

Assessing battery energy storage system (BESS) applications

Guidance for local planning authorities in England

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Aim of this guidance

Planning plays a crucial role in delivering a clean, secure and affordable energy system, as well as unlocking the wider benefits of energy projects, such as job creation and economic growth. It enables projects to move from proposal to reality while ensuring that potential negative impacts are minimised or mitigated against and benefits are maximised for communities and the environment.

However, local planning authority officers are under increasing pressure, with resourcing challenges intensifying the difficulty of assessing the growing number of applications for clean energy projects.

This guide is intended as a practical tool to support local planning authority officers in England in assessing planning applications for battery energy storage systems (BESS). It is also relevant to planning committee members, statutory bodies, consultants, developers and individuals wanting to understand the process, and it touches on the role of local planning authorities in the Nationally Significant Infrastructure Project regime for projects determined at this level.

It is not a formal planning policy or statutory guidance and does not replace the National Planning Policy Framework, Planning Practice Guidance, local development plans or National Policy Statements. Instead, it provides an overview of the key considerations specific to BESS and sets out the factors that typically arise, to help support planning officers to make consistent, evidence-based decisions that draw on professional judgement and reflect local context.

How to use this document

- Use alongside the published [National Planning Policy Framework](#)¹ and [Planning Practice Guidance](#)
- Use as a reference during pre-application discussions with developers to identify potential issues and solutions early
- Consult when reviewing planning applications to ensure all relevant factors – policy, technical, environmental, social and economic – are considered.

Other resources in the series

Similar guidance is available for assessing:

- Ground-mounted solar
- Onshore wind farms
- Electricity network infrastructure.

1. References to the NPPF in this guidance refer to the December 2024 version of the NPPF, available [here](#). A draft updated NPPF was published for consultation in December 2025, and once published, this guidance documented will be updated to reflect any policy changes.

Contents

01	The UK government's approach to batteries	4
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02	Overview of BESS	7
	What does a typical battery site look like?	8
	The life cycle of a battery site	13
	Benefits of BESS	20
	Community engagement	22

03	Planning route for BESS projects	23
	Co-located BESS and renewable generation technology	25
	Long Duration Energy Storage	25
	Planning appeals	26

04	Planning policy and legislative framework	27
	National Planning Policy Framework	29
	Planning Practice Guidance	30
	National Policy Statements	30
	Role of statutory consultees	31
	Material considerations in deciding BESS applications	32

05	Key decision-making factors	33
	Fire risk	34
	Operational noise	37
	Transport impacts (temporary)	38
	Wildlife and biodiversity impacts	40
	Landscape and visual impacts	41
	Flooding and drainage	43
	Land use and agriculture	44
	Green Belt	45
Heritage and archaeology	47	

06	Duration of planning consent, decommissioning, augmentation and repowering	48
	Augmentation and repowering	49
	Decommissioning	49

07	Typical planning conditions for battery sites	50
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01

The UK government's approach to batteries



UK government approach to batteries

Grid-scale battery storage is essential to the UK's clean energy goals. As more of our electricity demand is met by intermittent renewables, it is important that we can store electricity when it is produced and dispatch it when there is demand. Grid-scale batteries allow more clean electricity to be used in the energy system, reducing curtailment and carbon emissions associated with fossil fuel generation. As a result, planning authorities are increasingly likely to receive applications for battery storage projects and should expect continued deployment as part of the transition to a clean power system.

The UK government's [Clean Flexibility Roadmap](#) states that grid-scale batteries are “central to Britain's power system flexibility” and “a vital technology for achieving clean power by 2030”, while the [Clean Power 2030 \(CP30\) Action Plan](#) outlines an ambition for 23-27 GW of grid-scale batteries in 2030. At the end of 2025, there was just over 6.3 GW of BESS batteries connected to the GB network.

The GB battery storage market is one of the most developed globally and is deploying at scale without direct subsidy, with projects typically stacking multiple revenue streams including Capacity Market contracts.

A strong business case, supportive legislation and the strategic need for BESS contributed to an acceleration of projects seeking planning consent in 2024 and 2025. The main driver for this, however, was deadlines imposed by the National Energy System Operator (NESO) as part of its connections reform, introduced to address historic delays in projects attaining a grid connection.

This process, which prioritises projects that are both ‘first-ready’ and ‘needed’, has led to considerable oversupply of BESS projects with planning consent, a proportion of which will not end up being developed. [The Renewable Energy Planning Database \(REPD\)](#) suggests that in GB around 880 BESS projects (c. 67 GW) were awaiting construction as of January 2026.

Developers may continue to bring forward new BESS proposals, and planning applications should continue to be assessed on their own merits, but volumes are expected to drop significantly. New strategic plans for the UK's energy system are being developed by the government and NESO, which should provide further clarity on the need for BESS beyond 2035.

The Strategic Spatial Energy Plan

The [Strategic Spatial Energy Plan \(SSEP\)](#) is GB's first long-term, whole-system blueprint for future energy infrastructure. It will identify the optimal mix, scale and broad geographic distribution (not site-specific locations) of electricity generation, storage and hydrogen infrastructure required to meet future demand and net zero targets.

The SSEP is being developed by NESO on behalf of the UK, Scottish and Welsh governments. Current indicative timescales are:

- Summer 2026: pathway options submitted to ministers
- Early 2027: public consultation on draft plan
- Autumn 2027 (subject to change): final plan published.

The SSEP will align with other strategic planning tools, including the [Centralised Strategic Network Plan \(CSNP\)](#) and [Regional Energy Strategic Plans \(RESs\)](#). The overarching National Policy Statement (NPS) for Energy (EN-1) confirms that the SSEP should be considered by the Secretary of State when making decisions on Nationally Significant Infrastructure Project (NSIP) applications, once endorsed by all relevant governments. The NPS will also endorse the needs case for strategic parameters of transmission infrastructure recommendations in the CSNP, so the Secretary of State will take the need case for these projects as established when making decisions on NSIPs. For more information on the NPS, see the section National Policy Statements, [page 30](#). The SSEP is not currently integrated into the Town and Country Planning Act regime.

02

Overview of BESS

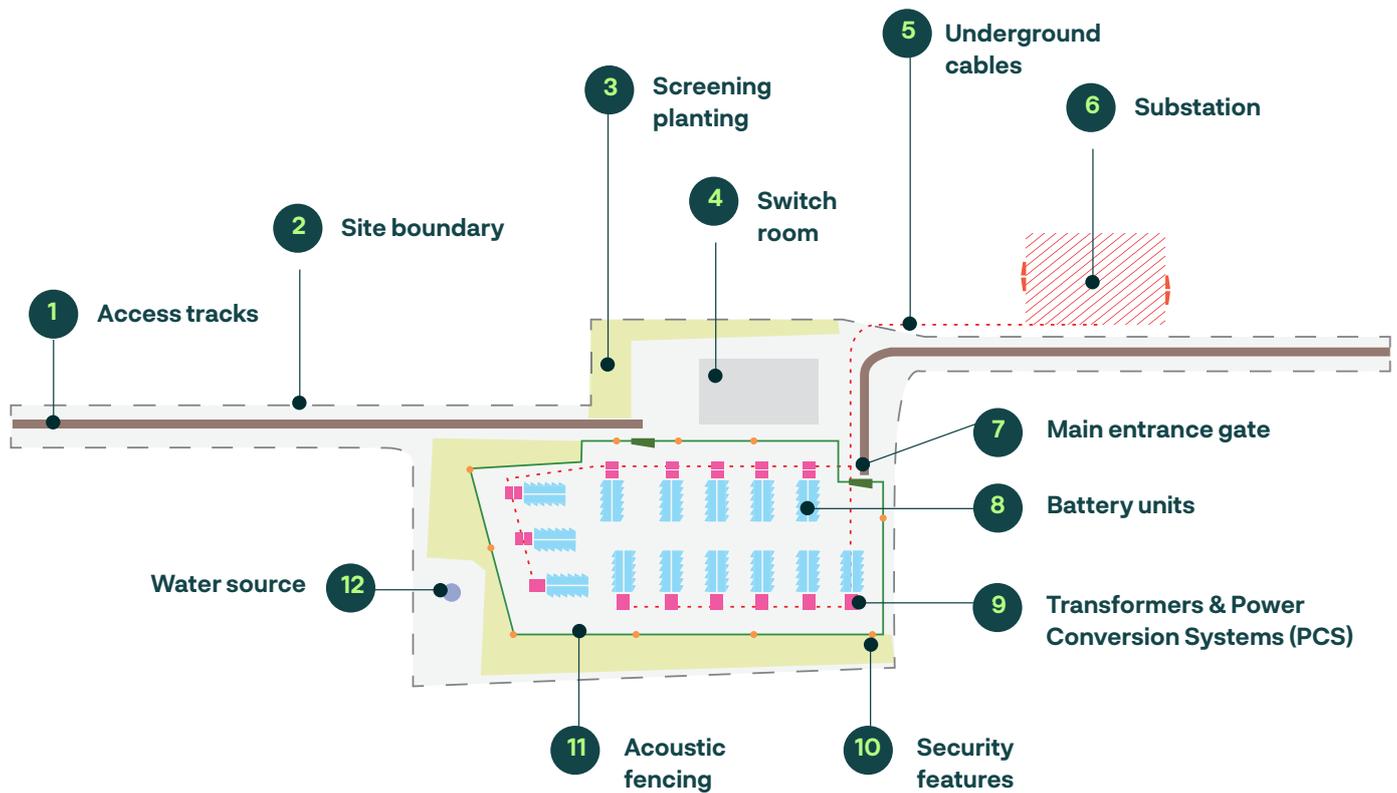


What does a typical battery site look like?

BESS is a form of energy storage capable of rapidly converting electricity into chemical energy, which can be stored and transferred back into electricity as needed. It plays a crucial facilitating role in integrating renewable energy into the grid by efficiently storing excess electricity generated during peak periods and releasing it during times of high demand. This helps to stabilise and balance the grid. The UK [Committee on Climate Change](#) has signalled battery storage as a vital technology for the UK's plans to reach net zero carbon emissions.

Grid-scale BESS typically uses lithium-ion (Li-ion) technology, the same as batteries found in consumer devices such as mobile phones and electric vehicles. Individual Li-ion cells are assembled into battery modules, which are stacked within shelving units to form racks. One or more racks are housed within a bespoke container to create a battery unit, which is fitted with electrical and safety management equipment.

The following page shows a diagram of key components of a typical BESS site. Site design and layout will vary on a case-by-case basis.

