Botley West Solar Farm

Outline Layout & Design Principles

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1. Introduction and Summary

1.1 Introduction

1.1.1 This Outline Layout and Design Principles document ('OLDP') has been prepared to accompany the Development Consent Order ('DCO') Application for the Botley West Solar Farm ('the Project'). It provides the guiding principles for the detailed layout and design of the Project and is secured by a requirement in the draft DCO **[EN010147/APP/3.1]**. When the detailed design for the Project is submitted for approval to the relevant planning authorities, those details must accord with the layout and design principles set out in this OLDP.

1.1.2 Securing detailed layout and design matters post the grant of the DCO is necessary in order to achieve a development that responds effectively to its environment and to optimise the engineering and technological aspects of the infrastructure. That flexibility has been facilitated by the use of the 'Rochdale Envelope' approach in the Environmental Statement (ES). The Rochdale Envelope approach ensures the maximum parameters and likely worst case have been assessed, and that envelope is defined by the layout and design principles set out in this document.

1.2 Layout and Design Principles

1.2.1 The Project is described in Schedule 1 of the draft DCO **[EN010147/APP/3.1].** The different components of the Project are divided into works packages which correspond with the work number areas shown on the **Works Plans [EN010147/APP/2.3].** These Works will be subject to differing levels of development and/or management. The Works include one generating station with a generating capacity of over 50 MW which is the *"Nationally Significant Infrastructure Project"* (NSIP). For the purposes of the EIA, the Project is described in **ES Volume 1, Chapter 6: Project Description [EN010147/APP/6.3]**.

1.2.2 Work No. 4 addresses works in connection with high voltage electrical cabling whilst Work No. 6 address works in connection with other cabling and general works powers that are applicable across the majority of the Site. The parameters for these works are addressed in the **Works Plans [EN010147/APP/2.3],** the **Cable Laying Methodology and Indicative HDD Crossing Locations Report** (Volume 3, Appendix 6.2 **[EN010147/APP/6.5],** the **outline Written Scheme of Investigation (oWSI) [EN010147/APP/7.6.5],** the **outline Code of Construction Practise (oCOCP) [EN010147/APP/7.6.1],** and the **outline Landscape and Ecology Management Plan (oLEMP) [EN010147/APP/7.6.3],** and therefore these elements are not included in Table 1.1 of this document.

1.2.3 Work No. 5 addresses works in connection with sensitive archaeological site protection and management and are addressed in the **Works Plans [EN010147/APP/2.3]** and in the **outline Written Scheme of Investigation (oWSI) [EN010147/APP/7.6.5]** and in the **outline Landscape and Ecology**

Management Plan (oLEMP) [EN010147/APP/7.6.3] and therefore these elements are not included in Table 1.1 of this document.

1.2.4 Part of Work No. 4 and Work No. 7 addresses temporary construction and decommissioning compounds. The parameters for these temporary construction compounds are addressed in the **Works Plans [EN010147/APP/2.3]** and in the **outline Code of Construction Practise (oCOCP) [EN010147/APP/7.6.1]** and in the **Outline Decommissioning Plan [EN010147/APP/7.6.4],** and therefore these temporary construction elements are not included in Table 1.1 of this document.

1.2.5 Similarly, Work No. 9 relates to the creation of accesses, visibility splays and other alterations to facilitate Work No.1 to Work No.8. These are also not included within Table 1.1 below. These matters are addressed in the **oCOCP [EN010147/APP/7.6.1]** and the **Construction Traffic Management Plan**, that forms an annex to the oCOCP. The parameters for their ongoing use during operation are addressed in the **Outline Operational Management Plan (oOMP) [EN010147/APP/7.6.2].**

1.2.6 Further ancillary or related development in connection with the above works (as listed in the final paragraph of Schedule 1 to the draft DCO) may be necessary across the Order limits and will be subject to the design principles where they apply.

