green Belt, which would increase the amount of development in the area. However, the Proposed Development would not result in the unrestricted sprawl of large built-up areas of the type the NPPF or CSDP Policy NE6 is seeking to control.</p> <p>The Application Site is surrounded by existing industrial built form comprising of the wider IAMP development to the east and various manufacturing facilities to the south. Agricultural land lies to the west and north, with further land to the north allocated as (and with planning permission for) the Northern Employment Area⁵. As such, the Application Site is set within an existing industrial environment which is due to expand as further developments within IAMP come forward.</p> <p>In addition, the Application Site is located within the defined IAMP boundary as set out in the adopted AAP. The Proposed Development does not seek to introduce new built form in locations outwith of this defined boundary.</p> <p>It is therefore clear that the Proposed Development would not lead to the unrestricted sprawl of the built-up area, as development is limited to the confines of the adopted IAMP AAP boundary.</p>
<p>b) To prevent neighbouring towns merging into one another</p>	<p>In parallel with the above, the Proposed Development will not lead to the merger, or increase the potential for the possible merging, with any defined nearby town or settlement. The Proposed Development which is industrial in nature is limited to land within the IAMP AAP boundary. Indeed, land outwith of this defined boundary would remain unaffected by the Proposed Development.</p> <p>Policy NE6 (Green Belt) of the CSDP is seeking to prevent the merger of Sunderland with Tyneside, Washington, Houghton-le-Spring and Seaham, and the merging of Shiney Row with Washington, Chester-le-Street and Bournmoor. The Proposed Development will play no role in the merger of any of these settlements.</p>

⁵ Planning permission references 21/02807/HE4 and ST/1172/21/FUL

Green Belt Purpose	Assessment
c) To assist in safeguarding the countryside from encroachment	The Application Site lies partly within the IAMP ONE ELMA and hence there is encroachment into this area and into the countryside. However, as set out above, the Application Site itself lies within the defined IAMP AAP boundary, with no development proposed outwith of this defined area.
d) To preserve the setting and special character of historic towns	The immediate surroundings comprise of industrial built form and open agricultural land. There are no historic towns anywhere near the Application Site and, as such, there is no scope for the Proposed Development to impact on the setting and special character of a historic town.
e) To assist in urban regeneration, by encouraging the recycling of derelict and other urban land	It is not considered that resisting development in this location would encourage urban regeneration outside the Green Belt. As set out above, the Application Site lies within the defined IAMP AAP boundary as set out in the adopted AAP. The primary intention of the Proposed Development is to lead the de-carbonisation revolution through the promotion of clean energy and new energy electric vehicles, with a justified and specific locational / logistical need for the Proposed Development to be delivered on the Application Site next to AESC Plant 2 . It therefore would not be appropriate or sustainable to deliver the Proposed Development on an alternative urban site, nor is there scope to do so, given the specific locational requirements, as demonstrated in Chapter 8 of this report.

3.6 In account of Table 3.1, it is clear that the Proposed Development would not cause any meaningful harm to the purpose of the Green Belt in the context of restricting urban sprawl, preventing coalescence, preserve the setting and special character of historic towns and assisting with urban regeneration. However, the Proposed Development would result in encroachment into the countryside. There would therefore be some harm against one of the five purposes of the Green Belt.

3.7 It is noted that the Proposed Development would be delivered within a defined boundary as allocated in the AAP, with no development proposed on land outwith of this boundary.

Openness of the Green Belt

3.8 Paragraph 142 of the NPPF advises that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.

3.9 In consideration of paragraph 142 of the NPPF, the Application Site currently comprises of open land which forms part of the IAMP AAP boundary. The Application Site is bounded as follows:

- To the north by land within the IAMP AAP boundary, consisting of the IAMP Ecological and Landscape Mitigation Area (ELMA) and the IAMP Northern Employment Area;
- To the east by the site of the AESC Plant 2, beyond which lies International Drive and further built industrial development delivered as part of the IAMP;
- To the south by the A1290, beyond which lies a range of manufacturing facilities;
- To the west by open land in agricultural use outwith of the IAMP AAP boundary.

3.10 In view of the current undeveloped nature of the Application Site, the Proposed Development would result in the introduction of built form on open land in the Green Belt. Indeed, the Proposed Development would inevitably reduce openness which is considered as an essential characteristic of the Green Belt in national planning policy. As such, there would be some harm to the Green Belt through the reduction of openness.

3.11 The Planning Practice Guidance on ‘Green Belt’ (July 2019) considers a number of factors to be taken into account when considering the potential impact of development on the Green Belt. These include, but are not limited to:

“openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume;

the duration of the development, and its remediability – taking into account any provisions to return land to its original state or to an equivalent (or improved) state of openness; and

the degree of activity likely to be generated, such as traffic generation.”⁶

3.12 The Landscape and Visual Impact Assessment (LVIA) Chapter of the Environmental Statement has considered the effects on the spatial and visual openness of the Greenbelt, as well as permanence. The LVIA identifies that the main aspects of the Proposed Development that would affect the openness of the Green Belt are the large scale of the proposed buildings themselves. The assessment identifies that the Proposed Development would result in **Significant adverse landscape and visual effects** within approximately 1 km of the Proposed Development. It also identifies that that the Proposed Development would result in some **localised Significant adverse effects on the visual and spatial openness** of this part of the Green Belt.

3.13 With regard to the landscape and visual aspect, the Green Belt to the north would remain and would be enhanced through an extensive area of ELMA that is being brought forward as part of the Early Infrastructure and Northern Employment Area permissions⁷ at IAMP, with the central ELMA for this development being 75.82 hectares. This ELMA is to include woodland planting which would help filter some views of the Proposed Development and hence would reduce its impact.

3.14 Tree planting within the northern site part of the Application Site is limited due to the need to balance the area’s ecological and landscape requirements. Providing mitigation for

⁶ <https://www.gov.uk/guidance/green-belt>

⁷ Planning permission was granted for the Early Infrastructure and Northern Employment Area applications in August 2023 for up to 168,000sqm of floorspace for automotive and advanced manufacturing uses with around 35.08ha of land for development. The applications includes a central Ecological and Landscape Mitigation Area (ELMA) of 75.82 hectares. The ELMA includes woodland, grassland and wetland areas (planning application references Sunderland: 21/02807/HE and South Tyneside: ST/11722/FUL)

farmland birds is a priority in this area and it was considered more important to retain open areas between the proposed built development and the Usworth Burn, which could be used by farmland birds, than to provide woodland planting. This is because farmland birds like large open spaces, whereas woodland provides places for predators. It was also considered that given the large size of the building (up to 30 metres in height), any landscaping would have a limited effect in reducing its visual impact. However, the landscaping that is being brought forward as part of the wider IAMP development would help to provide some visual mitigation in views from the north. As such, the **landscape and visual effects would be reduced to Not Significant from the north** as the proposed planting in the wider area established and matures – this would soften the development and help to integrate it into the surrounding area.

- 3.15 Unfortunately, there is no scope for the creation of a woodland buffer along the western Site boundary due to the location of pylons, with an associated easement area. However, some shrub planting would take place. Therefore, the **Significant landscape and visual effects from the west would remain**.
- 3.16 IAMP AAP Policy EN1 (Landscape) requires a landscape buffer around the development edges to integrate the development with the surrounding countryside and provide defensible boundaries to the Green Belt. Paragraph 142 of the supporting text clarifies that the defensible boundaries are to prevent urban sprawl. In this case, the Application Site is bounded by the Usworth Burn to the north, which provides a defensible boundary, and a hedgerow to the west. The hedgerow to the west will be enhanced, as far as practical; however, given the proximity to the powerlines and the associated easements it will not be possible to plant a tree belt along the western boundary. However, notwithstanding this, the western boundary will still provide a defensible boundary.
- 3.17 Taking into account the above, the Proposed Development will have some Significant adverse effects on the openness of the Green Belt.

The Need to Demonstrate VSC

- 3.18 The NPPF advises that inappropriate development within the Green Belt is, by definition, harmful and should not be approved except in VSC. Save for a small number of exceptions as set out in paragraph 154 of the NPPF, development within the Green Belt is regarded as inappropriate. As the Proposed Development does not fit into any of the exceptions, it is considered to represent inappropriate development in the Green Belt. It therefore then follows that as ‘inappropriate development’, it is necessary to consider whether VSC exist to justify the Proposed Development in accordance with paragraphs 152 and 153 of the NPPF.
- 3.19 Accordingly, the next chapter of this Report (Chapter 4) provides some examples of developments in the Green Belt where VSC have been justified, including for the gigafactory at Coventry. Chapter 5 then considers the exceptional circumstances for the release of the development areas at IAMP from the Green Belt. The subsequent chapters of this Report then set out the VSC which exist to justify the delivery of AESC Plant 3 including the associated buildings and infrastructure in the Green Belt.

4.0 **Recent Battery Plant and Employment Development Precedents in the Green Belt**

4.1 To support the principle of the Proposed Development, this section of the Report provides a summary of recent Green Belt proposals which have either been approved at the planning application stage or allowed on planning appeal on the basis of VSC. The following cases have been identified in relation to battery plant, industrial or employment-based developments located within the Green Belt.

Coventry Battery Manufacturing Facility, Coventry Airport

4.2 In March 2022, Coventry City Council granted outline planning permission with all matters reserved except for access for the development of a battery manufacturing facility with ancillary battery recycling capability including landscaping, car parking, access and associated works at Coventry Airport (planning reference: OMES/2021/2268). The proposed Gigafactory would occupy the entirety of the airport site, which itself is located in the Green Belt.

4.3 The Committee Report for this development sets out the notable VSC cases associated with the development, which included the need for battery production capacity; the optimum location of the application site and lack of suitable alternative sites; the timing of the development which could see production start in 2024/5; and the generation of significant economic benefits with respect to the creation of employment opportunities. The Committee Report sets out:

“The very special circumstances...in essence centres around the fact that the proposal would result in socio and economic benefits in the form of 6,000 jobs and even more jobs indirectly linked. The battery production sector is only set to grow and to grow rapidly and immediately with Government policy recognising that immediate investment in the UK battery technology is required for the UK sector to stay competitive and to not lose jobs overseas.”

4.4 The Committee Report concludes that the benefits of the scheme would outweigh the harm to the Green Belt and other limited harms which were identified. Overall, it was considered that VSC existed and as such the proposal was considered as acceptable development in the Green Belt.

4.5 In this case the battery plant was approved in the Green Belt with no operator, no customer and no proven track record.

Land to the West of Denby Hall Business Park, Denby

4.6 In September 2021, an appeal was allowed and outline planning permission granted with all matters reserved except for access for an extension to Denby Hall Business Park, comprising the construction of new B1 (now use Class E), B2 and B8 use units at land to the west of Denby Hall Business Park, Denby (appeal reference: APP/M1005/W/20/3265602). Amber Valley Borough Council originally refused planning permission for the development

on the grounds that the VSC case put forward to justify the development was not considered to outweigh the harm to the Green Belt, resulting in inappropriate development (planning application reference: AVA/2019/0463).

4.7 The Inspector set out in the appeal decision that there would be **significant benefits in the clustering and more efficient working practices** for existing local businesses that would expand, thrive and improve as a result of the scheme, not least in terms of productivity, but also in **innovation and carbon reduction**. Furthermore, the Inspector stated that, crucially, the applicant demonstrated that the proposal could not be accommodated elsewhere in the borough on available non-Green Belt land, or within the confines of the existing business park. The Inspector considered that such circumstances weighed very substantially in favour of the appeal proposal.

4.8 The Inspector also concluded that **very considerable economic benefits** would arise as a result of the development with respect to **accelerated job creation, retention and training opportunities with increased expenditure to support other local businesses**. The Inspector stated the following at paragraph 68 of the Appeal Decision:

*“In summary therefore, when taken collectively, the **social, economic and environmental benefits of the appeal proposal would be significant** and overall, I attribute **very substantial weight** to this. Combined with the specific type and nature of the scheme, the context of the site and the lack of alternative provision for employment land, I conclude that the other considerations in this particular case clearly outweigh the harm by reason of inappropriateness, the harm to the openness of the Green Belt and the harm to the experience of the PROW [Public Rights of Way] network. As a result, very special circumstances exist to justify allowing the development.”*

4.9 Indeed, the Inspector granted outline planning permission for the development on the basis that the conflict with the development plan policies relating to the Green Belt was clearly outweighed by the social, economic and environmental benefits of the appeal proposal, to which substantial weight was given.

Land off South Staffordshire Railway Walk, Castlecroft

4.10 In August 2022, an appeal was allowed and planning permission granted for the construction, management and operations of a battery based electrical storage scheme on land off South Staffordshire Railway Walk, Castlecroft (appeal reference: APP/C3430/W/22/3292837). South Staffordshire Council originally refused planning permission on the grounds that the VSC case put forward would not outweigh the harm to the Green Belt, with the proposal considered as inappropriate development in the Green Belt (application reference: 21/00440/FUL).

4.11 Paragraph 16 of the Appeal decision states:

*“Paragraph 151 of the Framework accepts that very special circumstances will need to be demonstrated if developments are to proceed in the Green Belt. It states that very special circumstances may include the wider **environmental benefits** associated with increased production of energy from renewable sources. Although modest in scale, the appeal scheme would make **a valuable contribution to cutting greenhouse gas emissions**, by increasing the opportunity to store energy, and this also attracts **substantial weight**.”*

4.12 Paragraph 28 of the Appeal Decision concluded:

“I have concluded above that, for this appeal, very special circumstances exist to justify inappropriate development in the Green Belt that would reduce openness. My findings on other matters do not lead me to reach a different conclusion. Consequently, the proposal would comply with the relevant provisions of the Framework and the development plan when considered as a whole. The appeal should therefore be allowed.”

Wolverhampton West Sub Station, Langley Road

4.13 In October 2016, South Staffordshire Council granted full planning permission for the development of a 49.99MW battery storage facility at Wolverhampton West Sub Station, Langley Road (planning reference: 16/00747/FUL). The application site previously comprised of 1.37 ha of Green Belt land used primarily as farmland for cereal production.

4.14 In response to the requirement for increased flexibility for local demand, the development sought permission for an Enhanced Frequency Response (‘EFR’) service for the National Grid through the use of batteries. The EFR service helps balance the frequency fluctuations on the grid system, with this type of facility able to respond to services which the National grid require in meeting supply shortages and frequency balancing services. Overall, the development would secure power supply to the local area, avoids potential risks of power interruptions and brings with it economic and environmental benefits.

4.15 Taken as a whole, the development was considered to provide a VSC case which underpinned the case for granting planning permission for the development. Paragraph 6.1.2 of the Officer Report concluded:

“It is considered that the various national and local benefits arising as a result of the proposed development and the locational requirements for such a development, as outlined above, demonstrate that in this case Very Special Circumstance exist to justify the location of the proposed development.”

Rawfield Lane, Fairburn, Selby

4.16 In December 2022, an appeal was allowed and planning permission granted for the construction of a zero-carbon energy storage and management facility at Rawfield Lane, Fairburn, Selby (appeal reference: APP/N2739/W/22/3300623). Selby District Council originally refused planning permission on the grounds that the development would conflict with the fundamental aim and primary purposes of the Green Belt (application reference: 2021/0789/FULM).

4.17 Paragraph 44 of the appeal decision states:

*“In this instance I have found that the development would deliver **very substantial benefits, contributing to Net Zero targets and facilitating the role out of increasing use of renewable energy resources in the country.** Therefore, I find that the other considerations in this case clearly outweigh the harm that I have identified. Looking at the case as a whole, I consider that very special circumstances exist which justify the development.”*

4.18 The Inspector also acknowledged the unlikelihood of delivering the development elsewhere, and therefore gave **very substantial weight to the lack of alternative sites** to deliver the scheme.

Summary

4.19 The NPPF is clear at paragraph 153 that *“very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations”*. There is no definitive guidance or list which is available to local planning authorities to offer guidance as to what may constitute a VSC. Indeed, it is up to the decision maker to consider whether there are any VSC that outweigh the harm to the Green Belt on a case-by-case basis.