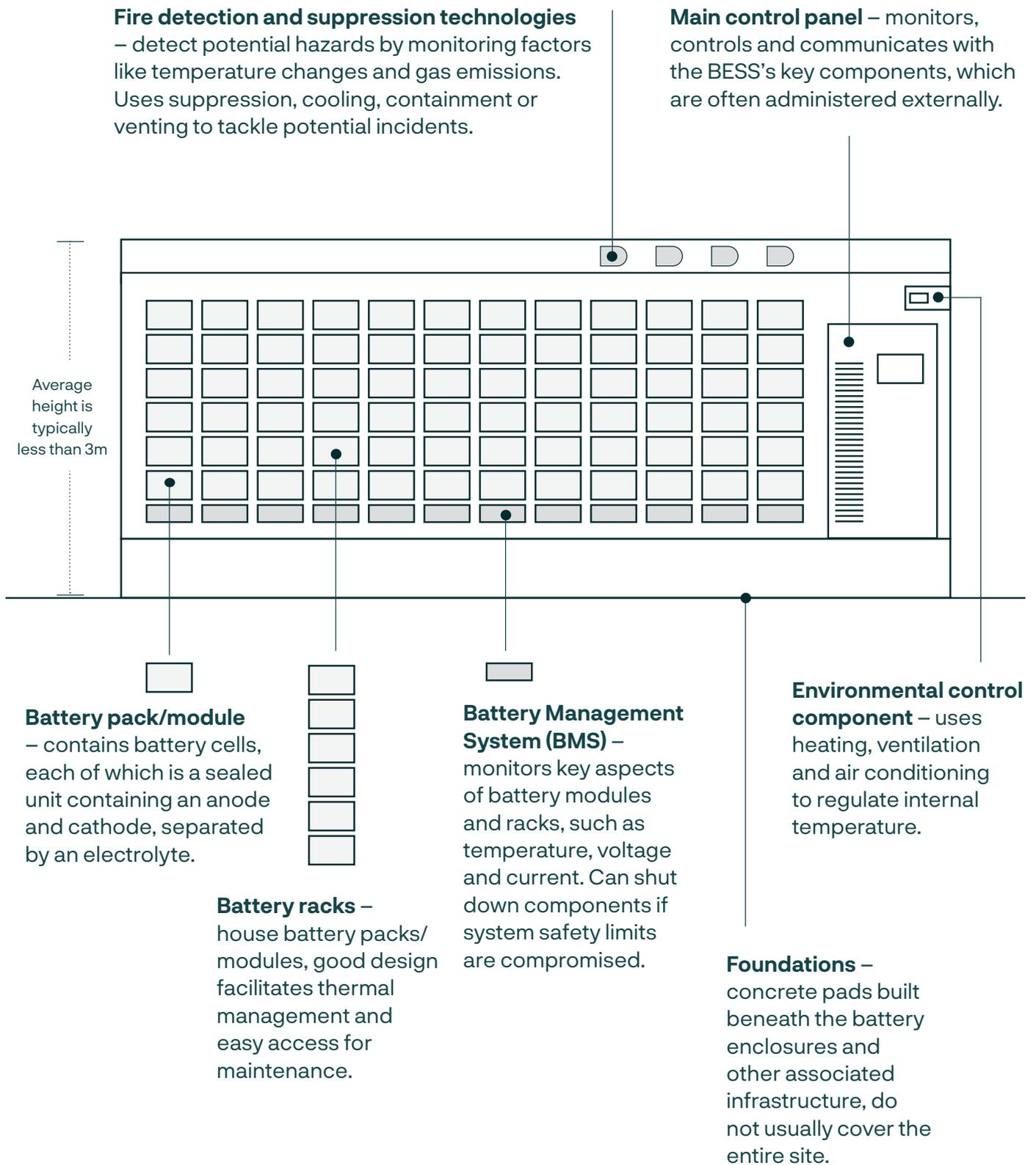


This is an indicative Battery Energy Storage System site for illustrative purposes only.

Key

- 1. Access tracks**
Allow construction, maintenance and emergency vehicles to access the site
- 2. Site boundary**
- 3. Screening planting**
Native trees and hedges may be planted to screen the site where existing vegetation is not sufficient
- 4. Switch room**
Provides power to the onsite monitoring and control systems
- 5. Underground cables**
Transports electricity around the site and to the connection with the network.
- 6. Substation**
Electricity exported from the batteries is increased to a higher voltage using a transformer, enabling it to travel more efficiently on the grid
- 7. Main entrance gate**
- 8. Battery units**
Battery units are arranged into strings, with safe separation distances between containers. Battery units are fitted with ventilation and internal cooling systems, fire detection technology and fire suppression systems
- 9. Transformers & Power Conversion Systems (PCS)**
Power Conversion Systems (PCS) converts electrical current from AC to DC for storage in the battery, and from DC to AC for transport on the grid. They are co-located with a transformer. Transformers: adjust the voltage of electricity moving between the BESS enclosures and the substation
- 10. Security features**
Security cameras and lighting may be mounted at regular intervals around the site
- 11. Acoustic fencing**
A form of noise mitigation that may be required
- 12. Water source**
Onsite access to water is required for many BESS sites and may be achieved through an existing hydrant, an existing nearby watercourse, or building water storage tanks or attenuation ponds

What are the key components of a battery unit?



This is an indicative diagram of the inside of a battery unit, for illustrative purposes only.

The following terms are helpful when understanding how BESS connects to the electricity system

Transmission network

Primarily used to transport electricity long distances. Operates at a high voltage (typically above 132 kV and up to 400 kV in England). Transmission networks connect large energy generation projects (such as offshore wind farms) alongside large-scale demand customers to the electricity grid via dedicated substations. Transmission networks consist of overhead power lines and underground transmission cables, and do not deliver electricity to the general end-user; this is done by lower-voltage distribution networks.

Distribution network

Delivers electricity from the transmission system and some distributed generation sites to end users.

Network connection

For applications requiring consent under the Town and Country Planning Act (TCPA) regime, the responsibility for connecting new electricity generation or storage projects to the grid rests with the network companies rather than developers. Network operators have a statutory duty to ensure supply, determine what infrastructure is required and secure any necessary consents before constructing the required infrastructure. Sometimes underground cable routing requires planning permission through the TCPA or NSIP regime, sometimes it falls within Permitted Development Rights and sometimes it can be consented under the Electricity Act 1989.

Alternating current (AC)

The electric current (along with the voltage) periodically reverses direction. Electrical energy is usually transported on the electricity network using AC as the characteristics allow for the voltage to be increased or decreased using a transformer. This allows power to be transmitted at high voltage through power lines to minimise losses, before being transformed to a lower, safer voltage for use in the home.

Direct current (DC)

The electric current (along with the voltage) only flows in one direction. Electricity stored in BESS is DC and must be converted to AC before being exported to the electricity network. This is the role of a power conversion system (PCS) or inverter.

Power conversion system (PCS) or inverter

Electricity networks usually use AC, while batteries charge or discharge energy in DC. The role of a PCS is to convert AC to DC for storage, and invert DC to AC for transmission. The PCS also provides safety functions to protect a battery from unsafe energy loads, promoting the long-term health of the battery and reducing risks to the equipment. PCS may be co-located within battery units – collectively the battery units and PCS are arranged into a battery skid. Alternatively, the PCS may be housed next to battery units in cabinets on concrete pads, potentially co-located with a transformer. They may also be referred to as inverters.

Transformers

Electricity networks typically operate at high voltages to minimise resistance and reduce energy losses during transmission. In contrast, BESS installations operate at much lower voltages. Transformers are, therefore, required to step voltages up or down between the electricity network and the battery system, enabling electricity to be stored and exported efficiently. A typical UK BESS site also includes an auxiliary transformer, which steps electricity down from the high-voltage network to supply the low-voltage power needed for on-site systems. These include thermal management, fire suppression, communications, security and welfare facilities.

Substation

The substation contains the specialist equipment (including transformers) that allows the voltage of electricity to be stepped up or down. It also includes safety and metering equipment to monitor energy imports and exports from the site. The type and size of the substation varies depending on the site. The connection to the electricity network can require underground cables to the nearest network operator substation or connection point.

Power versus energy capacity (MW/MWh)

Unlike traditional generators, BESS is often described in terms of power capacity (MW) and energy capacity (MWh). A project may be described as 20 MW/80 MWh.

- Power, megawatts (MW): Shows the amount of electricity the system can deliver at any moment
- Energy, megawatt-hours (MWh): Shows the total electricity the system can store over a given time
- MW to MWh ratio: describes how long the battery can operate at full output. For example, a 20 MW/80 MWh battery can supply 20 MW continuously for four hours, or store 20 MW over four hours.
- This is relevant to the section Augmentation and repowering, [page 49](#).

C-Rate

This is used to describe the relative speed of charge or discharge. 1C means that the system empties in one hour, while 0.5C empties in two hours. For example, a system of 20 MW/80 MWh has a C-rate of 0.25C.

The life cycle of a battery site



Role of LPAs

Throughout this guidance, the role of local planning authorities in different stages of the planning process will appear in boxes like this one. Planning officers may be familiar with this information, but it is included to provide useful context for wider audiences.

Battery storage projects follow a predictable development life cycle, with LPAs interacting with projects at several key stages. The following refers to LPA responsibilities for applications under the TCPA; requirements for engagement differ for larger projects.

The table below summarises the typical stages in a BESS project, and where local planning authorities are involved. Further information is provided below the table, including the likely tasks developers may undertake to progress their project at each stage.

Table 1: **LPA involvement in the life cycle of a BESS under the TCPA regime**

Stage	LPA involvement
1. Early feasibility and site identification	Potential early discussions on site/ infrastructure identification
2. Early community engagement	Encouraged, advisory only in England
3. Pre-application discussions	LPAs are not formally involved, although it may be useful for developers to initiate LPA involvement at this stage to align expectations and get advice on relevant Local Plans and policy
4. Planning application	Central role – assessment & decision Publicity and consultation (minimum of 21 days)
5. Post-permission discharge of conditions and post-permission amendments	Condition discharge and determination of amendment application(s)
6. Construction phase	Monitoring and enforcement of relevant planning conditions
7. Operational life of the battery site	Compliance/enforcement
8. Repowering, augmentation or life-extension (possibility)	LPAs may provide guidance on whether consent can be amended or whether new planning consent should be sought. LPAs should assess the application and provide a decision on amendments.
9. Decommissioning	Condition enforcement and site restoration

1. Early feasibility and site identification

Developer activities

Select sites based on a range of technical and environmental factors.

These include but are not limited to:

- Grid connection: BESS infrastructure requires proximity to a point of connection (PoC) with the electricity network so they can import and export electricity. Closer proximity minimises the length of cabling required, which reduces electrical losses, costs and environmental impacts. Developers may search using a radius around a substation to identify suitable land.
- Land availability (size, shape, topography)
- Environmental factors, such as:
 - Landscape setting and value
 - Residential, noise and visual amenity
 - Ecological and ornithological value
 - Forestry and woodlands
 - Cultural heritage and archaeological value
 - Flood risk areas
- Access and transport requirements
- Existing infrastructure, such as underground or overhead electrical assets, other services and utilities and railways
- National and local policy considerations, including protected sites and local development plan allocations, such as for economic or residential development.