1.2.7 Construction activities are subject to the controls included in the:

- Code of construction practice, which will be substantially in accordance with the **oCOCP [EN010147/APP/7.6.1]**;
- Construction Traffic Management Plan which will be substantially in accordance with the **oCTMP** (appended to oCOCP **[EN010147/APP/7.6.1]**);
- Public Rights of Way (PRoW) Management Plan which will be substantially in accordance with the **Outline PRoW Management Strategy** (appended to oCOCP **[EN010147/APP/7.6.1]**);
- Site Resources and Waste Management Plan which will be substantially in accordance with the **Outline Site Resources and Waste Management Plan** (appended to oCOCP **[EN010147/APP/7.6.1]**);
- Soil Management Plan which will be substantially in accordance with the Outline Soil Management Plan (appended to oCOCP **[EN010147/APP/7.6.1]**);
- Written Scheme of Investigation (WSI) which will be substantially in accordance with the **Outline WSI [EN010147/APP/7.6.5]**; and
- Skills, Supply Chain & Employment Plan which will be substantially in accordance with the **Outline Skills, Supply Chain & Employment Plan** (Volume 3, Appendix 15.2 **[EN010147/APP/6.5]**).

1.2.8 These Plans are secured by Requirements in the draft DCO.

1.2.9 The operation of the Project is subject to the controls included in the:

- Operational Management Plan, which will be substantially in accordance with the **oOMP [EN010147/APP/7.6.2]**;
- Landscape and Ecological Management Plan (LEMP) which will be substantially in accordance with the **Outline LEMP [EN010147/APP/7.6.3]**;
- Drainage Strategy which comprises the SuDS Strategy which will be substantially in accordance with the Conceptual Drainage Strategy (Volume 3, Appendix 10.2 **[EN010147/APP/6.5]**);
- **Works Plans [EN010147/APP/2.3]**; and
- **Streets, Access and Rights of Way Plans [EN010147/APP/2.2]**.

1.2.10 The decommissioning of the Project is subject to the controls included in the:

- Decommissioning Plan (DP) which will be substantially in accordance with the **Outline Decommissioning Plan [EN010147/APP/7.6.4]**;

1.2.11 The controls in these documents are not duplicated here.

1.2.12 Appendix 1 to this OLDP includes a Technical Note in relation to Sulphur Hexafluoride (SF6). That Technical Note sets out the Applicant's commitments to the use of SF6-free assets in relation to 33kV switchgear and 400kV switchgear, whilst identifying the need to retain flexibility for the potential use of SF6-reliant assets for 275kV switchgear. Section 1.3 of that Technical Note includes details of the approach to the control of SF6, in the event that SF6-reliant assets are used.

Table 1.1: Design Principles

Element of Scheme	Parameter Type	Design Principle
Work No. 1		
Ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts including—	Location	All PV Panels will be located within the Solar PV Array Works Areas marked as Work No. 1 on the **Works Plans [EN010147/APP/2.3]**.
Solar PV modules	Scale	Height: Approximately 0.8 m at lower edge (in areas at risk of higher surface water depths (up to 600mm the lowest leading edge will be set to 900mm). Approximately 2.20 m at higher edge when land is flat Approximately 2.30m at higher edge when land is not flat
		Total Installation area for solar arrays – Northern Site Area (exc. 275kV corridor route) – up to approx. 247.3 ha
		Total Installation area for solar array – Central Site Area (exc. 275kV corridor route) – up to approx. 545.2 ha
		Total Installation areas for solar array – Southern Site Area - Approx. up to 46 ha (with NGET substation) Approx. up to 50 ha (without NGET substation)

Element of Scheme	Parameter Type	Design Principle
		Indicative Number of Solar PV Modules - range from 1,800,000 to 2,200,000 PV modules
	Design	Anodized Aluminium Alloy Frame. The panels would be mounted upon a prefabricated alloy metal frame. The module frames will be anchored to the ground via steel piles, which will be driven approximately 1.5 m- 3 m below ground. The framed mounting system would be pile-driven. Therefore, no foundations would be required Indicative number of piles – 780,000 – 1,600,000 Dark blue or dark grey or black Modules Fixed 12 to 18 degrees slope of modules from horizontal
	Layout	Indicative North/South separation distance (m) between tables - 1.5 m to 3.0 m
		Indicative East/West separation distance (m) between tables - 0.25 m to 0.50 m Indicative Table Width (inc. Ridge Break), East to West – 3 m to 22 m
		Minimum distance between solar array field fence boundary and table areas (m) - Minimum 7.0 m (in some locations this measures up to 100 m).
		Minimum distance between residential property boundary and table areas is approximately 25 m
Power Converter Stations (PCS);	Scale	Up to 156 no PCS units Height (m) 2.7 – 3.5 m Length (m) 12.0 – 14.0 m Width (m) 2.2 – 2.9 m
	Design	Sound power levels - approximately 92 dB Total installed capacity approximately 936,000 kVA (total apparent power in AC)
Work No. 2		
National Grid Substation	Location	The National Grid Substation will be located as shown as Work No. 2 on the **Works Plans [EN010147/APP/2.3]**.
	Scale	Gas Insulated Substation (GIS) building: Footprint of approximately 93m by 17m Height up to approximately 15.0m (14.495m). Adjacent building to GIS building: Footprint of approximately 105m by10m