4.20 The review of recent case-law and other planning decisions has demonstrated that the following can amount to VSC:

- **The battery production sector is only set to grow rapidly and immediately with Government policy recognising that immediate investment in the UK battery technology is required for the UK sector to stay competitive and to not lose jobs overseas;**
- **Generation of significant economic and social benefits through job creation and training opportunities with increased expenditure to support other local businesses;**
- **Clustering businesses and more efficient working practices which increase productivity amounts other things;**
- **Innovation;**
- **Contribution of developments towards the targets of reducing carbon emissions and achieving net-zero; and**
- **Specific locational requirements and lack of alternative sites.**

4.21 It is also clear from the above review that a development can have a number of VSC cases which need to be considered cumulatively when determining whether a VSC case exists.

5.0 **Exceptional Circumstances for IAMP**

- 5.1 The area of IAMP which is now allocated for development originally all lay within the Green Belt. As part of the IAMP AAP preparation process ‘exceptional circumstances’ were demonstrated for the release of land from the Green Belt given the strategic importance of IAMP and the regional benefits.

The IAMP AAP states the following:

“The scale of Green Belt release at that time was based on the need to support the economic opportunity for the North East of England from the expansion of the UK automotive sector and the requirement for a comprehensive world class scheme to meet proven national and regional need.” (para. 79)

“The scale and significance of IAMP meant that it was inappropriate to allow it to come forward on a piecemeal basis, as this would undermine the IAMP AAP objectives and prejudice delivery” (para. 82)

The Exceptional Circumstances for IAMP

- 5.2 The ‘*International Advanced Manufacturing Park Area Action Plan – Exceptional Circumstances for Releasing Land from the Green Belt Technical background Report*’ (2017) states:

- ***“The IAMP project is of national and international significance given its importance to growing the automotive and advanced manufacturing sectors in the UK.***
- ***The viability of the UK automotive sector supply base depends upon Nissan and Jaguar Land Rover above all. These companies depend upon late material sequencing to build complex products, with unique build combination varieties in the millions. This is only possible with key suppliers located very close to the final assembly plants, which places a premium on the availability of development land nearby, as remote sites do not offer the same advantages.”***

- 5.3 **Similar VSC apply to the Proposed Development as demonstrated throughout this report.**

The Future Growth Opportunities and Scenarios

- 5.4 As part the IAMP AAP preparation, work was undertaken to understand the future growth opportunities from key sectors in the region. A ‘Strategic Employment Study’ (PWC, August 2013) was prepared to support the Sunderland City Council and South Tyneside Council in their preparation of a City Deal bid which would build on the success of the North East Enterprise Zone by being attractive to national and international investment.
- 5.5 As part of the work, PWC assessed future trends across high growth industries in the North East focusing the study on automotive, advanced manufacturing / engineering, distribution and off-shore renewable sectors. Three alternative growth scenarios were modelled using

production and sales forecasts to identify potential floorspace demand for these sectors up to 2033:

- Very optimistic scenario: a large scale growth scenario requiring an advanced manufacturing park of around 300 hectares (ha);
- Moderate scenario: scope for significant growth requiring an advanced manufacturing park of around 140 – 150 ha; and
- Pessimistic scenario: assuming a long period of on-going recession for the North East combined with structural changes to the automotive industry and re-location of production away from the region.

5.6 **The moderate scenario was viewed as the most achievable at that time and was taken forward in the IAMP AAP. The very optimistic scenario included a step increase in EV production due to increased demand from overseas markets. This step increase in EV production and the requirement for a significant increase in battery production is now happening.**

Lack of Suitable Alternative Locations

5.7 As part of the AAP adoption process, it was demonstrated that there was no other employment land immediately available and of sufficient scale and with lower adverse impacts for realising the IAMP vision and objectives.

Summary

The scale, significance, strategic importance and significant benefits of IAMP were considered to outweigh the degree of harm caused by development of land within the Green Belt. As such, exceptional circumstances were demonstrated to release land from the Green Belt at IAMP.

This report demonstrates that VSC exist for further development on Green Belt land at IAMP to deliver a further gigafactory.

6.0 **Demonstrating Very Special Circumstances**

- 6.1 As previously set out in this Report, the NPPF attaches substantial weight to any harm to the Green Belt by reason of inappropriateness and any other harm resulting from a development. Indeed, the NPPF is clear at paragraph 153 that VSC will not exist unless the potential harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. This approach is reflected in Policy NE6 (Green Belt) of the Council's CSDP.
- 6.2 Whilst there is no clear definition as to what may constitute a VSC or restriction as to what might be regarded as an 'other consideration', paragraph 156 of the NPPF states that it may include the wider environmental benefits associated with increased production of energy from renewable sources.
- 6.3 In account of paragraph 153 of the NPPF, this section of the Report presents the 'other considerations' which have been identified as 'very special circumstances' to justify the delivery of the Proposed Development within the Green Belt. These considerations comprise of the following:
- The demand and need for gigafactories;
 - Locational requirements;
 - Socio-economic benefits;
 - Environmental benefits; and
 - Lack of alternatives.
- 6.4 The following chapters of this report consider these matters in turn.

7.0 The Demand and Need for Gigafactories

Context

7.1 The UK Government is committed to achieving ‘net zero’ by 2050, as set out in the Climate Change Act (as amended in 2019). In 2020, transport was the largest emitting sector of greenhouse gas emissions producing 24% of the UK’s total emissions (406 MtCO_{2e})⁸ This demonstrates the importance of decarbonising transport – by moving away from the Internal Combustion Engine (ICE) towards hybrid and EVs – to achieve the UK Government’s net zero ambitions.

7.2 On 28th September 2023, the Government made an announcement on ‘the path to zero emission vehicles by 2035’ that by **2030 80% of all new cars and 70% of new vans sold should be set to be zero emission increasing to 100% by 2035**⁹. The mandate sets minimum annual targets, starting with a requirement for 22% of new cars sold in 2024 to be zero emission, as originally proposed. The 2035 end of sale date puts the UK in line with other major global economies, including France, Germany, Sweden and Canada.

7.3 The Government’s announcement on the path to zero emissions by 2035 states:

“Recent investment by major manufacturers has shown the UK is a world-leading country for the automotive sector. BMW has announced its intention to invest over £600 million in its UK factories, including a multimillion-pound investment to transform its Oxford plant, securing 4,000 high-quality jobs and strengthening the electric vehicle supply chain. This followed other major investments, including £4 billion from Tata to build a new gigafactory in the UK, and £1 billion from Nissan and AESC to create an EV manufacturing hub in Sunderland.”

“With transport providing the largest share of the UK’s carbon emissions, the switch to zero emission cars and vans will be the single biggest carbon saving measure in the UK’s journey to net zero.”

7.4 The UK Battery Strategy brings together government activity to achieve a globally competitive battery supply chain by 2030 that supports economic prosperity and the net zero transition. It states:

“Batteries will play an essential role in our energy transition and our ability to successfully achieve net zero by 2050. High capacity and reliable rechargeable batteries are a critical component of many devices, modes of transport, and our evolving energy generation capability.”

“The Government’s 2030 vision is for the UK to have a globally competitive battery supply chain that supports economic prosperity and the net zero transition. The UK will be a world leader in sustainable battery design and manufacture, underpinned by a thriving battery innovation ecosystem. Batteries represent one of the highest growth clean energy sectors and the UK is well placed to reap the rewards thanks to its comparative advantage in research and advanced manufacturing.”¹⁰

⁸ <https://www.gov.uk/government/statistics/transport-and-environment-statistics-2022/transport-and-environment-statistics-2022>

⁹ <https://www.gov.uk/government/news/government-sets-out-path-to-zero-emission-vehicles-by-2035>

¹⁰ UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 3

7.5 The Government’s response to House of Commons ‘Batteries for electric vehicle manufacturing’¹¹ report states:

“The UK needs gigafactories that can cater for the diverse array of vehicles, including luxury cars, public transport and commercial vehicles, manufactured in this country. Retaining niche segments of the automotive market in the UK is strategically important, because the highly specialised nature of these vehicles provides an opportunity to encourage innovative battery manufacturers into the UK”.
(Section 2)

7.6 Mike Hawes, Chief Executive, The Society of Motor Manufacturers and Traders (SMMT), said:

“The automotive industry is investing billions in decarbonisation and recognises the importance of the zero emission vehicle mandate as the single most important measure to deliver net zero.”

7.7 **It is therefore essential that the UK increases production of EVs to decarbonise transport and play an important role in driving the UK forward to becoming net zero.**

7.8 This Chapter therefore considers the demand and need for gigafactories to manufacture batteries for EVs.

The Demand and Need for Gigafactories

7.9 Given the global drive to combat climate change and that the sale of new petrol and diesel cars will end by 2035, with increasingly stringent EV targets from 2024 onwards, there is going to be a huge demand for EVs.

7.10 It is estimated that there will be up to 37.4 million EVs on UK roads by 2050¹², which is a huge increase. At the end of March 2024 there were only over 1 million fully electric cars on UK roads¹³.

7.11 The Faraday Institution’s report “*UK Electric Vehicle and Battery Production Potential to 2040*” (June 2022) (hereinafter referred to as the ‘Faraday Report’) predicts that **by 2030 around 100 GWh of supply will be needed in the UK** to satisfy the demand for batteries for private cars, commercial vehicles, heavy goods vehicles, buses, micro-mobility and grid storage. This **demand is equivalent to five gigafactories**, with each plant running at a capacity of 20 GWh per annum. **By 2040, it is predicted that demand will rise to nearly 200 GWh and the equivalent of 10 gigafactories.** It shows that the **combined EV automotive and battery ecosystem could be worth £22 billion by 2030 and £27 billion by 2040.** The UK Government has played its part by making bold policy commitments and increasing investor confidence in the UK as a location to do business.

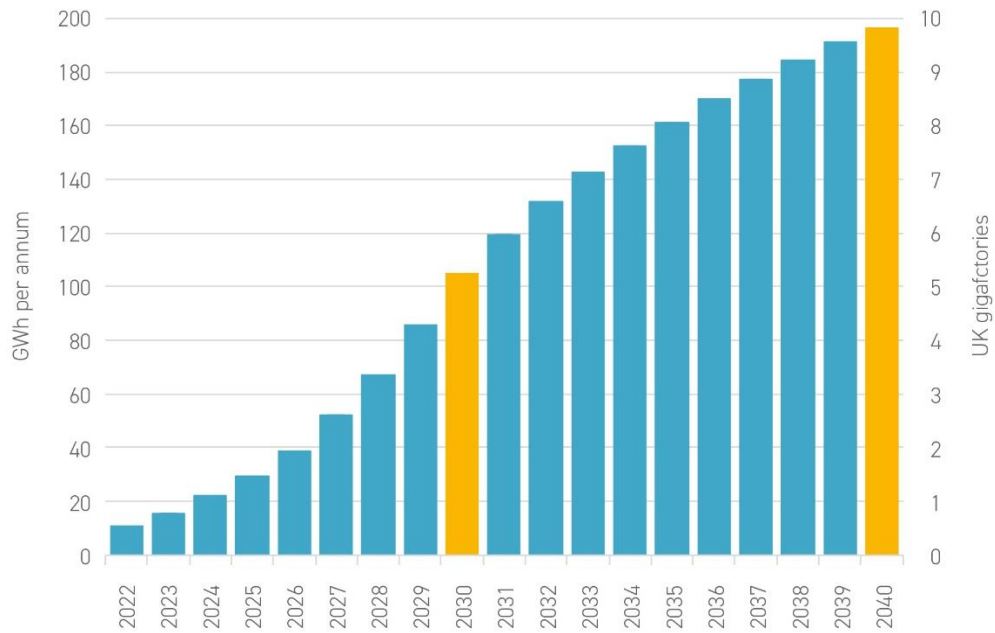
7.12 The demand for UK produced batteries to 2040 is illustrated on Figures 7.1 and 7.2.

¹¹ Batteries for electric vehicle manufacturing: Government Response to the Committee’s First Report of Session 2023-24 (House of Commons, Business and Trade Committee, published on 14 February 2024)

¹² <https://www.nationalgrideso.com/future-energy/our-progress-towards-net-zero/net-zero-explained/electric-vehicles/evs-and>

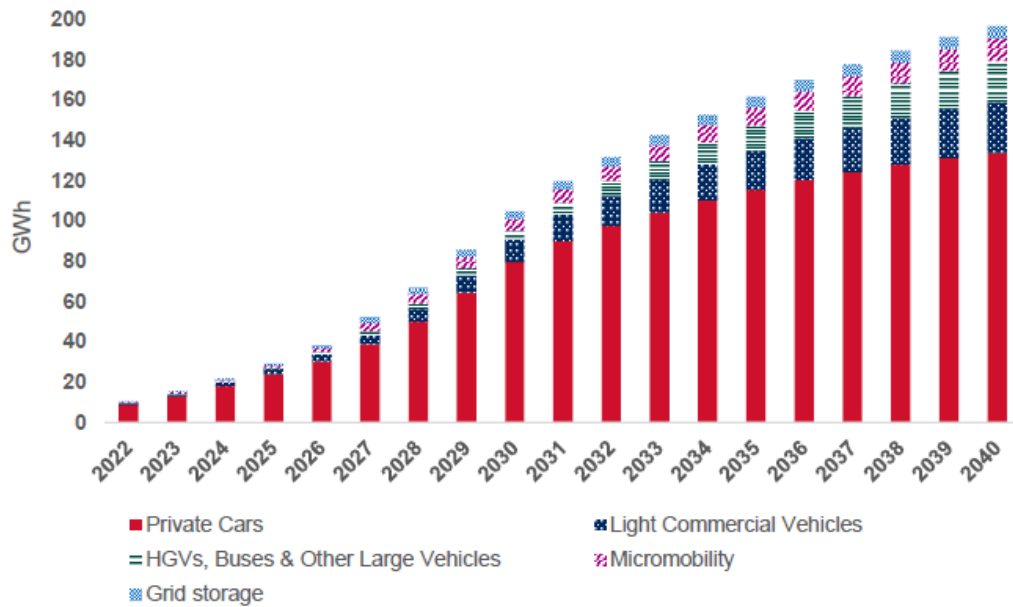
¹³ <https://www.zap-map.com/ev-stats/ev-market>

Figure 7.1 Potential Demand for UK Produced Batteries



Source: Faraday Report, June 2022

Figure 7.2 Future UK Demand for GWh by End Use



Source: UK Battery Strategy, November 2023

The Global Battery Race

- 7.13 The UK is in a global battery race. Other countries, especially in Europe and North America, are rapidly building their own capacity and are expected to gain a larger share of the global market by 2030. It has been suggested the UK is already behind, or is losing ground to, international competitors, especially to the EU and US¹⁴.
- 7.14 By 2030, Germany is expected to have the largest amount of battery manufacturing capacity in Europe. Eastern European countries, such as Hungary and Poland, have also attracted significant investments from leading Asian battery manufacturers, partly due to the cheaper land and labour in these countries but also because of their proximity to the German car industry¹⁵.
- 7.15 The pipeline of gigafactories planned in the United States has grown rapidly at the expense of investments in Europe since the Inflation Reduction Act was introduced in August 2022. Tax credits, loans and grants are available in the US to help accelerate the adoption of electric vehicles and boost domestic production. It is estimated that US battery manufacturers will receive \$150 billion of financial support over the next decade as result of subsidies, and other support, introduced under Inflation Reduction Act. In the first year since the Inflation Reduction Act was introduced, the United States attracted more than \$70 billion of investment into its electric vehicle supply chain. This investment has come at the expense of investment in Europe¹⁶.
- 7.16 The Government's response to the '*Batteries for electric vehicle manufacturing*' report¹⁷ states that:
- “Global competition for the electric vehicle supply chain has intensified following the passing of the Inflation Reduction Act in the United States. The Inflation Reduction Act has seen investment flow into the electric vehicle supply chain, especially gigafactories, in the United States at the expense of Europe. The UK Government must urgently respond to this intensified global competition with an internationally competitive package of long-term support to attract private investment into gigafactories and the wider battery supply chain within the UK.”*** (Section 13)
- 7.17 The UK Battery Strategy states securing investment into the battery value chain is key to our economic security (page 11).
- 7.18 The Faraday Report says the country must move quickly to secure more investment and keep up with demand for electric vehicles. Without large scale UK battery production, domestic vehicle producers would gradually wind down their production of ICE vehicles, progressively eliminating the jobs of the people directly employed in the UK automotive sector, probably falling in a worst-case scenario to as low as 20,000 by 2040.
- 7.19 The Faraday Institute¹⁸ states:

¹⁴ Batteries for electric vehicle manufacturing (House of Commons, Business & Trade, Nov 2023) – paragraph 10

¹⁵ Batteries for electric vehicle manufacturing (House of Commons, Business & Trade, Nov 2023) – paragraph 11

¹⁶ Batteries for electric vehicle manufacturing (House of Commons, Business & Trade, Nov 2023) – paragraphs 57 and 58

¹⁷ *Batteries for electric vehicle manufacturing: Government Response to the Committee's First Report of Session 2023-24*¹⁷ (House of Commons, Business and Trade Committee, published on 14 February 2024 -

<https://publications.parliament.uk/pa/cm5804/cmselect/cmbeis/547/report.html>

¹⁸ <https://www.faraday.ac.uk/ev-economics-study-2022/>

“The UK is making progress but not moving fast enough compared to its European competitors. UK battery manufacturing plants could reach a combined capacity of 57 GWh by 2030, equivalent to around 5% of total European GWh capacity, compared with 34% in Germany.”