Understanding these factors can help planners assess whether a site has been appropriately selected.



Planner tip

Local authorities are encouraged through paragraph 034 of the [Planning Practice Guidance](#) for renewable and low carbon energy to consider [National Fire Chiefs Council guidance](#), which proposes BESS maintains a minimum distance of 30 metres from occupied buildings.



Role of LPAs

- LPAs may consider allocating suitable areas for renewable and low-carbon energy sources in their local development plan. In doing so, they should consider the appropriateness of the site for energy generation and consider a range of factors such as protected habitats and species, protected landscapes and other environmental features. They may also choose to invite information about potential land to identify in Local Plans through a call for sites. Developers may review Local Plans and Supplementary Planning Documents in the site selection process.
- Understand the range of factors that developers take into consideration when choosing a site. This will help planners assess whether proposals are appropriately sited and justified.



Planner tip

In addition to planning permission, developers will need to obtain a grid connection to proceed with projects. The availability of a grid connection is often the leading decision-making factor for developers when determining project locations.

2. Early community engagement

Developer activities

- Share initial ideas with local residents
- Host information events
- Where a community benefit fund is being considered, begin conversations around potential arrangements with local community members. Planners should note that community benefit funds are not a planning consideration and are often delivered on a voluntary basis that is secured by a legal agreement outside of the planning process.



Role of LPAs

Non-statutory but valuable. LPAs may:

- Encourage developers to undertake early engagement with relevant stakeholders as good practice.

3. Pre-application discussions

Developer activities

- Seek early advice on proposals from the LPA and relevant statutory consultees
- Establish potential concerns/policy conflicts and work with LPA to identify suitable mitigation strategies
- Engage with local fire services and incorporate site specific design measures, focusing on land use implications of fire, site layout, emergency access etc. The fire safety of the battery units themselves is not a planning issue. For more details, see the section Fire risk, [page 34](#).
- Discuss key project parameters including scale, principle of development, key constraints and list of expected supporting documents with the LPA in line with validation requirements
- Agree with the LPA the scope and type of environmental studies and assessments that will be required, ensuring they are proportionate to the scale and potential impacts of the proposal
- Share draft layouts and initial environmental work with the LPA, including for [Biodiversity Net Gain \(BNG\)](#) and, if applicable, Environmental Impact Assessment (EIA) and Habitat Regulations Assessment (HRA). Not all BESS developments will require an EIA or HRA, but where they are relevant developers may request a screening and/or scoping opinion.
- Share any feedback from community engagement.



Role of LPAs

- Provide developers with pre-application advice on planning policies, expectations and local sensitivities
- Agree with the developer the scope and type of environmental studies and assessments that will be required, ensuring they are proportionate to the scale and potential impacts of the proposal, noting that additional studies may be requested later as evidence emerges
- Identify key consultees (e.g. landscape, heritage, ecology, highways, noise, trees and woodland), facilitate engagement with these consultees where appropriate and consider how impacts in these areas might be addressed. This is important to ensure the scheme is designed in a way that minimises any potential negative impacts. Each statutory body is only consulted where certain locational or impact thresholds are met. For more information, see the section Role of statutory consultees, [page 31](#).

- Non-statutory consultees that BESS developments typically trigger include:
 - Fire and Rescue Services: Often for grid-scale batteries where lithium-ion technology is used and/or where occupied buildings are in proximity
 - Environmental Health Officers: Often consulted where operation occurs 24/7, where noise complaints could arise due to inverters or cooling systems, where external lighting is present, and where the project is in proximity to residential buildings
 - Risk Forum: Only for very large installations (e.g. 100 MW), those close to critical infrastructure or that raise emergency planning issues
 - Ensure methodologies suit local sensitivities (e.g. peatland, bats, heritage settings).
- Promote pre-app opportunities with relevant consultees, especially where constraints have been identified
- Set out application requirements, in line with validation requirements, and likely timescales
- If requested, statutory function to issue EIA/HRA screening and/or scoping opinions, consulting with relevant statutory bodies to determine methodologies are appropriate for local sensitivities. For planning applications under the TCPA regime, the Environmental Impact Assessment (EIA) process is governed by the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Proposals that constitute EIA Development, defined in the 2017 Regulations as Schedule 1 development; or Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location, will not be granted planning permission unless an EIA has been carried out in respect of that development. Some BESS projects may require an EIA; however, this is the case in a minority of planning applications.
- If the proposal is considered likely, individually or in combination with other plans or projects, to have a significant effect on a site protected under the Conservations of Habitats and Species Regulations 2017 (as amended) or 'habitats regulations', an appropriate assessment of the implications for the site, in view of the site's conservation objectives, must be undertaken. For further details, refer to government guidance on [Habitats regulations assessments: protecting a European site](#).
- If an EIA is required, developers must submit an environmental statement alongside their planning application, setting out the likely environmental impacts of their proposed development. They must also propose measures to address these impacts in accordance with the mitigation hierarchy, which prioritises avoiding, minimising, mitigating and compensating for harm, in that order. If an HRA is required, developers will submit information to support the LPA in producing the HRA.

Planner tips



1. Early engagement with developers is important in setting expectations for requirements, avoiding an ongoing back and forth and preventing delays. While not a requirement, grid connection offers can be granted to BESS projects ahead of planning consent, and developers may look for early engagement to help them meet connection offer deadlines.
2. At this stage it is useful to consider a voluntary [Planning Performance Agreement \(PPA\)](#), particularly for large or complex schemes. This can cover any part of the development process and help LPAs and developers to better align timelines and allocate resources, as well as to minimise risk and uncertainty. For more information on PPAs, see the section Planning route for BESS projects, [page 23](#).

4. Planning application

Developer activities

- Submit the full planning application. This should be informed by pre-application engagement, survey work, BNG requirements and, where relevant, the EIA and HRA processes
- Continue community dialogue
- Engage with the LPA and its consultees to respond to queries/address issues raised.



Role of LPAs

- The LPA will carry out its statutory responsibilities, including validating the application, undertaking consultation, assessing compliance with policy and legislation, and determining the application (with any necessary conditions or legal agreements).



Planner tip

For more details on planning conditions, see the section Typical planning conditions for battery sites, [page 50](#).

5. Post-permission discharge of conditions and post-permission amendments

Condition discharge can occur in multiple stages and may continue into the construction phase. For more information on common planning conditions, see the section Typical planning conditions for battery sites, [page 50](#). There may be post-decision amendments (Non Material Amendments and s73 applications).

Developer activities

- Submit details to discharge conditions (e.g. Construction Environmental Management Plan)
- Obtain additional licences and permits if required (e.g. protected species licences and S278 highways agreements)
- Submit any post-decision amendment application(s) to regularise differences between approved plans and construction plans or to amend the wording of conditions. The fast-evolving nature of BESS technologies and equipment supply chains may require changes to be made to a project at this stage in the planning process, such as changes to site layout.



Role of LPAs

- Post-decision processes which may include determining condition discharge submissions.

6. Construction phase

Developer activities

Construction should be carried out in compliance with applicable planning conditions. The process includes the following stages:

- Prepare the site through installing foundations, underground cables, substation connection and access roads
- Install battery systems and enclosures, security measures and landscaping
- Implement appropriate soil management practices, including the careful stripping, storage and handling of topsoil and subsoil where required, to protect soil structure, quality and long term agricultural productivity
- Ensure protection of retained trees and hedgerows throughout construction, including adherence to agreed tree protection zones and buffers in line with relevant standards
- Work with the Distribution or Transmission Network Operator to connect to energise and commission the site.



Role of LPAs

- Monitor and enforce compliance with approved plans and conditions.

7. Operational life of the battery site

Once the site is operational, BESS sites are generally unmanned as the system is monitored remotely. External monitoring allows developers to control conditions such as speed and time of charge and discharge, as well as providing a vital safety role in allowing tracking of battery health and identifying of any potential incidents well in advance.

Developer activities

- Operate batteries in line with consent
- Conduct maintenance and monitor battery health
- Replace components during lifetime. According to the [National Renewable Energy Laboratory](#), utility-scale lithium-ion battery storage systems have an operational life of 10-20 years, depending on design, cycling and degradation mechanisms. With planning permission typically granted for 40 years, this means that certain components may need replacing during the lifetime of the site.



Role of LPAs

- Monitoring and enforcement of planning conditions e.g. noise, BNG.

8. Repowering, augmentation or life-extension (possibility)

During the lifetime of BESS projects, developers will need to consider options for augmentation or end-of-life planning. Augmentation means adding capacity to a BESS site to maintain or increase its performance and overall capacity during its lifetime. This is done to support battery health, extend the lifetime of the system and to increase the MWh. Repowering refers to a site-wide upgrade of all battery units and will usually require a new planning application. For further information, see the section Augmentation and repowering, [page 49](#).

Developer activities

- Application for renewed planning consent based on current conditions. This may be done as an amendment to a previously granted planning permission or via a new application, depending on the planning authority and scale of changes.



Role of LPAs

- Provide guidance on whether planning consent can be amended or whether a new application is required
- Determine applications and amendments.

9. Decommissioning

Several regulations in the UK dictate how end-of-life management is undertaken for large-scale battery projects. Decommissioning is typically a planning condition outlined when a project is granted planning consent. This will require the developer to create a decommissioning plan prior to decommissioning taking place.

Developer activities

- Remove infrastructure and reinstate land in line with agreed details
- Follow the decommissioning/restoration plans secured via planning conditions (including further habitat restoration and rehabilitation following removal of infrastructure)
- Transport to licensed facilities for reuse or recycling of components, including batteries
- Finance proper disposal
- Prevent pollution
- Manage hazardous waste.



Role of LPAs

- Ensure compliance with decommissioning and restoration conditions
- Require confirmation that batteries are removed from site, transferred to licensed operators and disposed of in accordance with waste regulations including Waste Duty of Care (Section 34, Environmental Protection Act 1990) and subsequent regulations.

Benefits of BESS

Battery storage plays an increasingly important role in electricity systems with growing shares of wind and solar generation. Understanding this role can help planners assess the wider benefits of proposed developments.

How BESS increases system flexibility

Fast response time

While pumped hydropower, gas and nuclear can all be used to meet the gap left when solar and wind don't match demand, these technologies are typically larger scale, have stricter locational requirements and take longer to 'ramp up' or 'ramp down' relative to BESS, which can be dispatched in seconds. Batteries are increasingly used to provide support services to the grid during times of system instability, including fast (sub-second) frequency response services to ensure that the grid is operating at optimal frequencies during disturbance events.