Element of Scheme	Parameter Type	Design Principle
		Height of approximately 4.8m ~~Plus a variety of other~~ All of the other substation equipment as set out in the definition of 'New National Grid Substation' in the DCO (including transformers and connecting towers), other than the two substation buildings described above~~electrical infrastructure including transformers and connecting towers~~, ~~which~~ will be at varying heights but none greater than approximately 15m (excluding the cable connecting to 400kV OHL)
	Design	Gas Insulated Substation Sound Power Level – approximately 95 dB(A)
	Layout	Up to 3.8ha site area
Work No. 3 Onsite substations and associated works		
Work No. 3A		
Main Substation	Location	The Main Substation will be as described and be located as shown as Work No. 3A on the **Works Plans [EN010147/APP/2.3]**.
	Scale	Length approximately 156m Height approximately 11m Width approximately 63m
	Design	Sound Power Level – approximately 93 dB(A)
Work No. 3B		
Secondary Substations	Location	The Secondary Substations will be as described and be located as shown as Work No. 3B on the **Works Plans [EN010147/APP/2.3]**.
	Scale	Between 3 to 6 no. secondary substations Length (m) 12 – 18 m Width (m) – Approx 63m Height (m) 4.0 m – 6.0 m (inc. isolator)
	Design	Transformer Foundation Dimensions: Length (m) 19 – 22 m Width (m) 18 - 21m Height (m) 0 m – 1.0 m Sound power output – variable 73-86 dB(A)
Work No. 8		
Landscape protection, management and enhancement	Location	The landscape protection, management and enhancement works will be as described and be located as shown as Work No. 8 on the **Works Plans [EN010147/APP/2.3]**.

1.3 Other Infrastructure

1.3.1 Fencing, lighting and security systems are also proposed to enclose and secure the main Project infrastructure components. The fencing will be for operational security purposes and may be up to 2.1 m in height. Lighting and CCTV will be installed too, but only within limited areas of the development, generally around the high voltage infrastructure for safety and security. Table 1.2 below provides more details.

Table 1.2: Other Infrastructure ParametersOther Infrastructure	Parameter range
Fencing	Length (km) Northern Site Area – Approximately 26.7 km Central Site Area – Approximately 70 km Southern Site Area – Approximately 8.8 km
	Height – 1.8 m to 2.1 m
CCTV	No. of CCTV cameras – up to 174 (one on each gate plus one on each HV substation).
	Support Column Details - 100 mm box section galvanized steel column or wooden pole
	Camera Height (m) – 3.0 m to 4.0 m
	Camera Position – 1m to 2m inside the fence boundary
	CCTV Lighting - infrared outside daylight hours (not visible light) .
Lighting	For Solar PV Array and Transformers – combination of manually operated lighting and PIR motion sensor activated security / emergency lighting. No lights permanently switched on. Operated manually.
	Electrical Compound(s) - combination of; - Manually operated lighting; and - Passive infra-red (PIR) motion sensor activated security / emergency lighting. No lights permanently switched on.

Appendix A

Sulphur Hexafluoride (SF6) Technical Note

Botley West Solar Farm

Environmental Statement

Sulphur Hexafluoride (SF6) Technical Note

July 2025

Contents

1 Sulphur Hexafluoride (SF6) Technical Note

1.1 Introduction

Overview

1.1.1 This Sulphur hexafluoride technical note has been prepared for the Botley West Solar Farm (hereafter referred to as 'the Project'). This document has been prepared by Photovolt Development Partners GmbH (PVDP) on behalf of SolarFive Ltd (the Applicant).