“The electrification of transport is accelerating across the world, with many countries capitalising on the economic opportunities. The UK has achieved some notable successes in expanding existing and securing new battery manufacturing plants (gigafactories). However, the pace of action needs to step up a notch, otherwise the UK will fall behind in the global race and fail to maximise the economic benefits from the transition from the internal combustion engine (ICE) to electric vehicles (EVs).

Figure 7.3 Map of European Gigafactories to 2030



Source: Faraday Report, June 2022

7.20 Figure 7.3 shows the map of the European Gigafactories to 2030, as provided in the Faraday Report 2022. It includes the British Volt gigafactory in Blyth, Northumberland. The company collapsed into administration earlier this year after it was unable to raise the billions of pounds of funds needed to develop the site. Administrators were called in and at the time of writing the future of the site remains uncertain¹⁹

Pipeline of Gigafactories and EV Investment in the UK

7.21 The situation in the UK at the current time is as follows:

- AESC Plant 1 is the only operational gigafactory in the UK and supplies batteries for the Nissan Leaf. It has capacity to produce 1.8 GWh of batteries for EVs per year;
- AESC Plant 2 is currently under construction. It will become the second operational gigafactory in the UK and will be operational soon. It will have capacity to produce 12GWh of batteries for EVs per year;
- In March 2022, planning permission was granted for the West Midlands gigafactory in the Green Belt at Coventry. This plant does not have an operator or customer. It is understood that negotiations are ongoing with potential operators, and that Coventry City Council and Coventry Airport are going to be investing a further £500,000 each into the site. These funds will be used to undertake detailed work to prepare the site for a future investor. In November 2023, the Government announced that it was to create an investment zone around the Coventry Airport and the adjacent employment land which could be used to support the battery and automotive supply chain;
- On 19th July 2023, it was announced that Tata, the parent company of Jaguar Land Rover (JLR), will build a giant new EV battery plant in Somerset. Investing £4bn they will produce 40 GWh of batteries a year;
- Bentley has announced a £2.5 billion investment to provide its first EVs in Crewe by 2026²⁰;
- BMW has announced a £600 million investment to produce the next all electric MINI in Cowley from 2026²¹;
- Stellantis started producing Vauxhall, Opel, Fiat, Peugeot and Citroën electric vans at their Ellesmere Port plant in September 2023, following a £100 million investment that was secured with support from Government²²; and
- AMTE, a battery manufacturer, has plans to build a 0.5GWh gigafactory by 2026²³.

7.22 Figure 7.4 provides a map of the UK Battery Ecosystem Capabilities. This map illustrates the facilities and potential of the North East, which includes AESC's gigafactories

¹⁹ Britishvolt buyer hasn't made final payment, administrators say, BBC News, 7 August 2023

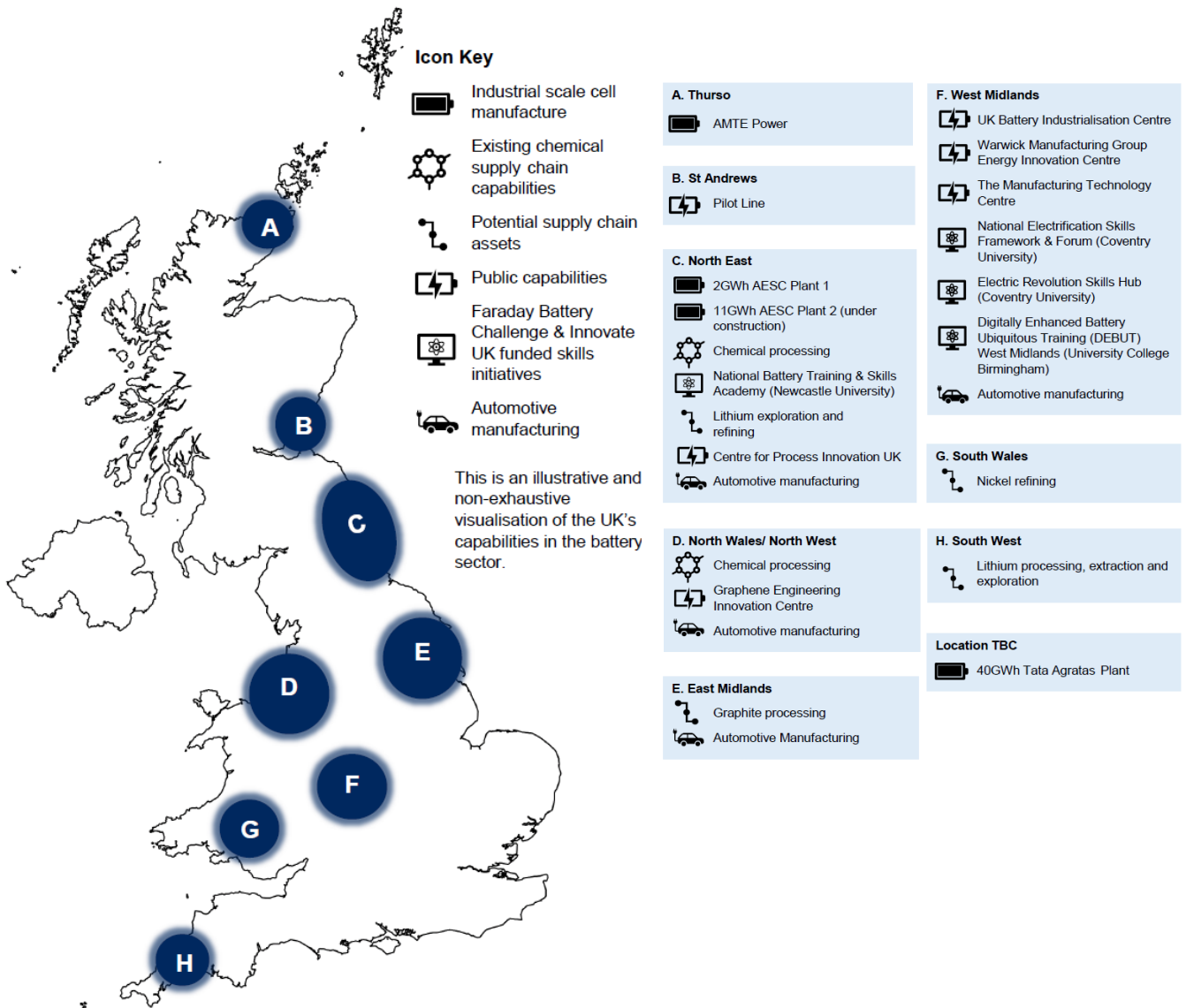
²⁰ https://careers.bentleymotors.com/content/Bentley-Life---Bentley-Dream-Factory-/?locale=en_GB

²¹ <https://www.press.bmwgroup.com/global/article/detail/T0436894EN/mini-plant-oxford-goes-electric-%C2%A3600m-investment-for-all-electric-mini-production-in-the-uk?language=en>

²² https://www.media.stellantis.com/uk-en/vauxhall/press/stellantis-announces-start-of-electric-vehicle-production-at-ellesmere-port-the-uk-s-first-ev-only-manufacturing-plant?adobe_mc_ref=

²³ AMTE Power plc

Figure 7.4 Map of the UK Battery Ecosystem Capabilities



Source: UK Battery Strategy (page 12) (DBT mapping based on stakeholder engagement)

7.1 This is a critical time for the EV battery sector, with a number of companies announcing ambitious plans. But it must be noted that AESC is the only operational EV battery gigafactory in the UK and the only company that is building new capacity (Plant 2) and investing in the UK. The House of Commons, Business & Trade Report on ‘Batteries for electric vehicle manufacturing’²⁴ states:

²⁴ ‘Batteries for electric vehicle manufacturing’ (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023) page 3

“Large scale production of batteries takes place in gigafactories. The UK faces a gigafactory gap, because of insufficient domestic manufacturing capacity to satisfy UK industry’s demand for batteries. Satisfying demand from the UK’s automotive industry and other sectors will require 100GWh of battery manufacturing capacity by 2030. That requirement will increase to 200GWh by 2040. The UK, however, currently has only one gigafactory, which has less than 2GWh of capacity. It is run by AESC near Nissan’s plant in Sunderland. More gigafactories are under development, albeit at different stages of planning and construction. At best, announced plans satisfy a little over half the capacity the nation needs by 2030. Time is now running short. The UK has a limited window in the next three years to attract further investment into this sector.”

“A failure to invest in battery manufacturing could cause a gradual decline in automotive production in the UK because global original equipment manufacturers (OEMs) might prefer to locate electric vehicle production overseas in countries hosting clusters of gigafactories. There are 160,000 people directly employed in the automotive industry, but the sector supports many more jobs in the wider economy. Employment in this industry is concentrated outside of London and the South East, especially in the West Midlands, North East and North West of England. Many of these jobs could be at risk if OEMs decide to locate electric vehicle manufacturing elsewhere because of a lack of domestic battery manufacturing capacity. Building an industrial base of gigafactories in the UK is strategically important for the UK’s energy security, for national security and for the UK’s ability to reach Net Zero and to unlock the benefit of economic growth, new jobs and new tax contributions from green industries.

7.2 The House of Commons report continues by stating that:

“There are limited number of potential gigafactory sites—but we have enough sites in the UK to meet the nation’s needs, including sites in the UK’s key automotive clusters. These sites are strategic national assets and should be treated as such. The Government must designate gigafactory sites as strategically important sites and work with local partners to put together a targeted package of support, with a view to attracting investors and ensuring gigafactories can be built at pace. These sites should be given priority for improvements to energy and transport infrastructure. The Government should work with local partners to grant those areas special economic status.” (para. 29)

7.3 **It is therefore evident that the UK urgently needs more large-scale battery production capacity to meet the predicted need for 100 GWh of supply by 2030 and 200 GWh by 2040.**

7.4 The Faraday Report advises that **gigafactories take at least five years to reach operational capacity, so investment and location decisions to meet battery demand in 2030 are all likely to be made in the next 2 to 3 years.** Over this timescale, automotive manufacturers will be deciding where to locate future EV model production, in the UK or mainland Europe²⁵.

²⁵ [UK Electric Vehicle and Battery Production Potential to 2040 \(faraday.ac.uk\)](https://www.faraday.ac.uk), page 1

7.5 It is clear from the Faraday Report that, despite progress, it is not yet a given that the UK will become a successful player in a future battery and EV industry. The UK is facing huge global competition and there will be winners and losers. The Faraday Report advises that UK needs to grab the opportunity with concerted and coordinated effort by:

- Continuing to communicate the attractiveness of the UK as a global and regional battery manufacturing location to global investors;
- Accelerating the allocation of the remaining funds from the ATF towards potential UK gigafactories;
- Identifying prospective sites for gigafactories and the construction of associated physical, transport and energy infrastructure by the local, regional and national government;
- Developing the requisite EV battery skills and training infrastructure;
- Providing long term commitment to mission-based research into next generation batteries that are cheaper, lighter weight, longer-lasting, safer, manufacturable and fully recyclable;
- Developing a strategy to localise and create an efficient, resilient and sustainable UK supply chain to improve availability and affordability of key battery materials for battery production; and
- Developing a strategy to create the conditions for a new lithium-ion battery recycling industry in the UK to flourish.

7.6 **The country needs to develop a resilient, sustainable and efficient supply chain, build up skills capability and commit to the long-term funding of battery research.**

7.7 The importance of battery production to the continued success of the UK automotive industry is also acknowledged in a Society of Motor Manufacturers & Traders (SMMT) publication *'Delivering the Triple Bottom Line'*²⁶. The document suggests that battery plants will become increasingly important in influencing automotive investment/location decisions moving forwards:

“Manufacturers are likely to want to concentrate electric vehicle production close to where batteries are produced – it provides greater supply reliability, lower logistics costs and allows just-in-time production flexibility. The UK must therefore expand domestic battery production to secure the long-term future of domestic automotive manufacturing.”

7.8 In order to attract investment, therefore, the SMMT concludes that the automotive industry needs a co-ordinated strategy aimed at increasing competitiveness and positioning the UK at the forefront of the industry. It is recommended that this should focus on:

- *“Support and investment in the development of gigafactories for large-scale battery manufacturing, a battery materials supply chain for sourcing of local content and battery recycling facilities to support the circular economy;*
- *Expansion of the fledgling electric supply chain, by increasing support and investment in power electronics, motors, drivetrains and fuel cells”*

²⁶ Delivering the Triple Bottom Line: A Blueprint for the Electric Vehicle Revolution, SMMT

Macroeconomic Context

- 7.9 As part of the Brexit agreement, a final Trade and Cooperation Agreement (TCA) was signed in December 2020 and became active in May 2021. The TCA includes a ‘Rules of Origin’ (RoO) clause which has significant implications for the future of the UK automotive industry including as it moves towards electrification. The RoO clause states that 55% of a vehicle’s value must be made up of locally sourced components. This applies to the UK and the EU specifically, so EU parts in a UK-built car would not count. Should the value of a vehicle’s locally sourced components fall short of 55% of the total, then an import tariff of 10% would be applied.
- 7.10 Given that EVs are an emerging technology and to give car markets time to build up the required network, since January 2021, in relation to traditional petrol and diesel vehicles, UK car makers have been required to prove that local content accounts for at least 40% of the value of parts in a finished car exported to the EU to avoid import/export tariffs. This threshold will rise to 45% from 2023 and to 55% from 2027.²⁷ For hybrid and electric vehicles the local content thresholds are less onerous to begin with but will also rise to 55% by 2027.²⁸ This reflects the fact that the transition to complying with the RoO local content thresholds will be particularly challenging for EVs given that EV batteries account for approximately half of the total value of a car and the majority are currently imported from the US or Asia. As a result, electric vehicles would currently be subject to import/export tariffs – even at the 55% threshold in 2027.
- 7.11 This issue has been acknowledged as a key challenge facing the industry by commentators:
- “[RoO are] particularly challenging for EV production because batteries alone, which are currently mainly imported from Asia or the US, often make up 50% of the total value of a car.”** London School of Economics²⁹
- “This [RoO clause] is likely to be a significant challenge for the British EV industry. EV batteries, the single most expensive component, are traditionally made in Asia, making this subject to new taxes. As Europe is the biggest market for British-made vehicles, the UK automotive industry has to find new ways to ensure continued profitability when trading with the EU.”** Trackwise³⁰
- “If you are not sourcing the batteries domestically, I don’t see how you can stay compliant [with RoO].”** The Economist³¹

Rules of Origin: Implications for UK Automotive

- 7.12 Given the UK’s commitment to phase out sales of petrol and diesel vehicles by 2035, with increasingly stringent targets from 2024, the future of the UK automotive industry is inextricably linked with its ability to manufacture hybrid and electric vehicles. Within the context of this shift in the industry, and the need to comply with RoO, it is essential that the UK automotive industry develops a more localised EV supply chain. In particular, there is a need to focus on the development of battery production facilities. This is widely acknowledged as being critical to ensuring that tariff-free trade with the EU (the UK

²⁷ Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

²⁸ The Brexit deal and UK automotive sector, UK in a Changing Europe, 28 December 2020

²⁹ Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

³⁰ Trackwise blog article

³¹ Britain’s car industry is finding Brexit far less of a problem than expected, The Economist, 10 July 2021

automotive industry's largest export market) can continue and – as a consequence – to the long-term competitiveness of the industry and therefore ultimately its future existence.