Balancing the network

Batteries help match the generation of intermittent renewables with the changing electricity demand of consumers by storing excess electricity during peak generation and exporting it onto the grid quickly when demand is high. Batteries are highly dispatchable, meaning they can be turned up or down in milliseconds, allowing a rapid injection of electricity to the grid. Without this load shifting, low-cost and clean renewable generation would be curtailed and gas generators turned up at high expense to meet demand.

Longer-duration energy shifting

While many battery storage projects operating today store electricity for a few hours, long duration energy storage (LDES) can help manage periods where renewable generation and electricity demand are mismatched for extended periods. Technologies capable of storing electricity for eight hours or more allow surplus renewable electricity to be released much later, including overnight or during prolonged demand peaks. While LDES includes technologies such as pumped storage hydro, compressed air and liquid air storage, BESS is the most common. By shifting clean electricity across longer timescales, LDES can reduce renewable curtailment, limit reliance on fossil-fuelled generation during prolonged shortfalls and improve overall system resilience.

For more information on LDES, see the section Long Duration Energy Storage, [page 25](#).

These flexibility services also contribute to wider policy objectives that are relevant to planning decisions:

Climate change mitigation

As more of our electricity demand is met by intermittent renewables, it is important that we can store electricity when it is produced and dispatch it when there is demand.

Grid-scale batteries allow more clean electricity to be used in the energy system, reducing curtailment and carbon emissions associated with fossil fuel generation. Paragraph 161 of the National Planning Policy Framework (NPPF) states that "the planning system should support the transition to net zero by 2050" and "should help to... support renewable and low-carbon energy and associated infrastructure".

Energy security and system resilience

Grid-scale BESS helps us to utilise more of the electricity generated by renewable sources, helping to reduce reliance on fossil fuels with higher sensitivity to volatile global prices. The UK imports around [66% of its gas supply](#), primarily from Norway and other international suppliers. During 2022, the record spike in gas prices caused by international instability had wide-ranging impacts on the UK, including exacerbating fuel poverty and costing the government an [estimated £183 billion](#).

Batteries provide key flexibility services in the GB electricity market by storing low-cost renewable electricity and dispatching it at a time when demand might otherwise be met by a [more expensive, gas-fired power plant](#).

DESNZ's strategy for energy security includes legislating for clarity around electricity storage technologies to "facilitate the deployment of electricity storage".

[DESNZ](#) has stated that flexibility from technologies such as electricity storage could save up to £10 billion per year by 2050 by reducing the amount of generation and network needed to decarbonise and create 24,000 jobs.²

Private investment and economic growth

Direct socio-economic benefits arising from a proposed development – such as jobs created during construction and operation, skills development and local supply chain activity – are distinct from community benefit funds. These direct, tangible benefits, linked specifically to the physical development itself, can be considered material planning considerations when properly evidenced. Economic benefits should be clearly demonstrated to carry weight in the planning process.

Locally, there may be job creation during the construction, landscaping and decommissioning processes although these may be impermanent or short-term as BESS is a modular installation. Projects also pay business rates to local authority budgets.

Outside of dedicated community benefits, batteries represent a growing industry that will see increased hiring and investment to meet the goals of CP30. DESNZ funding has unlocked more than £750m in private investment and supported 6,300 high skilled jobs in the battery storage sector, according to the [Clean Flexibility Roadmap](#).

Community benefit funds (not a planning consideration)

Community benefit funds are not mandatory for BESS, nor are they a material planning consideration. Battery storage projects may elect to put in place community benefit funds to ensure value reaches the wider communities where projects have been built, where they feel appropriate. There is well established case law that confirms that community benefits of this nature are not a material consideration and under government guidance, voluntary community benefits offered by developers must not influence the planning decision. The UK government issued a consultation in 2025 on community benefits schemes for low-carbon energy infrastructure.

Many developers offer funds and where they do, they may partner with grant organisations like GrantScape, to manage community energy funds across several battery projects in the UK.

Further information

[Community benefits and shared ownership for low-carbon energy infrastructure: working paper \(accessible webpage\) - GOV.UK](#)

2. [Energy security bill factsheet: Defining electricity storage | DESNZ](#)

Community engagement

Community engagement is an important part of the planning process for BESS developments. Before submitting their planning application, developers are encouraged to undertake a pre-application consultation with the local community. Developers should publicise the development in a way that will bring it to the attention of the majority of people who live in the vicinity of the proposed location. They should allow the local community to comment on the proposed development.

When finalising their application, developers should have regard to any responses to the consultation they received. When submitting their application, they should explain how they consulted with the local community, what comments they received and how they took these into account.



Role of LPAs

- Responsible for carrying out statutory consultation and publicity in line with legal requirements, ensuring that public comments are properly recorded and considered in the decision-making process. It is also good practice to review the developer's consultation report to understand the approach taken and whether it aligns with recognised best practice. Where engagement appears limited, further clarification or evidence may be sought.
- Early dialogue between the LPA and the developer on engagement expectations can help improve the quality of consultation and address potential issues before an application is submitted. LPAs may also wish to share local insights, such as community organisations, parish councils, and hard-to-reach groups, to support inclusive engagement.

More information can be found in Regen's [guidance on best practices for community engagement](#), which emphasises the importance of engaging proactively with opposition groups and encouraging the silent majority to show support.

Public consultations on BESS proposals may attract coordinated opposition groups, although surveys frequently show [high levels of public support for renewables](#) in the UK. According to a [2025 poll by Cavendish Consultancy](#), 37% of respondents supported local BESS installations, while 20% opposed, a further 43% didn't know and 42% had never heard of it before. This indicates that public understanding of battery storage is still developing.



Planner tip

Early, transparent and factual communication can help address common concerns early in the process and increase public knowledge on BESS.

03

Planning route for BESS projects



In England, planning consent for BESS is granted by the LPA under the TCPA 1990 (unless directed into the NSIP regime under Section 35 of the Planning Act 2008 or [called in by the Secretary of State](#) for Housing, Communities and Local Government under Section 77 of the TCPA).

Historically, only sites up to 49.9 MW were considered under the TCPA while sites over 50 MW were classified as NSIPs. Changes to planning regulations in late 2020 removed electricity storage from the Planning Act 2008, meaning that standalone storage projects of 50 MW or above no longer requires Development Consent Orders under the NSIP process (see [Infrastructure Planning \(Electricity Storage Facilities\)](#) (England and Wales) Order 2020), but are rather considered under the TCPA. As of now, all battery projects in England are therefore decided at LPA level.³

As a result, developers have started to scale projects to match grid opportunities, with larger, transmission connected projects now more common. The largest operational BESS project at the time of writing is [Thurrock energy storage project](#) in Essex (300 MW/600 MWh) and the largest in construction at the time of writing is [Thorpe Marsh](#) (1.4 GW/ 2.9 GWh), located opposite a former coal-fired power station in Yorkshire.

The use of Planning Performance Agreements (PPA)

- A PPA is a voluntary, bespoke agreement between the applicant and the LPA which sets out a clear framework for managing the planning process, defining milestones, responsibilities, resources and timescales, and ensuring that dedicated LPA officer capacity (and where needed, specialist consultant input) is allocated to the application
- Many local authorities consider a PPA especially appropriate for large-scale and complex applications
- PPAs are best entered into at the pre-application stage, and can cover the lifetime of the application itself and even post-decision if necessary (e.g. where there are multiple phases of discharge of conditions, or associated infrastructure)
- A PPA can help ensure that all consultees are identified early, timescales are agreed and resourced, communication between developer, LPA and consultees remains clear, and that the process remains transparent and predictable.

3. For more information on this change, see House of Commons Library, 2025. [Research Briefing: Battery energy storage systems](#)

Co-located BESS and renewable generation technology

Co-location refers to the siting of battery storage alongside other renewable energy generation, often sharing land and a grid connection, to enable more flexible renewable power generation and reduce overall energy losses. Co-located projects may therefore appear in planning applications for renewable energy developments or as additions to existing sites.

The benefit of a co-location model includes improved revenue for developers by storing energy that otherwise would be curtailed and allowing for export during high revenue periods. For the energy system, co-location can provide greater flexibility and system stability by prolonging the availability periods of intermittent renewable generation.

Co-located BESS projects may be included as part of an application for a renewable energy generation site or may be added later to an existing generation project. Co-located BESS projects may go through the NSIP regime if the generation technology is classified as an NSIP.

Case studies

Tillbridge Solar Farm

[Tillbridge Solar Farm](#), near Lincoln in the East Midlands, jointly applied to the Planning Inspectorate for its 500 MW solar farm with co-located BESS.



BESS co-located with projects below the NSIP threshold will usually be assessed by LPAs. Applications can also be submitted to add BESS to an existing or already approved generation site, which would usually be assessed by LPAs through the TCPA regime.

Cleve Hill Solar Park

The 350 MW Cleve Hill Solar Park in Kent was consented through the NSIP process in 2020. Cleve Hill solar park then applied to Swale Council for planning permission to add a 150 MW co-located battery energy storage system under the TCPA. The council refused consent for the addition of BESS based on rejection of the safety management plan and receiving significant public opposition. The developer successfully appealed the council's decision and were granted consent in July 2024.

Long Duration Energy Storage

Long Duration Energy Storage (LDES) refers to electricity storage technologies that can store and release electricity over long periods, defined in the Planning and Infrastructure Act as eight hours or more. DESNZ outlines that investment in LDES will make an important contribution to CP30 and will support integrating renewables and reducing electricity system costs, while supporting energy security.

To accelerate LDES development, in March 2025 the UK government [announced the introduction](#) of a cap-and-floor scheme, to be delivered by Ofgem. This will provide minimum revenues for LDES projects, providing financial protection and allowing developers to manage high capital costs and long build times. The scheme allows for all storage technologies, including pumped storage hydro, vanadium flow battery, compressed air storage and hybrid BESS with Liquid Air Energy Storage.

However, lithium-ion BESS currently dominates the pipeline, accounting for around 20.2 GW of the 28.7 GW of projects progressing to the next stage (48 of 77 projects). Deliverability is one of the eligibility criteria for the scheme, one element of which specifies that projects should demonstrate that they are likely to secure planning consent within the required delivery timescales. The final awards for the scheme will be confirmed by Ofgem in summer 2026.¹⁰

BESS projects that are successful under this scheme will have a larger area compared to standard projects due to the longer duration and associated need for an increased number of battery units per site and the minimum size of 100 MW. This will have implications for planning applications as the sites that progress through this process apply for planning permission.



Planner tip

There are likely to be additional opportunities for projects to enter a government LDES cap-and-floor scheme, so planners may expect to see more projects of this type moving through the planning system in the future.