1.1.2 This document has been produced in accordance with the National Policy Statement (NPS) for Electricity Networks Infrastructure (EN-5) and outlines the Applicant's approach to managing the use of Sulphur Hexafluoride (SF6) across the Project.

Sulphur Hexafluoride

1.1.3 SF6 is one of the most potent greenhouse gases, with a global warming potential of 23,900 kgCO_2e/kg. Its high atmospheric stability and ability to trap infrared radiation means it is far more potent at warming the earth's atmosphere than Carbon dioxide (CO_2), over longer periods of time.

1.1.4 SF6 is an artificial, odourless gas employed in the electricity industry to maintain the safe and dependable functioning of networks. It is characterised by its remarkable stability, non-toxic nature, non-flammable properties, and electronegativity, which ensures that it does not create other compounds that might affect its state or effectiveness.

1.1.5 SF6 is predominantly utilised in electricity transmission and distribution. Medium and high-voltage electrical equipment contains SF6 to insulate the live electrical parts and to switch the flow of electrical current on and off. The aforementioned equipment is used in the transmission and distribution of renewable energy.

1.1.6 Electrical equipment is designed to avoid the release of this gas into the atmosphere. Manufacturers of equipment that do continue to use SF6 are sealed-for-life with extremely low leakage rates[1] (Widger & Haddad, 2018).

1.1.7 The energy industry is striving to reduce the use of SF6, for example National Grid has an ambition to reduce SF6 emissions by 50% by 2030 and remove all SF6 from electricity assets by 2050[2]. Solutions to replace SF6 with greenhouse gas free alternatives are currently being developed by electrical transmission equipment manufacturers, and manufacturers of such equipment are increasingly able to offer SF6 free components. However, commercially available options can be limited.

[1] Widger, P. and Haddad, A. (2018). Evaluation of SF6 Leakage from Gas Insulated Equipment on Electricity Networks in Great Britain.

[2] National Grid PLC (2020) National Grid Responsible Business Charter

Policy and Legislation

1.1.8 National Policy Statement (NPS) for Electricity Networks Infrastructure (EN-5) states:

1.1.9 *"Sulphur Hexafluoride (SF6) is an insulating and arc-suppressant gas used in high-voltage switchgear for electricity networks"* (paragraph 2.9.59).

1.1.10 *"It is also an extraordinarily potent greenhouse gas, and fugitive emissions from electricity networks infrastructure are an object of increasing environmental concern, especially in light of the UK's commitment to net zero by 2050"* (paragraph 2.9.60).

1.1.11 *"Applicants should at the design phase of the process consider carefully whether the proposed development could be reconceived to avoid the use of SF6-reliant assets"* (paragraph 2.9.61).

1.1.12 *"Where the development cannot be so conceived, the applicant must provide evidence of their reasoning on this point. Such evidence will include, for instance, an explanation of the alternatives considered, and a case why these alternatives are technically infeasible or require bespoke components that are grossly disproportionate in terms of cost"* (paragraph 2.9.62).

1.1.13 *"In particular, an accounting of the cost differential between the SF6- reliant asset and the appropriate SF6-free alternative should be provided"* (paragraph 2.9.63).

1.1.14 *"Where applicants, having followed the above procedure, do propose to put new SF6-reliant assets onto the electricity system, they should design a plan for the monitoring and control of fugitive SF6 emissions consistent with the Fluorinated gas (F-gas) Regulation and its successors"* (paragraph 2.9.64).

1.1.15 *"The climate-warming potential of SF6 is such that applicants should, as a rule, avoid the use of SF6 in new developments."* (paragraph 2.10.14)

1.1.16 *"Where no proven SF6-free alternative is commercially available, and where the cost of procuring a bespoke alternative is grossly disproportionate, the continued use of SF6 is acceptable, provided that emissions monitoring and control measures compliant with the F-gas Regulation and/or its successors are in place"* (paragraph 2.10.15).

1.1.17 *"The Secretary of State should grant consent for an electricity networks development only if the applicant has demonstrated either:*

i. That the development will not use SF6; or

ii. (a) that there is no proven commercially available alternative to the use of SF6; and

(b) that a bespoke SF6-free alternative would be grossly disproportionate in terms of cost.

(c) that emissions monitoring and control measures compliant with the F-gas Regulation and/or its successors are in place." (Paragraph 2.11.17)

1.2 Project approach to SF6

Where is SF6 used?