“If OEMs [Original Equipment Manufacturers] can source batteries in the UK, they will invest in EV plants and the British automobile industry has a future.” London School of Economics³²

“Rule of Origin requirements could spell its [the UK car industry’s] demise in the near future if the UK doesn’t boost its efforts to establish a large-scale battery supply chain.” London School of Economics³³

“If batteries go out of the UK, then automotive production will go out of the UK.” Ralf Speth, Chief Executive Officer, Jaguar Land Rover³⁴

“Without electric vehicle batteries made in the UK, the country’s auto industry risks becoming an antiquated relic...Business sense dictates that the automotive industry will move to where the batteries are, and we are facing a race against the clock.” Dr Andy Palmer, former Chief Executive, Aston Martin³⁵

7.13

Theoretically, UK manufacturers could avoid tariffs by importing batteries from the EU if facilities are developed, at scale, on the continent. In practice, however, this solution is considered unworkable by many commentators and would result in the EU establishing a significant competitive advantage relative to the UK. **Batteries are incredibly heavy:** a recent article published in the Financial Times estimates that batteries for the Nissan Leaf weigh around 300kg each whilst those for the Jaguar I-Pace weigh almost a tonne (once packaged for transport).³⁶ **As such, manufacturers are expected to look to locate battery plants in close proximity to their operations, reducing the logistical difficulty and cost of getting batteries on-site.**

“Ideally you want your battery plant very close to your manufacturing plant, because of the weight.” Dr Andy Palmer, former Chief Executive, Aston Martin³⁷

“As EV batteries are heavy and expensive, bringing battery production closer to the automotive manufacturing facility is key to improving profitability and safeguarding the industry against competition from Europe.” Trackwise³⁸

“UK assemblers could simply import the batteries from the EU. That, however, ignores the fact that the transition to EV production is linked with a shortening of supply chains and a trend towards co-location of battery and vehicle assembly.”

London School of Economics³⁹

7.14

As a result of the above, the UK automotive has been lobbying Government to recognise the importance of securing significant investment in battery plants in the short term. In an open letter to the Prime Minister and Business Secretary Kwasi Kwarteng, Dr Andy Palmer encouraged Government to establish a ‘Gigafactory Taskforce’ with the aim of ensuring that

³² Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

³³ Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

³⁴ Quote taken from the automotive industry magazine, AM Online

³⁵ Build batteries or lose UK car industry, Autocar, 19 January 2021

³⁶ UK carmakers after Brexit: a race to attract battery production, Financial Times, 4 February 2021

³⁷ UK carmakers after Brexit: a race to attract battery production, Financial Times, 4 February 2021

³⁸ Trackwise blog article

³⁹ Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

the UK is able to deliver four battery plant ‘gigafactories’ by 2026.⁴⁰ Similarly, the SMMT has publicly stated that:

“The six-year phase-in period and special provisions for electrified vehicles now make it imperative that the UK secures at pace investment in battery gigafactories and electrified supply chains to create the world-leading battery production infrastructure to maintain our international competitiveness.”⁴¹

- 7.15 It is this wider context which makes AESC’s investment to create a battery manufacturing cluster in Sunderland so fundamental to the continued success of the North East and UK automotive industry. The proposals will mean that AESC will have capacity to build ten times as many batteries for EVs per year than at present. **By localising production to the UK, this will help the automotive industry meet the RoO requirements which ensures they remain exempt from tariffs.**

Summary

- 7.16 The above sections demonstrate the following:

There is an urgent need for the UK to develop large scale battery production capacity to enable the transition to EVs and to help the UK become net zero. The industry is facing a huge challenge and needs to gear up in the production of batteries for EVs. The market is fast moving and competitive and the UK risks being left behind in the global race if it does not ramp up production.

AESC’s Proposed Development provides a once-in-a-lifetime opportunity to help AESC, Sunderland and the UK compete in the global market in the move to the EVs, whilst ensuring that Sunderland continues to be one of the best international locations for automotive and advanced manufacturing.

By localising production within the UK, this will help car manufacturers meet the RoO requirements, otherwise there would be 10% import tariff should the vehicle’s locally sourced components fall short of 55% of the total. This will help ensure the UK automotive industry remains competitive.

The amount of land that was removed from the Green Belt and was allocated at IAMP for advanced manufacturing and automotive uses, as part of the AAP process, was based on a moderate growth scenario. The optimistic growth scenario included a step increase in EV production. This change is now happening.

- 7.17 In this context, there is clear need for the Proposed Development and, therefore, the first element of the VSC case is established.

⁴⁰ Build batteries or lose UK car industry, Autocar, 19 January 2021

⁴¹ UK Automotive Priorities for International Trade, SMMT

8.0 Locational Requirements

8.1 This Chapter considers the locational requirements for a further gigafactory in the proposed location under the following headings:

- Existing automotive cluster;
- AESC UK;
- Need to share facilities with AESC Plant 2;
- Access to a Skilled Labour Force;
- Accessibility; and
- Infrastructure.

8.2

8.3 With regard to locational requirements, the UK Battery Strategy states the following:

“Identifying a suitable site for a large-scale operation such as a gigafactory is a complex and multifaceted process. Gigafactories are expansive and energy intensive manufacturing facilities, so finding a contiguous, flat site of over 300 acres with access to a sufficiently powerful electricity connection can be a challenge. Successful sites must have convenient access to highways, railways, ports, and airports to facilitate the efficient movement of inputs and finished products. Additionally, gigafactories require a specialised labour force to be located nearby.”⁴²

Existing Automotive Cluster

8.4 The North East has an established automotive manufacturing cluster. This is acknowledged by the North East Local Enterprise Partnership (NELEP) in its Strategic Economic Plan (SEP). The document identifies automotive manufacturing as being of strategic importance for the area.

8.5 The North East Automotive Alliance (NEAA), established in 2015 to promote the growth and competitiveness of the region’s automotive sector, provides a further insight into the composition of the cluster. The NEAA categorises businesses operating in the sector as follows:

- Original Equipment Manufacturers (OEMs) – The North East is home to five leading OEM’s in the automotive sector, including Nissan Motor Manufacturing UK, Komatsu, Caterpillar, Erwin Hymer Group and Cummins. Taken together, the NEAA estimates that these OEMs produce more than 500,000 passenger cars and commercial vehicles, 6,400 non-highway vehicles and 325,000 engines each year (2019 data). As a result, the North East accounts for approximately one third of all cars produced in the UK, as well as more than a fifth of all electric vehicles produced in Europe⁴³.
- Supply Chain businesses – a large supply chain has developed to serve the region’s OEMs (and other automotive manufacturers located beyond the North East). The

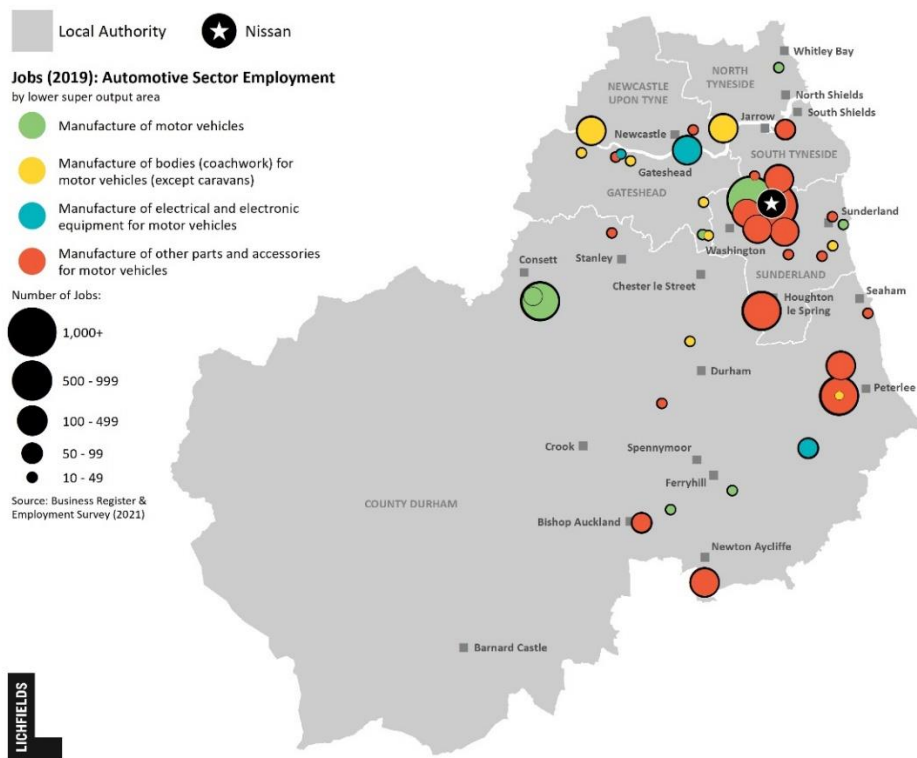
⁴² UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 46

⁴³ NELEP SEP

NEAA estimates that there are more than 240 automotive companies located in the area, including leading global brands such as AESC, SNOB, Faltec, Elring Klinger, Gestamp, Kasai, Lear, Nifco, Novares, Unipres and ZF. This is supplemented by a number of specialist SMEs and R&D facilities, which the NEAA estimates account for another 300 companies.

- 8.6 There is a clear cluster of activity in the north west of the Sunderland local authority area as illustrated on Figure 8.1.

Figure 8.1 Automotive Sector Employment (NELEP area)



Source: BRES / Lichfields analysis

- 8.7 Concentrating EV production close provides greater supply reliability, lower logistics costs and allows just-in-time production. Expanding the existing automotive cluster in Sunderland will enhance the strategic importance of this world-class automotive manufacturing area.

AESC UK

- 8.8 As demonstrated in Chapter 7, there is an **urgent need for gigafactories in the UK to secure the large-scale manufacture of batteries for EVs, with the Faraday Report identifying a need for around 100 GWh of supply by 2030.** Electrification of transport is accelerating around the world and the UK must not fall behind in this global race. It is critical that the UK expands domestic battery production to secure the long-term future of domestic automotive manufacturing.

- 8.9 **AESC UK is the only operating gigafactory within the UK and has been supplying batteries for EVs since 2012. They are fully committed to expanding**

their existing operations in Sunderland and to funding this major capital investment. AESC has an existing established and highly skilled workforce with the expertise to deliver and operate this specialist manufacturing unit. As outlined in Chapter 7, the capital investment and skills required to establish an EV battery gigafactory are considerable.

- 8.10 The clustering of AESC's facilities together means that it will have capacity to build batteries for over 10 times as many EVs per year as they currently do.
- 8.11 AESC is investigating heavily in clean energy and they wish to continue their investment in the UK. This is discussed in Chapter 9.
- 8.12 **AESC UK needs to compete against other worldwide businesses as the global battery sector expands and becomes increasingly competitive. While the company offers a high quality product, price is increasingly a factor in decision making as more entrants come into the market. As a global business AESC must allocate its resources where they deliver the best return on investment to ensure its continued success. The company's European operations have sites in UK, France and Spain that are competing for investment within the group.**
- 8.13 **The US Inflation Reduction Act, a \$369 billion programme of green subsidies, which has been matched by a similar level of support from the EU has changed the landscape for green energy investments globally making it increasingly competitive.**
- 8.14 In terms of planning policy, the IAMP AAP outlines the vision that the IAMP will become a nationally important and internationally respected location for advanced manufacturing and European scale supply chain industries. The Proposed Development conforms to this vision. The attraction of inward investment and continued development of the IAMP will seek to achieve key objectives of the Government's Northern Powerhouse agenda, with respect to rebalancing and growing the UK economy by fostering economic activity within the automotive and advanced manufacturing sector in the north of England.
- 8.15 In account of the above, and in line with the vision of the AAP, the Proposed Development will help ensure that the AESC, IAMP and Sunderland are at the forefront of innovations in battery technology, building on both AESC's investments in this area and supporting the UK's transition toward a net zero carbon future.

Need to share facilities with AESC Plant 2

- 8.16 One of the key elements required to build and produce batteries competitively is to manufacture at scale/volume. This can be seen by the expansion from plant 1 to plant 2, that delivers a sixfold increase in capacity. Increasingly, gigafactory capacity globally is being built at 20 – 30 GWh plant scale.
- 8.17 AESC UK needs to continue to build scale to be competitive in this environment. The risk if the company cannot achieve this scale is that the company loses competitiveness. This would increase the risk, that other plants either within the group or from rival businesses elsewhere in the UK or Europe would take business away from Sunderland. AESC already has the capability to build products for other markets in order to manage fluctuations in demand, so it is vital the UK plant remains competitive.

8.18 To remain competitive AESC needs to share their facilities with Plants 1 and 2 (logistics, autonomous processes, warehousing, facilities, services and staff). The shared facilities are now discussed:

- The Proposed Development includes the AESC UK Office HQ, which will be built on the Application Site with shared indirect departments including HR / finance / health and safety staff. This means one AESC hub with local highly skilled staff with 10+ years battery manufacturing experience. The proximity of the two Giga plants also means that the semi-indirect departments (engineers / quality assurance / supply chain management) will have zone specific staff that will be shared amongst sites. For example, an engineer may specialise in mixing and therefore have responsibility for mixing vessels in both Plants 2 and Plant 3. A parts controller may specialise in electrolyte and therefore have responsibility for electrolyte deliveries to both plants. Separating the plants would mean that the benefit of staff sharing would be lost which would reduce the efficiency and competitiveness of AESC.
- The parts delivery to the Application Site will be to the central Assembly & Warehousing Building (which is included in the current application). The parts will then be distributed internally to both Plants. This means that a smaller combined warehouse can be provided, rather than two separate warehouses for each Plant or having a situation where the parts were being delivered separately to the two Plants on the local highway. A single warehouse is a more efficient use of the land, is cheaper and there are reduced logistics for the common parts / suppliers.
- The proposal is that deliveries between AESC Plant 2, AESC Plant 3 and the Assembly & Warehousing Building will be via automated guided vehicles (AGV) and autonomous vehicles. If AESC Plant 3 and the Assembly & Warehousing Building were located elsewhere within IAMP, there would be a need for the equivalent of 34 HGV deliveries per day (68 two-way movements) using 40ft wagons with drivers.
- AESC Plant 3 and the Assembly & Warehousing Building cannot be located elsewhere because this would significantly increase the last mile logistics requirements and would be contrary to the Just In Time requirements.
- There is no requirement within the Application Site for a Dangerous Goods Notes (DGN). The processing time from modules built on-line to producing DGN and gaining approval in the current process is 30 minutes. If AESC Plant 3 and the Assembly & Warehousing Building were located on a different site, requiring the transport of materials via the public highway, a DGN would be required.

8.19 With regard to co-locating gigafactories with assembly plants, the 'Batteries for EV Manufacturing Report' states:

“There are efficiencies to be gained from building gigafactories and assembly plants near each other. Co-locating gigafactories with assembly plants is a common business model across Europe. Locating these factories close to each other avoids the costs and risks of transporting batteries long-distances, which is important because profit margins in the industry are thin. Batteries are the heaviest component of an electric vehicle...removing the need to import them takes out a major cost contributor. The Faraday Institution told us that co-location has benefits such as “increased safety, greater control over production quality, potential avoidance of import tariffs and the flexibility to introduce new design iterations quickly”.⁴⁴

8.20 Siting the plants together means that AESC can be more competitive, with economics of scale and sharing facilities helping to reduce the unit cost of production, which is a key factor in manufacturing competitiveness and the price of the finished product. As discussed in 7.24, batteries ***“which are currently mainly imported from Asia or the US, often make up 50% of the total value of a car”*** London School of Economics⁴⁵. Given the need to increase production and reduce the price of EVs, battery manufacturers are under considerable pressure to reduce prices. AESC’s proposals to create a cluster of three plants in Sunderland will therefore ensure that AESC can compete in the global market.