Planning appeals

If a planning application submitted to an LPA is refused or if the LPA does not make a decision within the statutory determination period,⁴ the applicant has a right to appeal to the Ministry of Housing, Communities and Local Government Secretary of State, through the Planning Inspectorate, within 12 weeks from the date of notice of the refusal.⁵

Appeals can proceed by way of written representations, a hearing, or an inquiry.

Find more information here

Guide to taking part in planning and listed building consent appeals:

- [Proceeding by written representations – England - GOV.UK](#)
- [Proceeding by a hearing](#)
- [Proceeding by an inquiry](#)



Role of LPAs

When an appeal is made, the LPA must prepare and submit a statement of case, possibly preparing additional evidence and attending hearings or inquiries if required as directed by the Planning Inspector appointed on behalf of the Secretary of State. Refer to the [Planning Appeals: Procedural Guide](#).

4. Prescribed by Article 34 of the Town and Country Planning (Development Management Procedure) (England) Order ("DMPO") 2015

5. Prescribed by Article 27(2) of the DMPO 2015

04

Planning policy and legislative framework



In this section

This section sets out the relevant policy context for assessing BESS applications. It also covers the role of statutory consultees and material considerations. Planning decisions for renewable energy proposals should be made on a case-by-case basis, with due regard for their individual merits and material considerations.

[Section 70\(2\) of the TCPA 1990](#) and [section 38\(6\) of the Planning and Compulsory Purchase Act 2004](#) require LPAs to determine applications for planning permission in accordance with the development plan for the area unless material considerations indicate otherwise.

The policies within the NPPF set out planning policies for England and how they should be applied. They are a material consideration in planning decisions and provide a framework for the consistent creation of Local Plans. [A draft updated NPPF](#) was published for consultation in December 2025 and once published, this guidance will be updated to reflect any policy changes. Planning Practice Guidance (PPG) complements the NPPF and provides guidance on its application. The weight to be given to each is a matter for the decision maker.⁶

The procedures for planning applications are set out in secondary legislation. The Town and Country Planning (Development Management Procedure) (England) Order 2015 sets the procedure for determining planning applications. Pre-application requirements, including for consultation, are set out in section 61W to 61Y of the TCPA, and Articles 3 and 4 of the TCPA Development Management Procedure Order.

[Biodiversity Net Gain \(BNG\)](#) is required under Schedule 7A of the TCPA and every grant of planning permission through the TCPA, subject to some exemptions, is deemed to have been granted subject to the condition that the biodiversity gain objective must be met. This is a pre-commencement condition and, once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved by the LPA before commencement of the development.

6. As set out by Sir Keith Lindblom (Senior President of Tribunals) in *Mead Realisation Ltd v Secretary of State for Housing Communities and Local Government* [2025] EWCA Civ 32 at [33]-[38])

National Planning Policy Framework

The NPPF contains a presumption in favour of sustainable development.

Paragraph 11 states:

“Plans and decisions should apply a presumption in favour of sustainable development.” It then includes further specific detail about what this means for plan-making and decision-taking.

However, paragraph 12 of the NPPF states:

“The presumption in favour of sustainable development does not change the statutory status of the development plan as the starting point for decision making. Where a planning application conflicts with an up-to-date development plan (including any neighbourhood plans that form part of the development plan), permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date development plan, but only if material considerations in a particular case indicate that the plan should not be followed.”

Paragraph 168 of the NPPF gives significant weight to the benefits associated with renewable and low-carbon energy generation as set out below:

Paragraph 168

When determining planning applications for all forms of renewable and low-carbon energy developments and their associated infrastructure, local planning authorities should:

- a) Not require applicants to demonstrate the overall need for renewable or low-carbon energy, and give significant weight to the benefits associated with renewable and low-carbon energy generation and the proposal’s contribution to a net zero future
- b) Recognise that small-scale and community-led projects provide a valuable contribution to cutting greenhouse gas emissions
- c) Give significant weight to the benefits of utilising an established site in the case of applications for the repowering and life-extension of existing renewable sites.

It is also important to consider paragraph 163:

“The need to mitigate and adapt to climate change should also be considered in preparing and assessing planning applications, taking into account the full range of potential climate change impact.”

The government recently [consulted on a revised NPPF](#) that includes clearer, ‘rules based’ policies for decision making and plan making, designed to make planning policy easier to use and underpin the delivery of faster and simpler Local Plans. The consultation includes policies on renewable and low-carbon energy and electricity network infrastructure. Once the revised NPPF is published, this guidance document will be updated to reflect any policy changes.

Planning Practice Guidance

PPG is the government's national guidance for planning practice. It complements the NPPF and provides practical guidance to explain, clarify and elucidate the policies in the NPPF to which it relates.

[PPG for renewable and low-carbon energy](#)⁷ outlines that electricity storage is an enabling technology for decarbonisation, for example “by helping to balance the system at lower cost, maximising the usable output from intermittent low-carbon generation (e.g. solar and wind), and deferring or avoiding the need for costly network upgrades and new generation capacity.”⁸

It sets out that developments involving lithium-ion battery energy storage systems are subject to the requirements set out in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

The guidance focuses on systems of 1 MWh or above that are not associated with a residential dwelling. Applicants for planning permission are encouraged to engage with the local fire and rescue service before submitting their application to the local planning authority so that matters relating to the siting and location of BESS, and in particular the emergency service access, can be considered before an application is made.

The guidance also encourages local planning authorities to consult with their local fire and rescue service, to ensure that their views can be taken into account when determining the application, and to refer to the [guidance produced by the National Fire Chiefs Council \(NFCC\)](#) when considering whether to grant planning consent. For more information on how the impacts of fires should be considered in the planning system, see the section Fire risk, [page 34](#).

National Policy Statements

The National Policy Statements (NPS) set out the UK government's policy for the NSIP regime. They define the need for specific types of infrastructure, establish assessment principles and provide detailed guidance on how applications should be examined and decided by the relevant Secretary of State.

As most BESS applications fall under the TCPA regime, the technology is not specifically addressed in the NPS. However, EN-1 (Overarching National Policy Statement for Energy) and EN-3 (National Policy Statement for Renewable Energy Infrastructure) may provide useful context for LPAs. The NPS may be a material consideration for assessing TCPA applications and LPAs can give weight to relevant NPS policies where they are pertinent to the proposal and planning balance. Whether NPS policies are material and to what extent will be judged on a case-by-case basis by decision makers.

7. The Renewable and Local Carbon Energy PPG has not been updated since 2015 and is likely to contain outdated technical information or references to planning policy that are no longer applied. The government has committed to update the PPG to ensure LPAs have access to the most up to date information. Updates will be made to this document to reflect changes once the new PPG is published.
8. [PPG for renewable and low-carbon energy, paragraph 032](#). For more details on assessing fire risk, see the section Fire risk, [page 34](#).

Role of statutory consultees

Statutory consultees are bodies with legal responsibilities to advise on specific matters, including Natural England, Historic England, Environment Agency, Civil Aviation Authority/Ministry of Defence (aviation) and National Highways.

Which statutory bodies are relevant will vary based on site characteristics, and their role is to provide specialist advice where their statutory remit applies (e.g. Sites of Special Scientific Interest (SSSI), archaeological sites, heritage assets, protected species, areas of flood or pollution risk).

Standing advice

Local planning officers should use standing advice or guidance tools, such as the following examples, to screen impacts and determine whether specific consultation is required:

- [Protected species and development](#): advice for local planning authorities (Natural England)
- [Ancient woodland, ancient trees and veteran trees](#): advice for making planning decisions (Natural England and Forestry Commission)
- [Air pollution and development](#): advice for local authorities (Natural England)
- [Heritage impacts planning advice](#): (Historic England)
- [SSSI Impact Risk Zones tool](#): to help LPAs determine whether a proposal may impact an SSSI, in which case they should consult Natural England
- [National flood risk](#): standing advice for local planning authorities (Environment Agency).

LPAs should identify which bodies need to be consulted early and throughout the application process by considering the specifics of the project, its location and its impacts. There may be certain bodies which must be consulted in accordance with Article 18 and Schedule 4 of the DMPO.

LPAs should ensure that the advice provided by statutory consultees is carefully considered and addressed in the assessment of the application. Where a statutory consultee raises concerns or recommends conditions, these should be clearly reflected in the officer's report, with reasons given for accepting or departing from their advice.

Statutory consultee comments are an important consideration and should be treated with due regard to their expertise and statutory responsibilities.

Material considerations in deciding BESS applications

In England, decisions on planning applications at the TCPA level (including for BESS) must be taken in accordance with the development plan unless material planning considerations indicate otherwise. It is for the decision maker to determine what constitutes a material consideration, and the weight to give it, on a case-by-case basis.

Policies in the NPPF are considered material considerations. Other matters may also be considered material, such as NPSs, emerging plans and matters raised in statutory consultee comments, and the weight attached to these is a matter for the decision-maker based on the circumstances of the case.

Not material considerations

Only matters which are related to land use planning are generally considered to be material considerations. Examples of matters not usually considered material include:

- Community benefit funds or voluntary financial offers. Community benefits (e.g. annual payments, shared ownership offers, or local energy discounts) are voluntary commercial arrangements between the developer and the community.
- Impact on property value or private views
- Personal motives or identity of the applicant
- Competition between operators
- Moral, political, or ideological objections unrelated to land use
- Private legal matters, e.g. ownership disputes, covenants, or rights of access
- Issues controlled by other regulatory regimes, e.g. grid regulation (See NPPF 201: “Planning decisions should assume that these regimes will operate effectively”).

05

*Key decision-
making factors*



In this section

Key decision-making factors for BESS projects include many that are common to all developments, such as ensuring that impacts on landscapes, the environment, local residents and protected sites are appropriate, proportionate and mitigated where necessary.

This section highlights some of the planning considerations that may be particularly relevant when determining BESS applications. It explains what planners need to know, where relevant policy can be found and what information LPAs should expect to be provided as part of submissions.

For details on the key technical and environmental factors which influence site selection, see the section Site identification, [page 14](#). When assessing a site, risk assessments should be bi-directional, considering both how the site will impact the local area and any impacts on the site itself. Each application should be assessed on its own merits and the weight given to these considerations is a matter for the local planning authority as the decision taker in the first instance.

Fire risk

Potential impacts of BESS

Fire risk is often a key concern for residents near proposed BESS projects. The risk of fire in battery systems comes from ‘thermal runaway’, where a damaged battery cell overheats and produces heat faster than it can be released, triggering a chain reaction. If one battery cell experiences thermal runaway, it can potentially spread to adjacent cells, leading to a high heat release fire event.

Recent data shared in the [Clean Flexibility Roadmap](#) shows that the fire incidence rate for GB batteries is 0.7% (2020/21 - 2024/25), lower than that for wider non-domestic building fires in England at 0.8% (2020/21 - 2024/25).^{9,10} Incidents of fire at grid-scale BESS sites in the UK are extremely rare, with only [a handful of documented incidents in the UK](#). Where incidents have occurred in the UK, they have demonstrated that safety mitigation has been successful with no propagation (spread of fire) across the site and have not resulted in significant third-party injury.