1.2.1 SF6 is typically used in the switchgear found in substations, which protects electrical equipment against overloads and short-circuits, making it possible to supply electricity reliably and without interruption.

How has the Project considered SF6?

1.2.2 The Applicant has carefully evaluated a comprehensive range of options during the initial design phase to ensure a solution that aligns with our project requirements and sustainability goals. This assessment included an in-depth review of GIS SF6 systems, non-SF6 GIS alternatives, and Air Insulated Substation (AIS) solutions. Each option was considered for its technical, environmental, and economic implications to support a balanced and informed decision.

1.2.3 After a thorough review of technical and environmental requirements, as well as consideration of landscape visual impact, it was decided to exclude AIS substations as a feasible option. The primary factors influencing this decision include the substantial footprint of AIS and the considerable visual impact it would have, especially in the green belt area. Given these considerations, GIS substations (SF6 or non-SF6) were identified as the more suitable choice to align with project constraints and environmental priorities.

1.2.4 Whilst the applicant will endeavour to utilise non SF6 components wherever practicable. The worst-case scenario would require the use of GIS that is reliant on SF6. There are a variety of reasons why this may be required:

- **Emerging Technology Cost Uncertainty:** The cost differential for SF6-free equipment remains uncertain due to its status as an emerging technology, making budgeting and financial planning more challenging.
- **Commercial Availability:** Commercial availability of SF6-Free components, especially at the 275kV Level. At the 275kV level, the commercial availability of SF6-free components is particularly limited, raising concerns about procurement timelines and supplier capacity.
- **Risk of Project Delays and Cost Implications:** Limited availability of SF6-free equipment could result in delays, impacting our ability to meet the required substation connection date. This poses risks to project deliverability, potential financing arrangements, and overall project timelines.

1.2.5 The Applicant's approach to SF6-free technology at this stage of design for relevant elements of the Project is as follows:

- **33kV Switchgear:** The Applicant is committed to using SF6-free technology at the 33kV level, as availability is not a concern, and the technology has reached a level of maturity suitable for this voltage range.
- **275kV Switchgear**: While the Applicant is actively evaluating the use of SF6-free options at the 275kV level, it cannot commit at this stage due to

availability challenges and limited market maturity (see Appendix A). This retention of design flexibility is envisaged by paragraph 2.10.15 of NPS EN-5 which recognises that the continued use of SF6 may be acceptable '*where no proven SF6-free alternative is commercially available, and where the cost of procuring a bespoke alternative is grossly disproportionate'.* This approach is precedented too. For example, consent was granted for the East Yorkshire Solar Farm even though "*there will most likely be sulphur hexafluoride (SF6) within the switchgear*"[3]. This was justified on the basis that these will be 'sealed for life' solutions with extremely low anticipated leakage rates. This assumption of 'sealed for life' solutions is the same approach adopted by the Applicant for its assessment in Chapter 14 (Climate Change) **[APP-051]**, albeit where practicable, the Applicant for this Project aims to incorporate SF6-free technology, pending further assessment and assurance of supply.

- **400kV Switchgear:** The Applicant is committed to SF6-free solutions at the 400kV level, aligning with National Grid's proposed SF6-free substation approach at this voltage range.

1.2.6 The Applicant supports the principle of paragraph and 2.10.14 of NPS EN-5 and has embedded SF6 avoidance into its design strategy. The Applicant is committed to not using SF6 at 33 kV or 400 kV and will only consider it at 275kV if no viable alternatives emerge. This general approach to avoid the use of SF6-reliant assets aligns with paragraph 2.9.61 of NPS EN-5.

1.2.7 In accordance with NPS EN-5 paragraph 2.9.62, this technical note outlines the evaluation of SF6-free alternatives at 275kV. Given current market constraints and technical immaturity, these options may not yet be feasible and there are commercial limitations and delivery risks.

1.2.8 Acknowledging the limitations, the Applicant is actively seeking consultations with manufacturers and designers of all types of switchgear to investigate the use of SF6-free alternatives. When opportunities become available, the Applicant would perform an evaluation during the detailed design phase, subsequent to receiving consent, to ascertain the viability of these solutions for the Project.