8.21 Taking into account the above, it is clear that **the Application Site is the only site.** AESC’s headquarters in Japan has agreed to invest in the chosen Application Site in Sunderland due to the proximity to Plants 1 and 2 and opportunity for sharing logistics, facilities and staff with these plants. An alternative location would not work as it would:

- mean that logistics and facilities could not be shared with AESC Plant 2 – it would not be possible to operated automated processes between the facilities;
- increase costs;
- increase production timescales;
- increase the risk that batteries would not be delivered on time, meaning that production would grind to a halt;
- increase the emission of greenhouse gases;
- reduce efficiencies; and
- reduce competitiveness.

8.22 Indeed, an alternative location would mean that benefits of concentrating staff, facilities, equipment and maintenance facilities would be lost.

Critically, AESC UK must remain competitive within the AESC Group and need to compete against other worldwide businesses and given the challenging timescales needed to deliver electrification between 2024 - 2035, any delay to planning and construction would necessitate the company and its customers to go back to the drawing board. Reopening this decision, opens the door to rival plants/businesses outside of Sunderland taking volume away from the

⁴⁴ Batteries for electric vehicle manufacturing’ (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023) para. 32

⁴⁵ Brexit, batteries and the fate of the British car industry, London School of Economics, 25 January 2021

city. This would be a most significant loss to Sunderland, the regional economy and to the UK automotive industry.

Access to a Skilled Labour Force

8.23 AESC has advised that a location next to a highly skilled and experienced workforce is critical – AESC has this in Sunderland. Indeed, **access to skilled labour is widely cited as key factor in gigafactory location decisions.**

- EV battery manufacture is a novel industry, using new and innovative technology. It is a complex production process requiring bespoke building construction to contain the technology required to manufacture the product. AESC UK's Plant 2 is the only other gigafactory in the UK built on this scale, so having direct and onsite access to the company's team of experts is critical to the success of the project.
- Drawing on experiences during the construction of Plant 2, AESC has advised that gigafactories cannot be constructed remotely. The experts need to be on-site with the construction team as things can change quickly.
- Once operational, EV batteries are very complicated to manufacture and require a substantial highly skilled team.

8.24 The UK Battery Strategy⁴⁶ states:

“A thriving UK battery industry requires a productive workforce with skills along the entire battery value chain and at all levels. Access to skills is an increasingly important criteria for companies looking to make globally mobile investments in battery development and manufacturing... developing and nurturing the domestic talent pipeline is crucial, with an emphasis on upskilling across the supply chain.”

“The clearest and most urgent requirement for increasing the battery workforce capability and capacity is currently in supporting the expansion of cell manufacturing. Each gigafactory necessitates a workforce with advanced skills to ensure the production of high-performance, cost-effective batteries while maintaining stringent safety standards. Recent announcements by AESC as well as Tata-Agratas will increase production by at least 52GWh of capacity by 2026. This requires a manufacturing workforce of over 7,000 people to be up-skilled, re-skilled or new-skilled in the next 2 years.”

“The growing demand for EVs will require many workers from the existing automotive sector to transition to meet the needs of this technology. The manufacturing and processing skills are quite similar, and many vehicle components will remain the same regardless of whether the vehicle is powered by an ICE or an EV powertrain. Nonetheless, comprehensive reskilling and upskilling programs will be essential to ensuring the availability of the required workforce at the right time and place.”

8.25 **AESC already has a team of 470 highly specialised experts.** They have the skills, knowledge and expertise to lead a team in the construction of a gigafactory, as

⁴⁶ UK Battery Strategy (Department for Business & Trade, 26 November 2023), pages 49 and 50

demonstrated through the construction of Plant 2, and to operate a battery plant as demonstrated through the success of Plant 1. There will be a need for investment in training and skills development ahead of operational start-up and they have a programme in place to upskill and recruit local workers ahead of the operation of Plant 2. They will do the same for Plant 3.

Accessibility

- 8.26 A highly accessible location is critical, given the need to receive and transport goods, have strong links to the supply chain and be easily accessible to a skilled workforce.
- 8.27 The Application Site lies in a highly accessible just off the A1290. The A19 (T) is located approximately 1 km to the east of the Application site and is one of the region's key north-south routes. The A19 connects to the A184 one junction to the north and to the A1231 one junction to the south. The A184 connects to the A194(M) to the west, with both the A194(M) and the A1231 connecting to the A1, which is a further key north-south route through the region. The strategic road routes provide good connections to the Port of Tyne and Newcastle Airport.

Infrastructure

- 8.28 A significant amount of investment has and is taking place to deliver the developments within IAMP. National Highways has already completed extensive highway improvements to the A19 / A1290 Downhill Lane junction near the site and also to the A19 / A184 Testo's junction in the wider area. Sunderland City Council (through IAMP LLP) has secured planning permission to dual part of the A1290 and the works are due to start in April 2024. These works will increase the capacity of the highway network and will mean that the vehicle movements generated by Plant 3 can be accommodated on the highway network.
- 8.29 The UK Battery Strategy identifies the importance of obtaining grid connections within a reasonable timeframe as a factor behind investment decisions⁴⁷. Work has been taking place since 2021 to secure an energy Microgrid at the IAMP site in order to support the high energy needs associated with this type of development. Planning permission was granted for a 275kV substation and 66kV substation as part of the microgrid development in March 2024⁴⁸ and construction work is due to start in May 2024.
- 8.30 A direct connection to the National Grid transmission network has been secured with the potential to provide 255MW of power from 2025/26 subject to the construction of sub-station and connecting infrastructure and a private sector funder/operator has been secured to deliver and manage the Microgrid. The microgrid is a fundamental element in securing power supply for the existing and future developments at IAMP.
- 8.31 Work is also underway with Northumbrian Water for significant off-site mains reinforcement works necessary to provide an adequate water supply to this development and to the wider IAMP site.

⁴⁷ UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 45

⁴⁸ Planning application reference 22/02384/FU4

Summary

AESC needs to compete against other worldwide businesses and must remain competitive within the AESC Group. The AESC Group has selected the Application Site because they wish to expand their existing operations.

AESC Plants 2 and 3 have been designed as a comprehensive development and need to be located next to each other as they are interlinked and with shared logistics, autonomous processes, facilities and staff. Clustering the two gigafactories together provides AESC with a competitive advantage and will enable it to improve productivity. Separating AESC's cluster of buildings would not work from a logistical point of view, would increase costs and reduce competitiveness.

AESC UK needs to continue to build scale to be competitive in this environment. The risk if the company cannot achieve this scale is that the company loses competitiveness. This would increase the risk, that other plants either within the group or from rival businesses elsewhere in the UK or Europe would take business away from Sunderland. AESC already has the capability to build products for other markets in order to manage fluctuations in demand, so it is vital the UK plant remains competitive.

The Proposed Development is a unique offer for Sunderland and the UK.

AESC has the expertise, skills and funding to deliver this development.

There are no known infrastructure constraints.

- 8.32 In account of the above, there is a clear locational requirement to deliver the Proposed Development on the Application Site. The second element of the VSC case is therefore established.

9.0 **Socio-Economic Benefits**

Introduction

9.1 The NPPF identifies that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). These are:

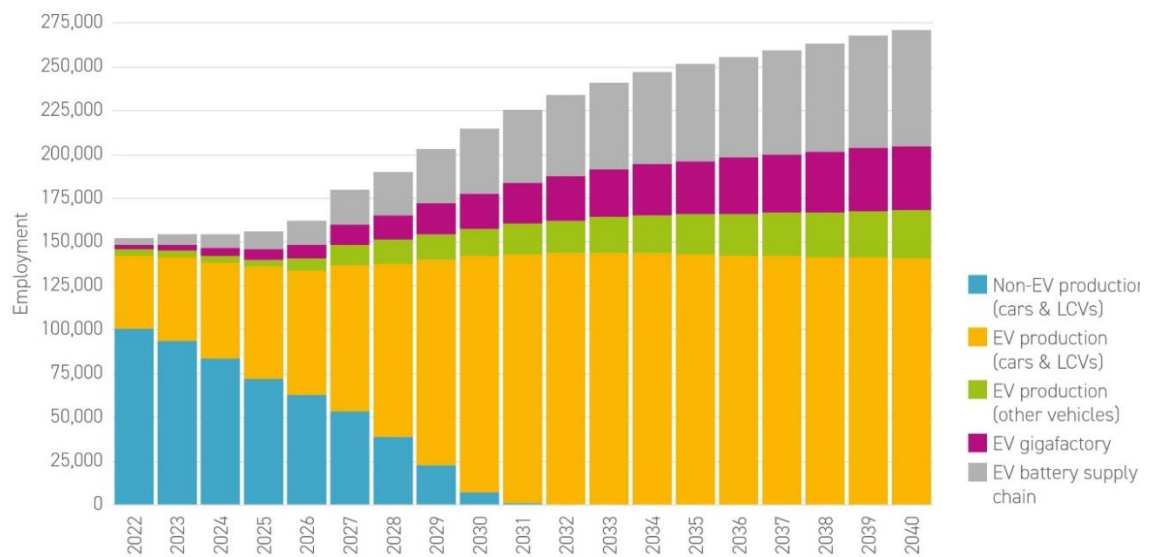
- a **Economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;**
- b **Social objective – to support strong, vibrant and healthy communities; and**
- c **Environmental objective – to protect and enhance our natural, built and historic environment including moving to a low carbon economy.**

9.2 This chapter considers the socio-economic benefits, with Chapter 10 considering the environmental benefits.

Economic Benefits from the Manufacture of Batteries

9.3 There will be substantial economic benefits for the UK if new UK battery manufacturers are successful in taking a market share. The Faraday Report advises that employment supported in this new EV and battery industry would increase to **270,000 jobs by 2040**, a rise of one-half on pre-pandemic employment levels. Around 170,000 of these jobs would be supported by the manufacture of 1.8 million passenger and light commercial EVs, and the manufacture of HGVs, buses and small lightweight vehicles. In the battery manufacturing industry, 100,000 jobs would be created consisting of 35,000 direct jobs in gigafactories with a further 65,000 jobs in their supply chains. This is illustrated on Figure 9.1.

Figure 9.1 Potential Employment in the UK Automotive Battery Industry to 2040



Source: Faraday Report, June 2022

Stephen Gifford, Chief Economist, Faraday Institution said:

“There is a growing sense of optimism that a highly productive and sustainable battery manufacturing industry can be built in the UK. By 2040, a successful industry could employ 170,000 people in EV manufacturing, 35,000 people in gigafactories and 65,000 people in the battery supply chain.”

9.4 Matt Howard, Chief Strategy Officer, Faraday Institution, said:

“The move to electrify transport and toward large-scale battery production represents a massive shift in industrial skills. The UK’s engineering and manufacturing workforce can gain a competitive edge over other countries through the provision of a national training curriculum that will ensure the right skills are delivered at the right time.”

Economic Policies and Strategies

National Economic Policies and Strategies

9.5 Paragraph 85 of the NPPF states the following:

“Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.”

- 9.6 In 2020, the UK Government published its Ten Point Plan for a Green Industrial Revolution, in the ten points outlined ‘Accelerating the Shift to Zero Emission Vehicles’ including a deadline for the end of the sale of petrol and diesel cars. The plan emphasises the **“continued faith in British car manufacturing as the backbone of UK industry in the West Midlands, Wales and the North, bringing jobs and investment back into the UK whilst simultaneously reducing greenhouse gas emissions and improving the air we breathe”**.
- 9.7 The plan emphasises the need to **“build a world-leading EV supply chain here in the UK and improve air quality in our towns and cities. We have committed up to £1 billion to support the electrification of UK vehicles and their supply chains, including developing “Gigafactories” in the UK to produce the batteries needed at scale”**.
- 9.8 In 2021, the UK Government announced its new growth plan ‘Build Back Better’ which is in part the successor the former ‘National Industrial Strategy’. ‘Build Back Better’ focuses on three areas of growth these being:
- Level up the whole of the UK;
 - Support the transition to Net Zero; and
 - Support our vision for Global Britain.
- 9.9 With regard to the push for Net Zero, the Plan is committed to the end of sales of petrol and diesel vehicles, this being a key goal in delivering the Government’s Ten Point Plan for a Green Industrial Revolution. In particular, the **electrification of vehicles, the roll out of EV charging infrastructure and mass-scale production of EV batteries and the development of its supply chain** are directly referenced in the Plan.
- 9.10 The UK Battery Strategy⁴⁹ states:
- “Our successful battery industry will be a **significant source of jobs and regional economic growth, supporting the Government’s levelling up agenda**. A battery industry that addresses domestic demand could employ 100,000 people by 2040, with the majority likely to be located outside of London and the South East.”*
- “Securing investment into the battery value chain is key to our economic security.”**
- “A successful battery industry could be a **significant source of jobs and regional economic growth**. The current automotive sector is 27% more productive than the economy as a whole and 14% more productive than wider UK manufacturing in terms of output per hour, and attracts a wage premium of around £4,500 compared to the whole economy. Moreover, in 2021, 89% of automotive jobs were based outside of London and the South East. A battery industry that supports domestic demand for EVs could employ 100,000 people by 2040 (35,000 in cell manufacturing and 65,000 in the battery supply chain), in highly paid, productive jobs across the country.”*

⁴⁹ UK Battery Strategy (Department for Business & Trade, 26 November 2023), pages 4, 11 and 17

Regional Economic Strategies

- 9.11 At a regional level, various strategies including the ‘*North East Strategic Economic Plan*’ (North East Local Enterprise Partnership, January 2022), the ‘*Strategy for Change 2023 – 2025*’ (North East Chamber of Commerce, September 2023), the Northern Powerhouse initiative, the ‘*Great North Plan*’ (Institute for Public Policy Research and the Royal Town Planning Institute) and the ‘*Strategic Transport Plan*’ (Transport for the North, 2019) are all seeking to boost North East’s economy **through higher productivity, improving competitiveness, attracting inward investment, increasing the number of jobs, upskilling the population rebalancing growth and addressing the long-term economic activity gap.**
- 9.12 A summary of the regional economic strategies is provided in Appendix 1.

Local Economic Policies and Strategies

- 9.13 The adopted Sunderland ‘*Core Strategy and Development Plan (2015 – 2033)*’ (‘CSDP’) outlines relevant planning policies to guide development in Sunderland up to 2033. The CSDP notes that:
- “Advanced manufacturing and particularly the automotive sector are a key part of the local economy... The sector employs 30,000 people regionally. To support the continued growth of this sector, the IAMP will be developed on land to the north of the existing Nissan plant. It is anticipated that the IAMP would create approximately 7,850 new jobs and would be a significant driver for the regional economy and the automotive sector within the UK”.***
- 9.14 The CSDP, particularly Policy SP3, emphasises that “***Economic growth will be focused in identified Employment Areas (Policies EG1 and EG2) and at the IAMP***”, demonstrating the importance of IAMP for Sunderland’s economy, with Strategic Priorities 1 and 5 of the CSDP supporting economic growth particularly through “***supporting developments which enhance automotive industries and advanced manufacturing, particularly at the IAMP; and supporting development of key sectors such as education, health, high-tech and knowledge-based industries***”.
- 9.15 ‘*Sunderland City Council’s City Plan 2023 – 2035*’ outlines the city’s vision and ambitions up to 2035. The City Plan seeks **to increase the number and quality of jobs** in the city whilst improving the qualifications and skills of local people, with one of the main ambitions of the plan being that: “*Residents’ skills and qualifications enable them to secure good jobs matching the needs of employers in the city’s key sectors*”. Furthermore, another ambition of the City Plan is that “***Sunderland will play its role in tackling the global challenge of climate change, working together across the city to be carbon neutral by 2040***”. The indicative timeline of the City Plan supports and recognises the ongoing development and growth of IAMP as part of the plan moving forward.