Strong safety controls are incorporated into project design, manufacturing and operation, although these are not planning considerations. Thermal runaway risks can be mitigated through incorporating safety features such as cooling, ventilation and heat detectors and ensuring appropriate separation between cells and battery units on each site. Once a battery site is operational, regular maintenance and continuous monitoring ensure the equipment keeps operating as expected.

If BESS fires are directly suppressed using water, this may combine with battery electrolytes and other substances, producing contaminated runoff. To manage this risk, applicants should have an adequate assessment of risks to groundwater, including a conceptual site model. Facilities should where possible be equipped with containment systems, such as bunding, sealed drainage, collection sumps, or holding tanks, to prevent water from entering surrounding land or waterways. The collected water can then be treated on-site or transported elsewhere for appropriate disposal.

9. Calculated by DESNZ from Modo Energy BESS Index (ME BESS GB | Modo Energy) & internal BESS fire incidence tracking.

10. UK Gov statistics on England non-domestic fires (non-dwelling-fires-attended Fire statistics data tables - GOV.UK), England and Wales non-domestic building stock (Non-domestic National Energy Efficiency Data Framework (ND-NEED), 2025 - GOV.UK), and UK business population estimates ([Business Population Estimates 2025 - GOV.UK](#)).

When safe to do so, using a controlled burn approach is commonly regarded as best practice for managing a BESS fire incident. Using such an approach reduces the amount of water usage, as water is used for defensive cooling and boundary protection and not for direct extinguishment, which in turn reduces the risk of any contaminated run-off.

When an assessment may be required

NFCC guidance proposes that BESS units should be located a minimum distance of 30 metres from occupied buildings (based on NFPA 855:2023), that areas within 3m of the BESS units should be kept clear of combustible vegetation and that adequate separation should be used to prevent fires spreading between BESS units. These safe separation distances should be reflected in site layout plans submitted as part of an application.

Features used to manage contaminated firewater may also be reflected in site layout plans. A drainage strategy may be submitted as part of an application, although further details can also be provided post-consent and secured through a planning condition.

Defra is considering additional measures to enhance the regulation of environmental and safety risks of BESS sites, although this is not a planning consideration. In 2025, proposals were included in its [modernising environmental permitting for industry consultation](#), which included the principle of adding BESS sites to the Environmental Permitting Regulations (EPR) and development of sectoral standards. Defra is currently considering feedback and will publish an official response in due course.

Process for assessing the factor and what to expect in an application

The planning system’s role in fire safety is limited to assessing the land use consequences of a potential fire event, rather than regulating the technical design of BESS fire protection systems. Recent appeal decisions show that inspectors focus on whether the location, layout, access arrangements and environmental risk pathways, such as groundwater vulnerability, demonstrate that fire-related impacts can be appropriately mitigated.

Table 2: **Summary of how fire risk is considered in the planning system and other regulatory regimes**

Planning system	Fire safety, product safety and health and safety regimes
Land use implications of fire, such as ground water contamination risk	Technical fire-safety engineering, including battery standards, suppression systems and compartmentation
Site layout, spacing, access and emergency service requirements	Emergency procedures and technical fire-risk management
Planning practice guidance encourages authorities to have regard to guidance published by the National Fire Chiefs Council	Technical compliance and safety certification are addressed under product safety and health and safety legislation

The planning system is not intended to act as a mechanism for enforcing or duplicating other regulatory regimes. It proceeds on the basis that established systems such as Building Regulations, the Fire Safety Order and wider health and safety law operate effectively, and planning should not replicate or substitute those technical controls.

While detailed firefighting strategy and water supply requirements fall under [The Regulatory Reform \(Fire Safety\) Order 2005](#), [The Building Regulations \(2010\)](#) and operational [fire authority](#) standards, drainage and firewater containment systems are planning matters when they relate to environmental protection, land use suitability and pollution pathways.

Standards and key considerations for decision making

Paragraphs 032-036 of [PPG on renewable and low-carbon energy](#) provide guidance on how relevant fire and rescue services can be engaged with and consulted as part of the BESS planning application process. Paragraph 035 encourages LPAs to consider guidance produced by the NFCC when assessing BESS applications.

In February 2026, the NFCC [published planning guidance](#) for fire and rescue services on grid-scale energy storage systems. This replaced guidance first published in 2023 which was publicly consulted on in 2024. The guidance addresses topics including:

- **Site layout:** Key factors of design, including safe separation distances between units, vegetation-free buffer zones and clearance distances to occupied or welfare buildings (e.g. the substation control building), demonstrate consideration of the NFCC guidance or other appropriate guidance and standards
- **Access and emergency response infrastructure:** Developers may consider providing two separate vehicular access and egress points to the BESS compound, enabling the local fire response service to approach safely, taking into account prevailing wind directions. A looped internal road can help to accommodate fire vehicles navigating the site and accessing enclosures. Hardstanding surfaces, minimum five-metre road widths and gentle gradients further support safe and reliable access.
- **Drainage and firewater containment:** A drainage strategy for BESS should incorporate fire safety and contamination control into the design. The surface water drainage strategy should consider impermeable or controlled drainage surfaces to minimise contamination risk and attenuation basins. Sites should include containment measures, such as bunds, lined drainage channels, or storage tanks, to prevent soil or waterways from being contaminated.
- **Firewater supply/storage:** Onsite access to water may be required for defensive cooling and boundary protection and may be achieved through an existing hydrant, an existing nearby watercourse, or building water storage tanks or attenuation ponds.

Section 4 of the NFCC guidance discusses the planning approval process and what fire and rescue services are and are not required to do.

BESS fire events are rare, but a best-in-class planning application should set out the embedded design and operational mitigations that demonstrate to the LPA and local Fire and Rescue Services that risks have been reduced to as low as reasonably practicable (ALARP).

Case study



An application for a 120 MW BESS at Pound Road in East Devon was refused and later dismissed at appeal on the basis of factors including lack of provision for capturing wastewater. PINs states that the proposal “does not demonstrate adequate measures for the containment or removal of contaminated firewater” with the potential to contaminate a nearby aquifer. The application was found to have not complied with current national guidance and this was given significant weight in the planning decision.¹¹

Operational noise

Potential impacts of BESS

Noise may be generated by equipment at a BESS site, including cooling technologies such as fans which are used to regulate the temperature of battery units. Other electrical equipment such as PCS/inverter units and medium and high voltage transformers can also emit continuous humming noises, which may increase in volume at higher voltages.

Noise associated with BESS developments should be considered contextually, taking into account existing background noise levels at the proposed site and impacts on humans and species when close to the site. While BESS developments typically generate low levels of noise, they may be located in rural areas with low background noise, increasing the impact of any noise generated.

When an assessment may be required

[The British Standard BS: 4142](#) sets out how to assess noise of an industrial nature affecting residential areas. It emphasises that noise levels should be set at parity with typical background noise to ensure a “low impact”.

Developers should assess the background noise of the site and provide the expected noise levels associated with the equipment to be used.

Process for assessing the factor and what to expect in an application

A robust, best-practice BESS Noise Impact Assessment (NIA) should follow the BS: 4142 design principle and will be informed by four stages:

1. Background noise monitoring

A baseline noise survey should record noise levels at Noise-Sensitive Receptors, such as residential properties. This informs the noise limits for the assessment. Engagement with the LPA may also be undertaken during this stage to inform the NIA methodology and incorporate relevant nearby cumulative projects.

2. Rating level

A rating level is calculated, representing the specific noise from the proposed BESS facility at receptors

3. Noise modelling

Models the impact of the BESS by removing the background noise level from the predicted BESS rating level. It should account for geometric

11. [Reference: APP/U1105/W/23/3319803](#)

screening, topography, screening effects, meteorological conditions, characteristics of BESS noise and potential mitigation measures such as noise barriers and bunding.

4. Evaluation

Modelled results are assessed against the following levels of impact, depending on context such as which receptors are present and areas of particularly low background noise.

- A difference of around +10 dB or more is likely to indicate a significant impact.
- A difference of around +5 dB is likely to indicate an adverse impact.
- Where the rating level does not exceed background, this indicates a low impact.

In cases where noise levels are predicted to cause significant adverse effects or conflict with planning policy, the developer is expected to provide noise mitigation measures – failure to do so can result in planning refusal. Good design, noise assessments and implementing recommended mitigation measures, such as barriers or enclosures, can effectively [minimise noise impacts on residential areas](#). Any visual impacts of these mitigation measures should also be assessed.

Notwithstanding this, BS: 4142 suggests that in instances where the existing sound environment is considered either particularly low or particularly high then absolute levels may be more relevant than the initial estimate. The [ANC 2020 BS 4142 guidance note](#) provides indicative values that could be used for very low (i.e. below low) background sound levels. The suggested values are defined as very low background sound levels as being less than about 30 dB LA90.

For sites with very low background noise, consideration therefore needs to be given to absolute sound levels, for example, through including a maximum operational sound level in a condition of the planning permission.

Standards and key considerations for decision making

The NPPF policies on noise are primarily set in paragraph 198, with noise pollution also addressed in paragraph 187(e). The [Noise Policy Statement for England \(NPSE\)](#) sets out the government's policy for England on environmental noise (e.g. from transport and industrial activities), neighbourhood noise (e.g. commercial, construction and community activities) and neighbour noise. These documents use the following categories for noise level: No Observed Effect Level, Lowest Observed Adverse Effect Level and Significant Observed Adverse Effect Level. Neither the NPPF nor the NPSE specify levels for these categories.

Transport impacts (temporary)

Potential impacts of BESS

Construction of a BESS development can generate a temporary increase in traffic while heavy goods vehicles (HGVs) deliver components, and construction vehicles and workers access the site.

During construction, large equipment will be transported to the site, including battery units, transformers and inverters/PCS units. Some of these components, especially high-voltage transformers, may be classified as Abnormal Indivisible Loads (AILs) that exceed limits for weight or dimensions set by law. For example, a load of three meters wide will require at least [two working days' notice](#).

When an assessment may be required

AILs are governed by the Road Vehicles (Construction & Use) Regulations 1986 and the Road Vehicles (Authorised Weight) Regulations 1998, which require special permits from relevant authorities, such as the Highways Authority and bridge owners, where applicable. [The Road Vehicles \(Authorisation of Special Types\) \(General\) Order 2003 \(STGO\)](#) governs the movement of abnormal loads, including vehicle dimensions and weights, and the notification requirements to highway and bridge authorities.