1.2.9 It is the Applicants intention to prioritise SF6-free equipment, wherever viable and practicable.

Cost Considerations

1.2.10 The availability of SF6-free equipment is relatively recent. In recognition of NPS EN-5 paragraph 2.9.63, the Applicant recognises that as a newer technology, SF6-free equipment currently incurs higher costs compared to conventional SF6-dependent equipment. For example, long SF6 lead times could result in significant delay to the project with associated cost. Nevertheless, the market is evolving, and until project-specific bids from

[3] Paragraph 6.4.7 of the East Yorkshire Solar Farm ES Chapter 6: Climate Change.

tenders are received post development consent, it is currently not possible to set out the cost differences.

1.3 Approach to control of SF6

Overview

1.3.1 The Applicant is committed to implementing a monitoring and control strategy for any SF6-reliant assets in accordance with applicable legislation (listed at paragraph 1.3.2 below), including EU Regulation No. 517/2014 and the UK Fluorinated Greenhouse Gases Regulations 2015. These measures will ensure that fugitive emissions are minimised and managed in line with regulatory expectations.

1.3.2 Assuming a worst-case scenario where the Project has to install SF6 reliant assets, the control of SF6 gas would be in line with the following regulations and standards:

- EU Regulation No.517/2014 (Retained) and the UK Fluorinated Greenhouse Gases Regulations 2015 working with fluorinated gases.
- BS EN 62271-4:2013 High-voltage switchgear and control gear. Handling procedures of sulphur hexafluoride (SF6) gas and its mixtures.
- Energy Networks Association 2013 ER G69 Guidance on working with sulphur hexafluoride.
- BS EN 60376:2018 Specification of technical grade sulphur hexafluoride (SF6) for use in electrical equipment.
- BS EN IC 60480:2019 Guidelines for the checking and treatment of sulphur hexafluoride (SF6) taken from electrical equipment and specification for is re-use.
- The Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR).
- Health and Safety Executive guidance document HSG230 – keeping electrical switchgear safe.

Operation and Maintenance

1.3.3 In line with standard practice relating to the operation of GIS, to prevent leaks (thus minimising the risk of causing harm to the environment), all equipment would be maintained in line with manufacturer's instructions. Only personnel trained and competent under EU Regulation No.517/2014 (Retained) and the UK Fluorinated Greenhouse Gases Regulations 2015, will be allowed to operate and maintain equipment containing SF6.

1.3.4 In the unlikely occurrence of a leak, automatic monitoring systems would be employed to detect the issue. Any identified leaks would be addressed and repaired at the earliest opportunity following discovery. In accordance with relevant regulations and guidelines, suitable safe work systems would be implemented to safeguard employees from the hazards associated with this type of work.

1.3.5 Only trained and competent persons will be permitted to access areas where equipment containing SF6 is located. These areas will be secured in such a way as to prevent unauthorised access in compliance with the ESQCR Regulations 2002. This will help to mitigate any risk to public health.

Monitoring, maintaining records and auditing

1.3.6 Areas of the Project that have equipment containing SF6 will hold a register, which keeps record of the equipment containing SF6, and the quantity of SF6 used. The register will also keep records of any leaks and repairs including the amount of SF6 used during the operational life of the equipment. Any repairs or leaks will be managed to ensure leakage rates of equipment stays under the maximum rates per year, in accordance with relevant regulations as outlined above. Leakage rates per year will be linked to the volume of gas contained within equipment, as stated by the manufacturer.

Decommissioning approach

1.3.7 During the decommissioning phase of the Project, any SF6 will be removed in accordance with the legislation and best practice measure in place at the time. This would likely include re-using SF6 wherever possible. Where it is not re-usable, it will be recovered and then either recycled or destroyed by licensed companies. During decommissioning, gas would be recovered from equipment by qualified personnel.

Appendix A

Category	Criteria	SF6 GIS (275 kV)	SF6-Free GIS (275 kV)
Technical/ Supply Chain	Technology Maturity	Fully mature and widely deployed	Limited commercial readiness
	Supply Chain Availability	High availability from multiple OEMs	Limited vendor options at 275 kV, currently by only bz three suppliers worldwide
	Footprint	Baseline size	+10–15% larger
	Lead Time & Delivery Certainty	Stable, predictable	Longer by 50–100%
Economic	CAPEX	Baseline	Potentially 50% higher
Grid	Grid Acceptance	Universally approved	May require customized solutions with longer approvals