Sunderland – Local Economic Conditions

- 9.16 The Socio-Economic Chapter of the Environmental Statement and Health Impact Assessment provide information about the demographic profile and local economic conditions within Sunderland. The situation is summarised as follows⁵⁰:
- Sunderland falls within the 15% most deprived areas local authority areas nationally, with many parts of Sunderland lying within the 10% most deprived in nationally;
 - Sunderland is performing less well in relation to health deprivation, disability, employment, income and unemployment than regional and national averages;
 - The median gross weekly earnings of full-time employees in Sunderland (workplace earnings) were £540.90 in 2022, which was lower than the North East (£575.20) and Great Britain (£642.00); and
 - The working age population in Sunderland has contracted between 2012 to 2021 at a greater rate than that of the North East and Great Britain.
- 9.17 It is therefore clear that significant investment and development is needed in order to drive forward economic growth, rebalance and reduce disparities in Sunderland. Sunderland City Council is driving forward significant transformation and economic regeneration within the area, including various developments within Riverside Sunderland in the City Centre. However, further significant investment is needed to drive forward growth.
- 9.18 The proposals will help deliver the strategy of the Northern Powerhouse through raising the profile of the area and ensuring that the North is recognised worldwide for its trade and investment, and through helping drive forward the automotive industry within the area. Furthermore, the proposals will contribute towards the Government’s Levelling Up agenda through helping increase the potential of this area through boosting productivity, increasing the number of jobs and training opportunities, as well as upskilling the population.

⁵⁰ Data is from the English Indices of Deprivation 2019

The Proposed Development

9.19 In accordance with paragraph 85 of the NPPF, the Proposed Development will help ensure that AESC, the IAMP and Sunderland are:

- **driving forward economic growth;**
- **at the forefront of innovations in battery technology;**
- **playing a critical role in leading the de-carbonisation revolution through the promotion of clean energy and new energy electric vehicles;**
- **helping the UK complete in the global race for the large-scale manufacture of batteries and in the electrification of vehicles;**
- **acting as a catalyst for the attraction of more suppliers to the IAMP and the North East, which will further stimulate the economic growth of the region;**
- **helping underpin the continued success of the automotive and advanced manufacturing sectors in the North East; and**
- **helping create a new, dynamic and highly skilled battery industry in the UK.**

AESC Plant 3 – Construction and Operational Benefits

9.20 The Proposed Development will provide most significant benefits which will help drive forward economic growth within Sunderland and the wider region. Most notably, the development will help generate significant employment and training opportunities, building upon the existing cluster of automotive and manufacturing facilities. These can be summarised as follows:

Construction Benefits⁵¹

- **Initial capital investment in the facility;**
- **Supporting 1,525 direct full time equivalent construction jobs and 1,450 indirect full time equivalent jobs in the supply chain per year throughout the construction period (2.6 years);**
- **Delivering an uplift in (direct and indirect) Gross Value Added ('GVA') (economic output) of £90.7 million per year throughout the construction period;**
- **Provision of training, apprenticeships and work experience placements which will help to upskill the local population; and**
- **Increased expenditure from wages on local services, shops and facilities.**

Operational Benefits⁵²

- **Initial capacity to produce up to 12GWh of batteries per year;**

⁵¹ An explanation of how the figures have been calculated is provided within Section 18.5 of the Socio-Economic Chapter of the Environmental Statement

⁵² AESC has provided the number of jobs. An explanation of how the other figures have been calculated is provided within Section 18.5 of the Socio-Economic Chapter of the Environmental Statement

- **Once the plants are operational, AESC will have capacity to build batteries for ten times as many EVs a year than at present;**
- **The Application Site will employ over 1,000 people in Sunderland, taking AESC’s workforce in Sunderland to over 2,500 high skill, high value jobs.**
- **The operations will support a further 800 indirect and induced full time equivalent jobs in the wider region in the supply chain;**
- **Delivering an estimated uplift in direct and indirect GVA of £109.3 million per year;**
- **Providing opportunities for the materials used in battery production to be sourced from local suppliers, further enhancing the benefits for the regional and national economies;**
- **Increased expenditure from wages on local services, shops and facilities; and**
- **Promoting Sunderland as the heart of automotive electrification activities in the UK, building on AESC UK’s existing operations and investment in the area.**

9.21 If Plant 3 is constructed in its proposed location, this would increase the number of jobs that will be created on IAMP, and also the associated jobs in the supply chain. The IAMP AAP anticipated that around 7,850 jobs would be created within IAMP. The proposed development provides a most important opportunity to significantly increase this figure, to the benefit of the local and regional economy.

Apprenticeships, Training, Local Labour, Working with Local Schools and Colleges

9.22 AESC will seek to pool the new staff from the local labour force, either hired from allied industries or as new recruits through apprenticeships. The creation of over 1,000 jobs will therefore have significant benefits for the local community.

9.23 The jobs / apprenticeships / training situation is summarised as follows:

- 1 The new jobs be at level 2-5 and will include apprenticeships with support from local further education colleges. The apprenticeships will include but will not be limited to:
 - a Battery Manufacturing Technicians – a new standard designed for battery manufacturing technicians, which will be majority of the workforce;
 - b Engineering/maintenance apprenticeships – for our maintenance and engineering department;
 - c Supervisor/leadership level 3’s – for supervisors new to the role; and
 - d The company has a clear development pathway for its staff, a commitment to promote from within and is investing heavily in employee training and development.
- 2 It is anticipated that AESC will use the CTP (Career transition partnership) for civilian employment for Service leavers – these would be local funded courses to ensure recognition of prior learning and upskilling.

- 3 Currently AESC's is engaging extensively with local colleges and universities aiming to deliver the required training for both current and future staff, with some staff already undertaking Level 7 courses as part of upskilling in the existing business. AESC would partner with a local university for the delivery of this training as and when it is required.
- 4 There will be an internal training programme delivered by dedicated trainers within the factory. AESC is uniquely placed to deliver this knowledge and training due to the skills within the business; this will cover process and procedural skills that couldn't be delivered by an external trainer.
- 5 There will be a need for supportive short course training to ensure competency of our workers which would be delivered by local suppliers.
- 6 Plans are being progressed for some STEM outreach activity – this may involve, school/college visits, competitions, career talks etc. and will focus on highlighting what an interesting place AESC is to work. This is also to ensure a pipeline of potential recruits for the future. This will support the hiring plan for both the set-up, factory acceptance testing and ramp up towards Start of Production and will ensure succession and progression within the company for our employees. Investing in future talent is a priority for AESC and the STEM outreach programme will support this.

Summary

9.24 The NPPF (para. 85) places **significant weight** on the need to support economic growth and productivity and states that this is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.

9.25 The Proposed Development will:

- **deliver significant benefits through substantial job creation; upskilling the local population; providing training, apprenticeships, work experience opportunities, as well as working with local schools and colleges both during construction and on operation of the gigafactory;**
- **deliver increased expenditure to support other local services, shops and facilities;**
- **help the UK complete in the global race for the large-scale manufacture of batteries and in the electrification of vehicles;**
- **act as a catalyst for the attraction of more suppliers to the IAMP and the North East, which will further stimulate the economic growth of the region; and**
- **help underpin the continued success of the automotive and advanced manufacturing sectors in the North East and UK.**

9.26 In accordance with paragraph 85 of the NPPF, it is considered that **significant weight** should be given to these benefits in decision-taking. The third element of the VSC case is therefore established.

10.0 Environmental Benefits

10.1 This chapter considers the environmental benefits under the following headings:

- Climate Change Emergency and Need for EVs;
- AESC Internal Carbon Neutral Strategy;
- Carbon savings from the Switch to EVs; and
- Environmental Credentials of AESC Plant 3.

10.2 A summary is then provided.

Climate Change Emergency and Need for EVs

10.3 The climate change context is summarised as follows:

- March 2019 – Sunderland City Council declared a Climate Emergency⁵³, recognising it was “*important to join other councils in giving the issue suitable attention and clearly setting out how we will meet our targets on cutting emissions*”, in light of the “*recent weather and changes in ecosystems [that] show that we are already seeing changes as a result of climate change*”.
- May 2019 – the UK Parliament declared a Climate Change Emergency following findings that to avoid a more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050.
- June 2019 – the UK government legislated to a 100% reduction in greenhouse gas emissions by 2050 compared with 1990 levels – this is referred to as the net zero target.
- November 2020 – the Prime Minister published a policy paper entitled ‘*The ten point plan for a green industrial revolution*’⁵⁴. This policy document was a statement of intent by the prime minister aimed at establishing his Government’s climate credentials. The paper addressed a variety of low carbon initiatives from offshore wind and nuclear power to sustainable transport, electric vehicles and protecting our natural environment. The paper presents ‘target milestones’ to aid in delivering these objectives but, although they set out a clear direction of travel, these are not binding requirements.
- December 2020 – the Government published an Energy White Paper entitled, ‘*Powering our Net Zero Future*’⁵⁵. The White Paper claims to “*build on the Prime Minister’s Ten Point Plan to set the energy-related measures the Plan announced in a long-term strategic vision for our energy system, consistent with net zero emissions by 2050.*”
- March 2021 – the Government published its ‘*Industrial Decarbonisation Strategy*’⁵⁶. Amongst other things, this document set out an indicative roadmap to ‘net zero UK industry’.

⁵³ <https://www.climateemergency.uk/blog/sunderland/> (Accessed 20/04/2021).

⁵⁴ Johnson, B & Sharma, A, ‘The ten point plan for a green industrial revolution’, 18/11/2020

⁵⁵ BEIS, ‘Energy White Paper: Powering our net zero future’, published 14/12/2020, updated 18/12/2020, <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future> (Accessed 20/04/2021).

⁵⁶ GOV.UK, Industrial Decarbonisation Strategy, Published March 2021 <https://www.gov.uk/government/publications/industrial-decarbonisation-strategy> (Accessed 05/10/2023)

- October 2021 – the policy pathway to achieve net zero in the UK was launched in the ‘Net zero strategy’⁵⁷, which was updated in April 2022, with policies including ending the sale of new petrol and diesel cars.
- July 2022 – Sunderland issued its ‘Low Carbon Action Plan’⁵⁸ which established a target for the City as a whole to be carbon neutral by 2040, with a priority being electric and innovative technologies for buses and private vehicles.
- March 2023 – the ten point plan policies were updated with a suite of publications under the policy paper ‘Powering up Britain’⁵⁹ that included the ‘Powering up Britain: Net Zero Growth Plan’⁶⁰. The Growth Plan seeks for want UK companies to continue playing a key role in green supply chains, from nuclear to CCUS and electric vehicles. It states: “*We want the UK to be one of the best locations in the world to manufacture electric vehicles, with an end-to-end zero emission vehicle supply chain.*”

10.4 The *UK Battery Strategy*⁶¹ states:

“The UK has set one of the most ambitious targets to reduce carbon emissions. To successfully achieve this, we will create and maintain favourable conditions for ongoing industry investment amid strong overseas competition. The UK Government is committed to continuing to invest in UK battery manufacturing.”

10.5 The ‘*Batteries for EV Manufacturing Report*’⁶² states that a domestic supply of batteries would confer environmental benefits by reducing emissions generated by shipping batteries in from overseas.

10.6 Transport for the North’s consultation draft ‘*Strategic Transport Plan*’ (May 2023) states the following:

- Cars, buses, vans and HGVs within the North of England accounted for about 25 megatonnes (95%) of CO₂ emissions in 2018.
- Nearly one quarter of the UK’s total emissions from road users fall within the North of England.
- Over half of the road emissions in the North are generated by cars, with 28%, a relatively high proportion compared to the UK, generated by HGVs.

10.7 This document states that:

“The development and deployment of low carbon technologies, such as electric vehicles and hydrogen fuel cells will significantly reduce emissions from road transport as the low and zero emission share of the vehicle fleet grows. Prior to and during this transition, however, substantial modal shift and management of road vehicle demand will be necessary to reduce emissions in the short to medium term, to stay within our carbon budgets.” (page 57)

⁵⁷ <https://www.gov.uk/government/publications/net-zero-strategy>

⁵⁸ https://www.sunderland.gov.uk/media/25109/Low-Carbon-Action-Plan/pdf/Sunderland_Low_Carbon_Action_Plan_July_22_FINAL_ry1abtshwfj4.pdf?m=638003891251730000

⁵⁹ [Powering up Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/powering-up-britain)

⁶⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147457/powering-up-britain-net-zero-growth-plan.pdf

⁶¹ UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 4

⁶² Batteries for electric vehicle manufacturing’ (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023) para. 36

- 10.8 It is therefore clear that a huge amount of CO₂ emissions are from vehicles. In light of the Government’s strategy to transform UK vehicle production to help meet the target of net zero carbon emissions by 2050, there is a national requirement for the development of large-scale battery production facilities to help accommodate the UK’s ongoing transition towards the use of EVs. The ongoing transition towards the use of battery-powered EVs in therefore in direct response to the climate change emergency.
- 10.9 AESC’s Plant 3 will have initial capacity to produce 12Gwh of batteries per year. Overall, AESC will have capacity to build batteries for ten times as many EVs per year from the three plants than at present. This will make a most significant contribution in the drive towards EVs, given that all new cars and vans should be zero emission by 2035, and will play an important role in helping to reduce greenhouse gas emissions.

AESC Internal Carbon Neutral Strategy

- 10.10 The Proposed Development will help AESC UK achieve their internal strategy of carbon neutrality by 2028 by streamlining transportation activities and logistics. This is a most ambitious target and is significantly in advance of the UK’s requirement to be net zero by 2050.
- 10.11 Reaching net zero is essential to sustainable long-term growth and it is most important that the UK is home to pioneering businesses, new technologies and green innovation as they make progress toward net zero emissions. AESC UK’s target is raising the bar on tackling climate change.

Carbon Savings from the Switch to EVs

- 10.12 The Energy Strategy, prepared by Wardell Armstrong and submitted with the planning application for AESC Plant 3, has calculated the carbon dioxide saving that would be made if the equivalent amount of petrol and diesel vehicles were displaced by EVs and allowing for charging with grid electric. Based on an average of 6,600 miles being travelled by each vehicle over a 12-month period, the **average emissions saved would be equivalent to 130,345 tCO₂e per year. If those EVs were charged by decarbonised electricity, savings could rise to as much as 183,785 tCO₂e per year. This is more than 34,720 tCO₂e greater. This is a most significant reduction in CO₂ emissions.**

Environmental Credentials of AESC Plant 3

- 10.13 The sustainability of the development is considered in the Climate Change Chapter of the Environmental Statement, the Energy Strategy and the Sustainability Statement which accompany the planning application for Plant 3. A summary of measures being considered to minimise energy consumption and increase the sustainable use of energy are as follows:
- Installation of solar PV panels on available rooftops across the Application Site to secure energy from a sustainable source. The Energy Strategy calculates that the installed capacity of solar PV is expected to supply approximately 15% of the required energy;
 - Provision of 71 x 7 kWh EV charging bays with a cable route for an additional 85 spaces;

- Buildings designed to achieve at least a 27% emission reduction compared to the Building Regulations Part L 2013 base level;
- Modern Methods of Construction;
- Whole life cycle emissions will be considered from extraction of the raw material, construction, operation and through to the end of life;
- Use of natural ventilation in the office (this will not be possible in the plant and warehouse due to the lack of windows);
- Office has been positioned to take into advantage of solar gains during the winter and avoiding excessive heat gains during summer;
- Use of locally sourced materials wherever possible to help reduce the carbon footprint associated with the transportation of materials;
- Reuse and recycling of materials wherever possible;
- Minimise the use of insulation materials known to contribute to ozone depletion;
- Energy efficient building fabrics;
- Energy efficient building services such as high energy efficiency lighting (LED luminaries), external lighting to have movement sensors (where appropriate) and water pipes to be lagged to minimise thermal loss; and
- Reduction of water consumption through water saving measures such as grey water recovery, low flow taps, dual flush and vacuum toilets.

10.14 AESC is keen to explore wind energy as a potential future opportunity following direction from the company Managing Director, who has voiced his support that all AESC plants around the world should consider options for integrating wind generation wherever possible and feasible to do so. Whilst it does not form part of this application, further work will be undertaken in the future to see if a suitable nearby site can be identified for potential future development.