Process for assessing the factor and what to expect in an application

As set out in PPG on [Travel Plans, Transport Assessments and Statements](#), LPAs should ensure that the impact of construction traffic is properly considered. Transport statements or assessments (simplified for smaller developments) may be required by an LPA where construction is likely to have significant transport implications, even if operational traffic is low.

Although not required, a Construction Transport Management Plan is typically included in BESS applications and may be required by an LPA as a planning condition where necessary. These plans cover delivery routes, the timing of abnormal loads, HGV numbers and hours, access arrangements, traffic management and liaison with traffic authorities and the police, where required.

Standards and key considerations for decision making

According to the [Town and Country Planning \(Development Management Procedure \(England\) Order 2015, Schedule 4](#), Local authorities should plan to consult the Highways Authority on the movement of large loads such as BESS components. This is particularly the case where new or altered access is required, if HGV use is significant, or where AILs are identified. Chapter nine of the NPPF sets out policies on transport, and paragraph 116 of the NPPF provides that development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.

BESS units being installed at BW ESS's Hams Hall site.



Wildlife and biodiversity impacts

Potential impacts of BESS

Species and habitats at a proposed BESS site may be impacted by land use change, soil disturbance and use of vehicles during construction. Once sites are operational, security fencing used to enclose the site may affect habitat connectivity and the movement of wildlife through the wider landscape, depending on its type, height and design.

When an assessment may be required

Developers should identify and assess any potential environmental impacts associated with the proposed development, especially during construction. This may include undertaking desk research to identify relevant protected sites, habitats or species in the area and conducting ecological surveys, especially on breeding, foraging and roosting birds which may be affected by habitat loss or disturbance at the site and, in some cases, neighbouring sites.

Process for assessing the factor and what to expect in an application

Areas to assess (where relevant to the site) include the impacts on habitats and all species protected under the Wildlife and Countryside Act 1981 or the Conservation of Habitats and Species Regulations 2017 (as amended). Proposals that may have a significant effect on the conservation objectives of a Special Protection Area or Special Area of Conservation must undergo appropriate assessment, unless they are screened out (for more information, see PPG on [appropriate assessment](#)).

Standards and key considerations for decision making

Chapter 15 of the NPPF sets out policies for conserving and enhancing the natural environment, and paragraphs 193-195 address Habitats and Biodiversity considerations relevant to determining planning applications. Planning practice guidance on [the natural environment](#) provides further advice for LPAs on implementing these policies.

Impacts on trees and woodland are also important to consider. Paragraph 193c of the NPPF is clear that development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and ancient or veteran trees, should only be permitted if there are wholly exceptional reasons and a suitable compensation strategy exists. LPAs should ensure appropriate mitigation is secured where impacts on woodland habitat connectivity and/or protection are likely and follow standing advice from Natural England and the Forestry Commission on ancient woodland, [ancient trees and veteran trees](#). This advice includes recommended buffer zones between ancient woodlands and ancient or veteran trees and development.

Biodiversity Net Gain

Under the statutory framework for biodiversity net gain (BNG), subject to some exceptions, every grant of planning permission under the TCPA is deemed to have been granted subject to the condition that the biodiversity gain objective must be met. This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite

habitat. The biodiversity gain condition is a pre-commencement condition: once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved by the LPA before commencement of the development. Planners should refer to [PPG on BNG](#).

The government has announced that, as part of [the BNG reforms](#), smaller developments on sites below 0.2 hectares will be exempted from BNG requirements. Until changes are officially implemented later in 2026, BNG continues to apply in its current form and developers should continue to follow existing guidance and legislation when delivering BNG.

Case studies

Protected species



A proposed BESS in East Devon was refused and subsequently dismissed at appeal in August 2025.¹² One reason given was that there was insufficient information to conclude that there wouldn't be an unacceptable effect on a protected species (dormouse). It was stated that work to the hedges and trees associated with new access and tunneling works could cause disturbance or direct harm to the species if present, and further substantive survey work would have been required to rule out this risk.

BNG

[Thorpe Marsh BESS](#)¹³ was granted approval in January 2025, with a capacity of 1.45 GW located on a 22.3 ha former coal power station site in Doncaster. Proposed on-site enhancements of trees, hedgerows and grasslands around the battery compound were combined with the creation and enhancement of woodland, grassland, a pond and wetlands on an adjacent site to deliver a net gain in biodiversity of over 15%, exceeding the 10% legal requirement.

Landscape and visual impacts

Potential impacts of BESS

BESS will have varying visual impacts depending on site specifics and scale, but impacts are often minimal due to their compact nature and high energy density, meaning relatively small areas of land are required compared with many other energy technologies. Battery systems are contained in units that are typically around 3 metres tall. Substation buildings and high-voltage transformers will likely be taller than the battery units – these elements should therefore be sensitively sited. Additionally, vegetation is commonly used for visual screening.

When an assessment may be required

Depending on the nature of the receiving landscape and visual receptors, a Landscape and Visual Impact Assessment (LVIA) may be needed to assess the impacts of the scheme. The scope of this assessment should be proportionate to the scale of the impact and consider effects on the receiving landscape and views into and out from the site. This may include consideration of views from nearby residences, public rights of way and protected landscapes.

12. [Appeal Ref: APP/U1105/W/24/3351691](#)

13. Planning Ref: 23/00537/FULM

Process for assessing the factor and what to expect in applications

Paragraph 187 of the NPPF provides that decisions should contribute to and enhance the natural and local environment. Although the NPPF does not contain detailed sector-specific landscape criteria, it states that planning policies and decisions should protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside, that great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and National Landscapes (collectively referred to as Protected Landscapes), and that local planning authorities should plan positively to enhance the beneficial use of Green Belts by retaining and enhancing their landscapes and visual amenity.

LPA should also refer to [Guidelines for Landscape and Visual Impact Assessment](#) to inform assessment methodology.

Standards and key considerations for decision making

Section 245 (Protected Landscapes) of the Levelling-up and Regeneration Act 2023 amends the duty of relevant authorities, including public bodies, to seek to further the statutory purposes of protected landscapes, referred to as the Protected Landscapes duty.¹⁴ Early engagement with National Park and National Landscape teams together with [referring to government guidance](#) will support LPAs in considering how the duty can be met when assessing planning applications for BESS sites.

Case study



In May 2025 an appeal was granted for a [50 MW BESS site in Wiltshire](#) which had been rejected on the basis of its effect on the character and appearance of the area.¹⁵ The site was within a rural area characterised by undulating agricultural land with some electricity network and BESS infrastructure already present. The inspector found that the impacts on landscape character and visual amenity would be minor, given the site's enclosed nature and the proposed landscaping strategy, which included using native planting aligned with the existing surrounding vegetation to screen the site. Cumulative impacts were found to result in no more than modest harm, and the inspector concluded that the proposal's benefits for achieving net zero, meeting the need for energy storage, supporting energy security, reducing electricity cost, supporting the local economy and delivering substantial on-site BNG, outweighed its harms.

14. Changes to the Protected Landscapes Duty have recently been announced by the Government in its response to the Fingleton review. For further details see [Building our nuclear nation: Government response to the Nuclear Regulatory Review 2025](#)

15. Appeal Ref: APP/Y3940/W/24/3357286

Flooding and drainage

Potential impacts of BESS

BESS sites can be vulnerable to flooding. Foundations for battery units, PCS/inverters, transformers, substation buildings and other associated hardstanding are often concrete and may increase impermeable surfaces. Gravel is commonly used around these foundations and across the site, which can support drainage.

As discussed in the section on Fire risk, [page 34](#), BESS sites may be equipped with containment systems, such as bunding, sealed drainage, collection sumps, or holding tanks, to prevent firefighting water from entering surrounding land or waterways. The collected water can then be treated on-site or transported elsewhere for appropriate disposal.

When an assessment may be required

Paragraphs 170 to 182 of the NPPF set out national planning policy for flood risk. For proposals in a Flood Zone, a Flood Risk Assessment (FRA) and Sustainable Drainage Strategy should be included in the proposal, in line with the NPPF and PPG. Paragraph 181 of the NPPF sets out when a site-specific FRA is required, and paragraph 020 of the [PPG on flood risk and coastal change](#) sets out what a site-specific FRA is.

Process for assessing the factor and what to expect in applications

The NPPF sets out tests to protect people and property from flooding, which all local planning authorities are expected to follow. This includes the sequential and exceptions tests, which are designed to ensure that if there are lower-risk sites available, or a proposed development cannot be made safe throughout its lifetime without increasing flood risk elsewhere, it should not be permitted. Measures to avoid, control, manage and mitigate flood risk should also not increase flood risk elsewhere. The tests are set out in full in the NPPF, with paragraphs 023-037 of the PPG providing supporting information on how these should be undertaken and applied.

Essential utility infrastructure, including infrastructure for electricity supply (generation, storage and distribution systems), is classified as essential infrastructure in the NPPF Annex 3: Flood risk vulnerability classification, and so regard should also be had to the requirements set out in table 2 of the PPG and its accompanying notes. Where relevant, proposals should be accompanied by a site specific FRA demonstrating how flood risk will be managed over the development's lifetime. This should also include evidence for the LPA to apply the sequential test if necessary, and should demonstrate that the development will pass the exception test if applicable. Paragraphs 020-022 of the PPG provide further advice on the preparation of site-specific FRAs.

Sustainable drainage solutions are required for all development proposals that could affect drainage on or around the site, and so may be required next to battery units, PCS/inverters, transformers or substation buildings with impermeable foundations. These should be proportionate to the nature and scale of the proposal. Trees and woodland contribute significantly to water interception, infiltration, storage and evapotranspiration, making them valuable components of a wider sustainable drainage strategy where applicable to sites.

Standards and key considerations

LPAs should refer to paragraphs 170-182 of the NPPF for policies relating to flood risk and flood risk assessments. PPG on [flood risk and coastal change](#) provides advice on accounting for and addressing the risks associated with flooding and coastal change in the planning process.

LPAs should ensure that all relevant tests set out in the NPPF and PPG are met and be satisfied that appropriate mitigation and resilience measures are incorporated into the design, without increasing flood risk elsewhere.

Land use and agriculture

Potential impacts of BESS

BESS applications may be submitted on agricultural land. Soil is usually disturbed through the construction of access tracks and shallow foundations for battery units, PCS/inverter units, transformers and substation buildings, and gravel is often used across the site to support drainage, prevent fire spreading and suppress vegetation growth around the equipment. Agricultural use of the site will be lost during its operational lifetime, but can resume once decommissioned.

When an assessment may be required

The grade of agricultural land refers to the Agricultural Land Classification (ALC). ALC grade 1, 2 and 3a land is classified as BMV land. National ALC classification is undertaken at a high level and does not account for inter-field variations in quality or distinguish between grade 3a and 3b land, meaning that developers may need to undertake field surveys to supplement ALC data at the site level.