Summary

- **Ther UK Parliament and Sunderland City Council declared a Climate Change Emergency in 2019 in recognition of the urgent need to reduce greenhouse gas emissions,**
- **The UK Government is committed to a 100% reduction in greenhouse gas emissions and becoming ‘net zero’ by 2050.**
- **The ‘Powering up Britain: Net Zero Growth Plan’ is seeking for UK companies to continue playing a key role in green supply chains. It states: “We want the UK to be one of the best locations in the world to manufacture electric vehicles, with an end-to-end zero emission vehicle supply chain.”**
- **The Proposed Development will help increase the production of EVs which will play an important role in helping to decarbonise transport.**

- **It is predicted that this development could save the equivalent of 130,345 tCO₂e per year through displacing petrol and diesel vehicles for EVs. This is a most significant reduction in CO₂ emissions.**
- **The Proposed Development will help AESC achieve their internal strategy of carbon neutrality by 2028 by streamlining transportation activities and logistics. This is a most ambitious target and is significantly in advance of the UK's requirement to be net zero by 2050.**

10.15 This development will therefore help the transition to a low carbon future and will play an important role in driving the UK forward to becoming net zero. The fourth element of the VSC case is therefore established.

11.0 Lack of Alternatives

11.1 Given that the Application Site lies partly in the Green Belt, it is necessary to consider whether the Proposed Development could be located elsewhere on a non-Green Belt site or whether an alternative design which has a reduced impact on the Green Belt can be provided. This chapter considers these matters under the following headings:

- Alternative Sites;
- Alternative Layouts; and
- Size of Buildings.

11.2 A summary is then provided.

Alternative Sites

11.3 As part of the VSC case, it is necessary to consider whether the Proposed Development could be delivered at an alternative non-Green Belt site.

11.4 As explained previously in Chapter 8, one of the key elements required to build and produce batteries competitively is to manufacture at scale/volume. AESC need to continue to build at scale to be competitive in this environment. To remain competitive AESC needs to share their facilities between plants (logistics, autonomous processes, warehousing, facilities, services and staff), AESC Plants 2 and 3 have been designed as a comprehensive development and as such need to be located next to each other as they have shared autonomous processes, logistics, staff and facilities.

11.5 Separating AESC's cluster of buildings would not work from a logistical point of view, would increase costs and would reduce competitiveness. Critically, AESC UK must remain competitive and given the challenging timescales needed to deliver electrification between 2024 - 2035, any delay to planning and construction would necessitate the company and its customers to go back to the drawing board. Reopening this decision, opens the door to rival plants/businesses outside of Sunderland taking volume away from the city. This would be a most significant loss to Sunderland, the regional economy and to the UK automotive industry.

11.6 Taking account the above considerations, it is clear that **AESC Plant 3 needs to be located next to AESC's Plants 1 and 2 in the proposed location**. An alternative site search has not been undertaken – there would be no merit in undertaking this piece of work as the chosen Application Site is the only location.

Alternative Layouts

11.7 As part of the feasibility stage of the design, the Applicant undertook an exercise to understand whether alternative layouts of the Proposed Development would have less of an impact on the Green Belt. This exercise included the following options:

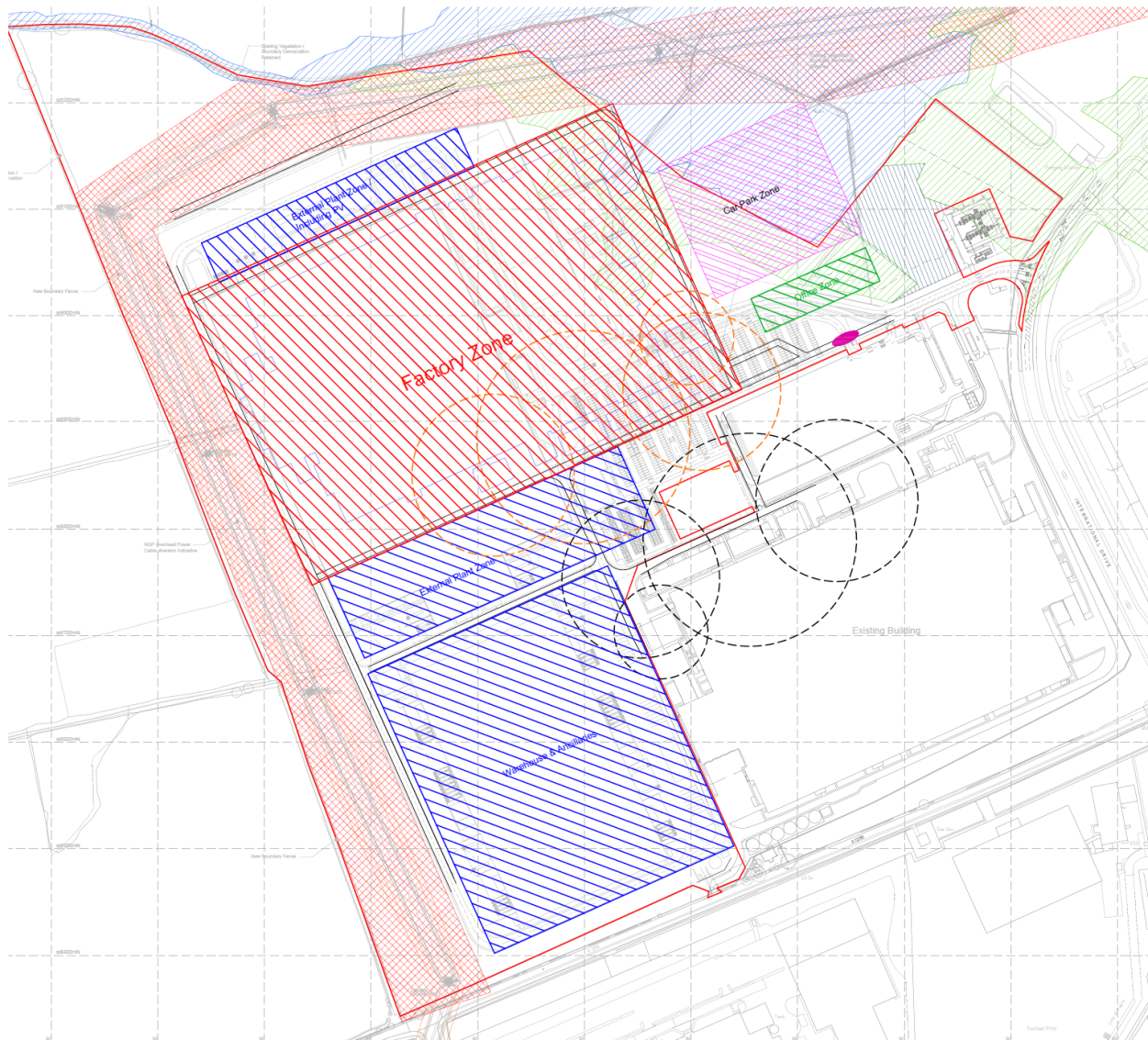
- Rotating the factory 90 degrees; and
- Swapping the locations of the warehouse and factory buildings.

11.8 The above options are now considered.

Rotating the Factory by 90 Degrees

11.9 The rotated factory option is set out in Figure 11.1:

Figure 11.1: Factory rotated 90 degrees



Source: RPS

- 11.10 As demonstrated in Figure 11.1, by rotating the development 90 degrees, the development would run parallel to Usworth Burn which is identified as a ‘main river’ and would lie within and impact upon the flood plain. The development would therefore be obliged to provide compensatory storage earthworks to accommodate the floodplain encroachment, which would be done on the higher ground bordering the factory. As a result, rotating the development by 90 degrees would require further built form which would have an increased impact on the Green Belt.
- 11.11 There is also insufficient land width available to provide the functionality of the development taking into account the National Grid easement. The development would also fail to deliver the required provision of car parking spaces per staff number, whilst the circulation route within Application Site between the warehouse, factory and office block

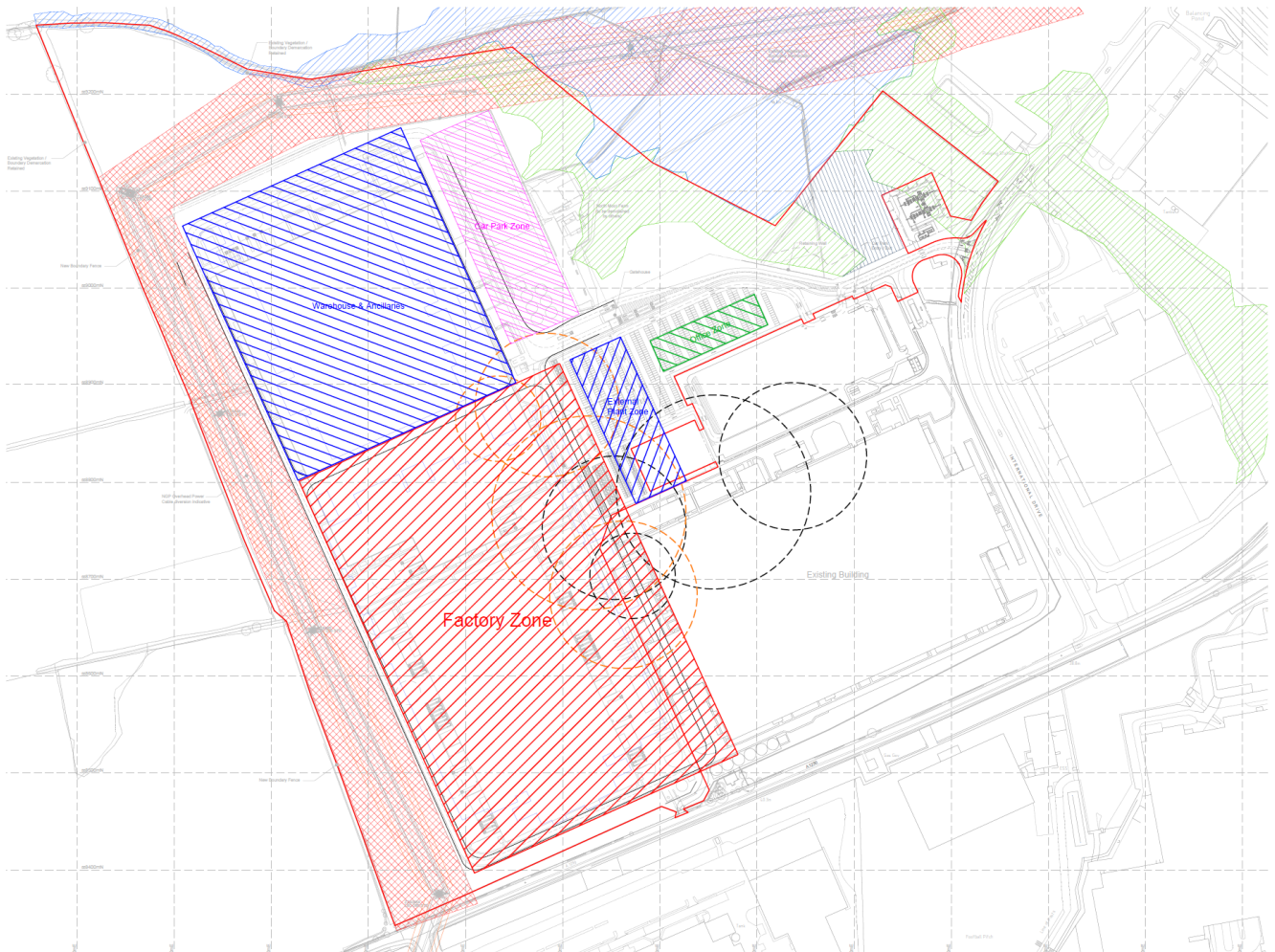
would not satisfy the required operational and process needs. An isolated and detached office block to the northern side of the site would also fail to provide suitable and safe escape routes for emergency vehicles, with inadequate connectivity to car parking, AESC Plant 2 and the Assembly and Warehousing Building.

- 11.12 Fundamentally, the above layout arrangement would create various redundant spaces mainly due to logistical constraints regarding vehicular flow within the Application Site. In this context, the rotated factory design was not considered as a suitable alternative and was therefore disregarded as a potential option.

Warehouse and Factory Swap

- 11.13 The warehouse and factory swap option is set out in Figure 11.2.

Figure 11.2: Warehouse and factory swap



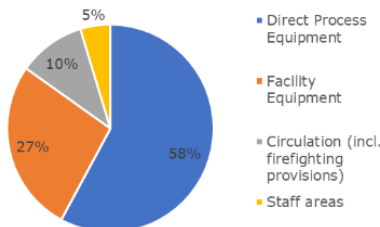
Source: RPS

- 11.14 The warehouse and factory swap option comprises the relocation of the warehouse to the north and the factory to the south. Whilst this option has less of an impact on the Green Belt to the north and west, there is not enough space to accommodate the footprint of the factory building, with insufficient land width available to provide the functionality of the development in account of the National Grid easement.

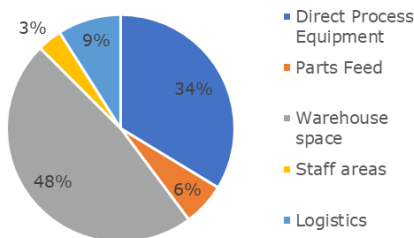
- 11.15 The above option is also not considered a feasible solution due to the conflicting internal vehicle circulation routes from the warehouse to the factory, with inadequate space for ancillary factory functions such as the substation and bulk stores. The safety exclusion zones for the Proposed Development and AESC Plant 2 factory would also overlap, whilst the alternative arrangement would take away the opportunity for future automated conveyancing from the pack warehouse to the existing operational site.
- 11.16 In account of the above considerations, the warehouse and factory swap layout was not considered as a suitable alternative and was therefore also disregarded as a potential option.

Size of Buildings

- 11.17 Given the Green Belt location, consideration has been given to ensuring that the buildings are as small as possible to reduce their impact.
- 11.18 The mixer towers are required to be spread over 3 floors (as per AESC Plant 2) in order to reduce vibration. Vibration to the system could potentially cause an inconsistent amount of powders to be added to each mixing batch, therefore producing non-conforming product.
- 11.19 The building is 30m high because the process equipment inside the mixer towers are 25m high, with space above required for plenum (2m) and the roof arc (3m). It is therefore not possible to reduce the height of the building.
- 11.20 The AESC Plant 3 full building utilisation breakdown is as follows:



- 11.21 For the potential 12GWh production in order to satisfy demand, the AESC Plant 3 cannot be any smaller. The industrial standard will be 20-30 GWh as the industry scales up.
- 11.22 With regard to the Assembly & Warehousing Building, this is a standard warehouse height to allow for standard racking. The building utilisation breakdown is as follows:



- 11.23 There buildings are therefore as small as possible and there is no scope to reduce their size any further.

Summary

- 11.24 As set out above, it is necessary as part of the VSC case to determine whether the Proposed Development could be delivered at an alternative site.

The operations of AESC Plants 2 and 3 are interlinked with share autonomous processes, shared facilities and shared staff. Separating AESC's cluster of buildings would not work from a logistical point of view.

For these reasons, the buildings have to be located next to AESC Plant 2.

An alternative site search has not been undertaken – there would be no merit in undertaking this piece of work as the chosen Application Site is the only location.

This justifies the development at the Application Site and the fifth element of the VSC case is established.

- 11.25 The Applicant has appraised alternative layouts in the chosen location to try and reduce the impact on the Green Belt. However, these layouts were not considered suitable due to various reasons primarily relating to lack of space, configuration, circulation and further impact on the Green Belt.

12.0 Conclusion

12.1 This Green Belt: Very Special Circumstances Report has been prepared to accompany a full planning application for the development of a battery manufacturing facility next to AESC's Plant 2 at IAMP, which will supply batteries for EVs.

12.2 There is an urgent need for the UK to develop large scale battery production capacity to enable the transition to EVs and to help the UK become net zero. The sale of new petrol and diesel cars will end by 2035, with all new cars and vans having to be fully zero emissions at the tailpipe by 2035. To meet the need for EVs, the industry is facing a huge challenge and needs to gear up in the production of batteries for EVs. The market is fast moving and competitive and the UK risks being left behind in the global race if it does not ramp up production.