Where a BESS development is proposed on, or may affect, peat soils, consideration of potential impacts on peat may be required as part of the environmental assessment process. [The England Peat Map](#) can be used as an initial screening tool to identify whether a site may be located on peatland, alongside site-specific surveys. Where peat soils are identified, a more detailed peat survey may be undertaken to assess peat depth, extent and distribution. Lowland fens, blanket bogs, and other peatlands, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, are considered [irreplaceable habitats](#) in planning policy. The NPPF provides that development that would result in the loss or deterioration of irreplaceable habitats should be refused unless there are wholly exceptional reasons and a suitable compensation strategy is in place.

Process for assessing the factor and what to expect in an application

BESS applications have been approved on agricultural land where it has been determined that there is an acceptable level of impact. The duration of developments and ability to restore the land to its original agricultural use post decommissioning may influence the weight given to loss of BMV land. Requirements for soil management and restoration may be included in a planning condition for a construction environmental management plan or decommissioning (for more information, see the section Typical planning conditions for battery sites, [page 50](#)).

Standards and key considerations for decision making

The NPPF safeguards best and most versatile (BMV) agricultural land and states in footnote 65 that where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. [Natural England guidance](#) sets out how planning can take account of the quality of agricultural land, referencing the Agricultural Land Classification (ALC) and its five grades of agricultural land. It also advises on the circumstances in which an LPA must consult Natural England before granting planning permission for large-scale non-agricultural development on BMV land that is not in accord with the development plan.

Case studies

Granted at appeal



In October 2025, the 400 MW Stenson Lane BESS site was granted at appeal on agricultural land south of Derby.¹⁶ The appeal found that while the proposal would take away the agricultural use of 3.5 ha of grade 3a land for the duration of the site, the mixture of grade 3a and 3b land at the site effectively limited its production to grade 3b level. This, combined with the fact that the entire site accounted for just 0.03% of the total agricultural land within the district, led the inspector to conclude that the loss of BMV land would not be significant.

Dismissed at appeal

A BESS proposal at Drakelow, South Derbyshire was refused and the appeal was dismissed in November 2025.¹⁷ The benefit of additional energy storage capacity was weighed against harm to landscape character and the loss of BMV agricultural land. The proposed site consists of Grade 2 (very good) agricultural land and the inspector noted that the scheme “still represents the loss of best and most versatile agricultural land for 40 years”, despite its temporary nature and relatively small size. The inspector concluded that the harm to the countryside and landscape character and to BMV agricultural land outweighed the benefits of the scheme.

Green Belt

BESS developments may be proposed on Green Belt land and/or grey belt land.

Paragraph 160 of the NPPF states:

“When located in the green belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources.”

PPG on the role of [the Green Belt in the planning system](#) should be followed by LPAs when assessing applications. This guidance includes advice on identifying grey belt land and assessing proposals on such land.

16. Appeal Ref: APP/F1040/W/25/3366962

17. Appeal Ref: [APP/F1040/W/25/3364999](#)

Case studies



Several recent appeal cases have refused BESS applications on the basis of impacts on Green Belt land.

- A [99.9 MW project](#) in Lancashire¹⁸ was refused on appeal in October 2025. The planning inspector cited a ‘moderate’ level of harm to the green belt and determined that the BESS would result in significant harm to the rural character and appearance of the site and its surroundings. The inspector did afford substantial weight to the benefits of the project for mitigating climate change and supporting energy security but concluded that this did not outweigh the impacts on the Green Belt, as well as the lack of accord with the local development plan.

There are also examples where BESS projects have been approved in the Green Belt where very special circumstances were demonstrated.

- Planning approval was granted [for a 200 MW BESS](#)¹⁹ in the Midlands Green Belt – this case was accepted due to demonstration of responsible development, impressive biodiversity net gains (over 85%) and a positive community engagement strategy
- In the case of a proposed BESS site in [Kingston upon Thames](#), an appeal was granted in April 2025 despite the inspector finding that the proposal would “impact and reduce the spatial openness of the Green Belt”. The inspector concluded that the benefits of the proposal, including towards energy security and supporting the transition to low-carbon energy, clearly outweighed the identified harm.

BESS developments may also be proposed on grey belt land.

- A [500 MW BESS project](#) in Culham, Oxford, was initially refused on four grounds, one of which was that the development constituted inappropriate development in the Green Belt. It was approved on appeal in July 2025. The Inspector concluded that the site constituted grey belt land and stated in the appeal decision: “The significant weight that must be given to the benefits associated with renewable and low-carbon energy generation, and the proposal’s contribution to a net zero future, demonstrates that there is a compelling and demonstrable unmet need for the proposed BESS, which would be on grey belt land”. It was determined that a moderate impact on landscape character would diminish to a minor effect once screening vegetation was established.

BESS site showing the visual screening vegetation that has been planted.



18. Appeal Ref: [APP/Z2315/W/25/3363564](#)

19. Appeal Ref: [APP/Z5630/W/24/3354873](#)

Heritage and archaeology

Heritage

Chapter 16 of the NPPF sets out policies for conserving and enhancing the historic environment. Whether a BESS site will affect a heritage asset or its setting depends on the type, significance and sensitivity of the heritage asset, the character and context of the site, and the visibility, scale, design, duration and reversibility of the BESS development. Planners should follow [PPG on the historic environment](#).

Archaeology

Compared to other forms of development such as wind turbines or large buildings, BESS developments tend to have less significant archaeological impacts. They do not usually require deep-piled foundations, which means any archaeological impacts are often localised and shallow. Planners should assess the level of groundworks required by each development on a site-by-site basis and follow [PPG on the historic environment](#).

06

*Duration of
planning consent,
decommissioning,
augmentation and
repowering*



Many BESS sites in the UK have only been installed recently and they typically have an operational life of around 40 years. At the end of this period developers must decide whether to decommission the site, extend its life or replace the system. Life extensions allow existing BESS sites to continue storing and exporting electricity beyond their original consent period, helping to maintain established clean energy storage capacity on sites that already host batteries.

Augmentation and repowering

Augmentation refers to the process of adding capacity to a BESS site to maintain or increase the performance and overall capacity of the system. This can be done during the lifetime of the site and the approach will vary depending on the age and type of BESS system. Improvements in technology and energy density of battery units in recent years have made this a more attractive option for developers and owners, as capital expenditure costs continue to decline.

Repowering refers to a site-wide upgrade of all units, whereas augmentation is likely to be an ongoing process as cells degrade and are replaced to maintain capacity on site. For example, Gresham House Energy Storage Fund has carried out augmentation on multiple BESS sites and has engaged planning authorities throughout that process.

Decommissioning

Decommissioning of projects and site restoration is typically a planning condition outlined when a project is granted planning consent. This will require the developer to create a decommissioning plan and execute decommissioning based on this.

Some of the key documents outlining end-of-life actions for BESS are included below, although these are not planning considerations:

- [Waste Batteries and Accumulators Regulation 2009](#): Requires industrial and grid-scale batteries to be separately collected, to be treated and recycled at approved facilities, and requires producers and operators to finance proper disposal
- [UK Battery Strategy 2023](#): Expectation of circular economy for batteries, development of UK recycling capacity, and responsibility for full lifecycle and end-of-life management
- [Environmental Permitting \(England and Wales\) Regulations 2016](#): Requires battery recycling facilities to have environmental permits. It also controls storage of waste batteries, treatment processes, and pollution prevention.

Further information

For guidance on transportation and permitting of waste facilities, and hazardous waste controls, see Environment Agency's Guidance: [Waste batteries: producer responsibility](#).

See also UK government's guidance on [Hazardous Waste](#).
[See here](#) for scopes and costs of BESS project decommissioning.

07

Typical planning conditions for battery sites



In this section

Below, we set out a range of topics that are commonly addressed through planning conditions for BESS developments. These reflect standard approaches used by LPAs in England to ensure that construction, operation and eventual decommissioning are properly managed.

Planning conditions must meet the tests set out in paragraph 57 of the NPPF, namely that they are:

- Necessary
- Relevant to planning
- Relevant to the development to be permitted
- Enforceable
- Precise
- Reasonable in all other respects.

LPAs should also consider the PPG '[use of planning conditions](#)' which provides guidance on how conditions attached to a planning permission should be used and discharged effectively.

The table of typical planning conditions below is provided by way of example and may not be relevant for all applications. Conditions should always be tailored to the specific site, the proposed technology, local environmental sensitivities and the nature of any potential impacts.

Table 3: **Typical planning conditions for BESS developments**

Topic	Typical content of planning conditions
Commencement of development	<p>Typically, a condition will state that development should commence within three years of planning consent. See PPG on planning conditions relating to time limits and where a different period (longer or shorter) might be imposed. If no condition is provided, development is subject to the conditions in section 92 of the TCPA.</p> <p>Planners should take into account that grid delays have led to slower project development. In some cases, this may lead to projects requiring a longer period for commencement.</p>
Approved plans and documents	<p>The implementation of approved plans and documents submitted as part of the application can be secured via a planning condition to ensure implementation. This should be proportionate and only include appropriate plans and documents. Examples may include a location plan, planning layout or access details.</p>

Duration of site	Most BESS sites receive temporary planning permission, meaning a condition is needed to specify the duration of the planning permission, which can be up to 40 years or more.
Return to previous use once decommissioned	Conditions may be included to require that infrastructure be removed and land returned to its original use post decommissioning. Decommissioning conditions may include requirements for soil restoration.
Noise limits	A planning condition may set out noise limits based on the noise assessment submitted during planning and stipulate where mitigation measures are needed to resolve adverse impacts. A post-construction/operational noise assessment may be required as a condition.
Drainage strategy	A condition may require the submission of further details for the sustainable management of water drainage during construction and operation.
Construction environmental management plan	A condition may require developers to submit and gain approval for further management plans, setting out detailed mitigation for environmental impacts of construction. This may include details of the construction compound, vehicle access and types of vehicles to be used, management of construction traffic, use of artificial lighting, management and restoration of soil, noise, air quality and dust control, storage of materials and control of surface water during construction prior to the formation of the approved sustainable drainage solutions.
Construction Traffic management plan	Manages HGV routing, road safety and temporary traffic measures. It may consider abnormal loads.
Landscape and Environmental Management Plan (LEMP)	A condition may require developers to submit and gain approval for an LEMP to secure agreed necessary visual mitigation and set out the full details of species for planting, maintenance and monitoring prescriptions, and timeframes for reviewing the LEMP. A high-level LEMP/landscape plan may have been submitted at the application stage with this level of full detail to follow.



Assessing battery energy storage system (BESS) applications

Guidance for local planning
authorities in England

Produced by Regen in partnership with the UK Government and GB Energy. This guidance benefited greatly from the support of industry members and local authority planners, and we would like to express our sincere appreciation to all who contributed.

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