12.3 The VSC for this application are follows:

1. There is a demonstrable need for the development

- **The Government's 2030 vision is for the UK to have a globally competitive battery supply chain that supports economic prosperity and the net zero transition; and that the UK will be a world leader in sustainable battery design and manufacture, underpinned by a thriving battery innovation ecosystem⁶³.**
- **The UK urgently needs more large-scale battery production** capacity to meet the predicted need for 100 GWh of supply by 2030 and 200 GWh by 2040⁶⁴. This is the equivalent of five gigafactories by 2030 and ten by 2040.
- The House of Commons, Business and Trade Committee report 'Batteries for electric vehicle manufacturing' states that the UK faces a gigafactory gap, because of insufficient domestic manufacturing capacity to satisfy UK industry's demand for batteries and that **building an industrial base of gigafactories in the UK is strategically important for the UK's energy security, for national security and for the UK's ability to reach Net Zero and to unlock the benefit of economic growth, new jobs and new tax contributions from green industries⁶⁵.**
- The Faraday Report advises that **gigafactories take at least five years to reach operational capacity, so investment and location decisions to meet battery demand in 2030 are all likely to be made in the next 2 to 3 years⁶⁶.**
- There is a **shortage of gigafactories in the UK. AESC Plant 1 is the only operational gigafactory in the UK, whilst AESC Plant 2 is currently under**

⁶³ UK Battery Strategy (Department for Business & Trade, 26 November 2023), page 3

⁶⁴ The Faraday Report, June 2022

⁶⁵ Batteries for electric vehicle manufacturing (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023), page 3

⁶⁶ [UK Electric Vehicle and Battery Production Potential to 2040 \(faraday.ac.uk\)](https://www.faraday.ac.uk), page 1

construction. At best the other announced plans will satisfy a little over half the capacity the nation needs by 2023⁶⁷.

- VSC were granted for the West Midland gigafactory in the Green Belt on the grounds that immediate investment in the UK battery technology is required for the UK sector to stay competitive and to not lose jobs overseas and in relation to the socio and economic benefits.
- This is a critical time for the EV battery sector, with a number of companies announcing ambitious plans. But it must be noted that AESC is the only operational EV battery gigafactory in the UK and the only company that is building new capacity (Plant 2) and investing in the UK.
- The Proposed Development provides a **once-in-a-lifetime opportunity to help AESC Sunderland and the UK compete in the global market** in the move to the electrification of transport, whilst ensuring that Sunderland continues to be one of the best international locations for automotive and advanced manufacturing.
- **By localising production, this will help the UK meet the RoO requirements**, otherwise there would be 10% import tariff should the vehicle's locally sourced components fall short of 55% of the total. This will help ensure the UK remains competitiveness.
- The amount of land that was removed from the Green Belt and was allocated at IAMP for advanced manufacturing and automotive uses, as part of the AAP process, was based on a moderate growth scenario. **The optimistic growth scenario included a step increase in EV production. This change is now happening.**
- **There is therefore a demonstrable need for the development.**

2. There is a specific locational requirement

- **AESC Plants 2 and 3 have been designed as a comprehensive development and need to be located next to each other as they are interlinked, with share logistics, facilities, automated processes and staff.** Separating AESC's cluster of buildings would not work from a logistical point of view, would increase costs and would reduce competitiveness.
- **The AESC Group has specifically chosen the Application Site for these reasons. AESC UK must remain competitive within the AESC Group and need to compete against other worldwide businesses and. If AESC cannot do this in the chosen location, they could develop an alternative facility in Europe. This would be a most significant loss to Sunderland, the regional economy and to the UK automotive industry.**
- **There is therefore a specific locational requirement for the development in the chosen location.**

⁶⁷ 'Batteries for electric vehicle manufacturing' (House of Commons, Business and Trade Committee First Report of Session 2023-24, November 2023) page 3

3. Delivery of Significant Socio-Economic Benefits

12.4 The NPPF places **significant weight** on the need to **support economic growth** and productivity and states that this is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity (para. 85).

12.5 The Proposed Development will:

- **help AESC, Sunderland and the UK complete in the global race for the large-scale manufacture of batteries and in the electrification of vehicles**, as well as being at the forefront of innovations in battery technology.
- **act as a catalyst for the attraction of more suppliers** to the IAMP and the North East, which will further stimulate the economic growth of the region.
- deliver significant benefits through **substantial job creation** (over 1,000 jobs once operational); **upskilling** the local population; **providing training, apprenticeships, work experience** opportunities, as well as working with **local schools and colleges** both during construction and on operation of the gigafactory, and increased expenditure to support other local services, shops and facilities.
- create most important **supply chain opportunities** for the region.
- **expand the existing automotive cluster** in Sunderland which will enhance the strategic importance of this world-class automotive manufacturing area and will underpin the continued success of the automotive and advanced manufacturing sectors in the North East and UK.
- In accordance with the NPPF, it is considered that **substantial weight** should be given to these benefits in decision-taking.

4. Delivery of Significant Environmental Benefits

- There is an international **climate change emergency**, with the UK Government being committed to achieving 'net zero' by 2050.
- The Proposed Development will help increase the production of EVs which will play an important role in **helping to decarbonise transport** and an important role in driving the UK forward to becoming net zero.
- It is predicted that **the Proposed Development could save the equivalent of 130,345 tCO₂e per year** through displacing petrol and diesel vehicles for EVs. This is a most significant reduction in CO₂ emissions.
- Manufacturing batteries locally has environmental benefits through reducing emissions generated by shipping batteries in from overseas.
- The Proposed Development will help AESC achieve their internal strategy of carbon neutrality by 2028 by streamlining transportation activities and logistics. This is a most ambitious target and is significantly in advance of the UK's requirement to be net zero by 2050.
- The development will therefore deliver significant environmental benefits.

5. There are no Alternative Sites / Layouts

- **The chosen location is the only location.**
- **The operations of AESC Plants 2 and 3 are interlinked with share logistics, autonomous processes, facilities and staff.**
- **The AESC Group would not wish to invest in an alternative location.**
- This justifies the development at the Application Site and the fifth element of the VSC case is established.

12.6

In conclusion, the Proposed Development would result in built development within the Green Belt, which would be harmful to the Green Belt and in accordance with the NPPF (para. 153) needs to be given **substantial negative weight**. However, the urgent need for the production of batteries, the significant economic benefits and the significant environmental benefits should **each be given very substantial positive weight**. Furthermore, there is a specific locational requirement for the chosen Application Site and an alternative non-Green Belt site would not work from a logistical point of view.

It is clear that the most significant benefits of the Proposed Development clearly outweigh the harm identified and therefore amount to the VSC necessary to justify the development in the Green Belt. In this context, it is considered that the Proposed Development is acceptable in planning terms and permission should be granted without delay.

Appendix 1

The North East Strategic Economic Plan

- 1.1 The North East Local Enterprise Partnership ('NELEP') published a revised version of The North East Strategic Economic Plan ('SEP') in January 2022. The SEP is recognised as the North East's plan for **growing and developing a more productive, inclusive and sustainable regional economy. Its ambition is to increase the number of jobs in the North East by 100,000 between 2014 and 2024**, with 70% of these being better jobs, defined as managerial, professional and technical roles.
- 1.2 In delivering this ambition, the SEP identifies four areas within the North East economy where assets and capabilities have enabled a strong opportunity for growth. These areas include Digital, Advanced Manufacturing, Health and Life Sciences and Energy.
- 1.3 Having particular regard to Advanced Manufacturing, the SEP identifies the IAMP as a major and nationally significant employment site. The plan highlights the broader site as part of the North East Enterprise Zone, stating the following:

“Advanced Manufacturing in the North East LEP area is globally focussed with strong regional clusters in automotive, electric vehicles and batteries, and pharmaceutical manufacturing.

*Continued investment in Enterprise Zones and new infrastructure is attracting advanced manufacturing businesses to the region. **The nationally significant International Advanced Manufacturing Park is a hub for automotive, advanced manufacturing and technology businesses, and is expected to support 7,000 jobs.**”*

A Strategy for Change 2023- 2025

- 1.4 In September 2023, the North East Chamber of Commerce launched a new policy plan which aims to “*build a stronger and fairer North East*”. This policy plan seeks amongst other policy objectives to “*Strengthen the backbone of the North East economy; and Accelerate North East businesses’ leadership of the Net Zero transition*”.
- 1.5 The strategy emphasises how “*North East business is at the heart of the UK’s Net Zero revolution. With the right tools and support our businesses can go further, faster to deliver our low carbon transition*”, in particular how Investment in decarbonisation and sustainable energy generation will generate positive inward investment returns.

Northern Powerhouse

- 1.6 The Northern Powerhouse is the Government’s vision for a super-connected, globally-competitive northern economy with a flourishing private sector, a highly-skilled population, and world-renowned civic and business leadership. It seeks to boost economic growth, bringing together cities, towns and rural communities of the North to become a powerhouse for economic growth. This is to be achieved through modern transport links, a revolutionary new style of governance and increased investment.
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- 1.7 The Northern Powerhouse strategy which underpins this ambition seeks to ensure the Northern Powerhouse is recognised worldwide for the trade and investment opportunities it offers, supported by over half a billion pounds of investment to improve transport links, unlock housing and to enhance digital connectivity. However, key barriers to driving productivity growth are identified as: lower levels of foreign direct investment (FDI) projects per head, lower proportions of graduates and poor connectivity.
- 1.8 In order to address this, the strategy seeks to support 17 Enterprise Zones across the North by 2017, including the IAMP. It also recognises that the **North has significant strengths in a number of sectors which will be built upon to drive growth, including manufacturing; with 42% of the UK's total car production manufactured in the Northern Powerhouse in 2015.**

Northern Powerhouse Independent Economic Review

- 1.9 The Northern Powerhouse Independent Economic Review ('NPIER') (June 2016) was commissioned by the Transport for the North ('TfN') partners, collaborating with the wider Northern Powerhouse partnership. The findings of the Review characterise the North's economic position and the drivers underpinning its performance, and identify opportunities where pan-Northern drivers and collaboration can support local activities.
- 1.10 In particular, the Review identifies the North as having four prime capabilities which are highly productive and can compete on the national and international stage, comprising of: the advanced manufacturing, energy, health innovation and digital sectors.
- 1.11 However, in order to support further growth, the conclusions of the Review set out the need to support investment and improved performance in a number of critical areas in order to support further growth, including:
- Improved education outcomes and work-based and vocational training;
 - Improved graduate retention and attraction, helped by better prospects for skilled, mobile workers to make their careers in the North through good access to opportunities in more than one town/city, and by a good supply of high-quality housing;
 - Better commercialisation of university research to the benefit of the North's business base;
 - Better management skills, including the uptake of innovation; and
 - **Attraction of inward investment by world-leading, international** businesses that can bring transformed business practices and access to leading technologies.
- 1.12 Overall, the Review identifies that by 2050, a 'transformed North' which incorporates these measures could create **850,000 more jobs and £97 billion more in GVA** than if there was 'business as usual'.

Great North Plan

- 1.13 The Institute for Public Policy Research ('IPPR') North and the Royal Town Planning Institute ('RTPI') have set out a blueprint for a 'Great North Plan' (June 2016) to support the development of the powerhouse and to provide a joined up approach to economic planning. It is proposed that this should include:
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- an overall vision or the North up to 2050; northern transport, economic, natural assets and people and place strategies; and a prospectus for the North to encourage national and international investors. It is considered that this approach will present a unique opportunity to put forward a dynamic and timely representation of the North and its ‘offer’, helping to **attract investment** that will help the North to achieve its geographical and social vision.

Strategic Transport Plan

- 1.14 Transport for the North’s 2019 ‘*Strategic Transport Plan*’ seeks to create “*a thriving North of England, where **modern transport connections drive economic growth, excellent quality of life and improved opportunities for all.***”
- 1.15 The Plan recognises that the success of the UK in the global marketplace, and the achievement of the Government’s Industrial Strategy, depend on the transformation of the economy of the North of England. As a result, it seeks to direct investment to deliver a transport system that is user-centric, smart, autonomous and integrated, as well as resilient and sustainable. Achieving this will allow the North to make a greater contribution to the UK economy through higher productivity and will increase job opportunities across the region, as well as:
- **Improving competitiveness, rebalancing growth and allowing economic assets to thrive, addressing the long-term economic activity gap;**
 - Providing employers and businesses with **better access to a highly skilled and talented labour market, with improved links to the supply chain**, more diverse and cost-effective business opportunities and a more buoyant marketplace;
 - Enabling freight and logistics operators to meet ever increasing demands for smart logistics activities and drive down operating costs, helping to attract additional investment as companies cluster in more accessible locations;
 - Generating a greater return on investment from public expenditure **through higher productivity and increased economic participation;** and
 - Providing **access to more work and leisure opportunities**, enhancing the quality of life, and improving living standards and the communities of the North.
- 1.16 Transport for the North is currently consulting on Draft Strategic Transport Plan (May 2023). The emerging Strategic Transport Plan (May 2023) vision outlines that “*by 2050 the North of England will have become a thriving, socially inclusive region. Our communities, businesses and places will all benefit from sustainable economic growth, improved health and wellbeing and access to opportunities for all. This will be achieved through a transformed, **zero-emission**, integrated, safe and sustainable transport system, which will enhance connectivity, resilience and journey times for all users.*”
- 1.17 The vision is supported by three strategic ambitions these being:
- Transforming economic performance;
 - Enhancing social inclusion and health; and
 - Rapid decarbonisation of surface transport.
-

- 1.18 With regard to transforming economic performance, the plan recognises that the North has a historical productivity gap with the rest of England and recognises the fundamental need for investment “*to provide faster passenger and freight connections between the North’s economic centres, as well as to other parts of the UK and international gateways, to unlock **sustainable economic growth***”.

City Deal

- 1.19 The City Deal was signed between the Council, South Tyneside Council and the Government in 2014. The City Deal has five key aims:

- **Delivery of the International Advanced Manufacturing Park;**
- Commitment to co-designing a local Skills Compact with local businesses;
- Delivery of the New Wear Crossing;
- **Infrastructure for Ultra Low Emission Vehicles;** and
- Sunderland and South Tyneside Councils’ commitment to supporting the development of the North East Combined Authority.

- 1.20 A key objective of the City Deal is to enable the local economy to **build on its strengths in advanced manufacturing, with a focus on the automotive sector** but also expanding the opportunities for enterprise and employment in the area.

- 1.21 The City Deal partners have committed funding to support the delivery of the initial planning phases. Sunderland City Council, South Tyneside Council and the NELEP will commit local funding as the project progresses.

Sunderland Transforming our City: The 3.6.9 Vision

- 1.22 This vision sets out that by 2024, Sunderland will deliver:

- Over £1bn of investment into the city’s infrastructure and industrial assets;
- Approximately 20,000 new jobs created across a range of sectors, increasing the city’s productivity and reducing unemployment levels;
- A more vibrant and attractive city with more happening in terms of events, entertainment and culture; and
- A significant increase in our levels of education and skills.

- 1.23 With respect to the IAMP, the document states:

*“We see the most important sectors for job creation in the city being the **Manufacturing and Automotive sector** where we anticipate more than 5,000 new jobs as a result of continued organic growth in the sector and **the stimulus given by the establishment of the International Advanced Manufacturing Park** and the associated Enterprise Zone.”*

“The IAMP will bring a predicted £295 million in private sector investment and the creation of over 5,200 new jobs over the next decade with more than 500 new jobs being created every year from 2018.”

the 1990s, the number of people with a mental health problem has increased in the UK (Mental Health Act 1983, 1990).

There is a growing awareness of the need to improve the lives of people with mental health problems. The Department of Health (1999) has set out a vision of a new mental health system, which will be based on the following principles:

- (i) People with mental health problems should be treated as individuals, with their own needs and wishes.
- (ii) People with mental health problems should be given the opportunity to participate in decisions about their care and treatment.
- (iii) People with mental health problems should be given the opportunity to live in their own homes and communities.

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- (iv) People with mental health problems should be given the opportunity to live in their own homes and communities.
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