Highview's Hunterston BESS facility
Frequently Asked Questions

BATTERY ENERGY STORAGE SYSTEM TECHNOLOGY

1. What is a Battery Energy Storage System?

- A Battery Energy Storage System, or BESS, is a facility that stores electricity in batteries and releases it back to the grid when needed.
- When electricity generation is higher than demand, the BESS charges. When demand increases, renewable output falls, or the grid needs support, the BESS discharges electricity rapidly.
- BESS technology is particularly valuable because it can respond in sub-second times and can provide flexible storage over multiple hours.

2. How does BESS work?

- During charging, electricity is converted into chemical energy and stored within battery cells.
- During discharging, the process is reversed and stored chemical energy is converted back into electricity for export to the grid.
- Battery management systems and inverters continuously monitor and control the system, including temperature, voltage and other operating conditions, to support safe, stable and efficient operation.

3. How is BESS different from Liquid Air Energy Storage (LAES)?

- BESS is best suited to fast-response, flexible storage over shorter periods, typically from seconds up to 8 hours.
- Highview's Liquid Air Energy Storage system is designed for longer-duration storage (12+ hours), storing energy over extended periods and discharging for longer when required.
- The two systems are independent, but Highview intends to operate them in a complementary way at Hunterston. The BESS provides rapid response and flexibility, while the LAES provides longer-duration storage.

4. Why has Highview added a BESS to the Hunterston proposals?

- The BESS has been introduced to enhance the overall performance of the Hunterston facility.
- It allows the site to respond quickly to sudden changes in grid demand while the LAES provides longer-duration energy storage, for example during prolonged periods of reduced wind generation.
- The decision to include the BESS came later than the decision to progress the LAES, which is why the BESS and LAES are being taken through separate consent applications.

5. How does Highview's BESS help with reducing energy costs for consumers?

- The UK's dependence on fossil fuels has left consumers vulnerable to unstable energy prices. Increasing clean power and storage helps reduce reliance on imported fossil fuels and can help bring down bills for households and businesses over time.
- The UK Government's Clean Power 2030 Action Plan identifies energy storage as fundamental to achieving a 95% clean power system by 2030, alongside substantial deployment of renewable generation.
- Renewable energy from wind and solar is intermittent. When there is more clean electricity than the system needs or can move, the National Energy System Operator pays some generators to switch off. These are constraint payments, and the costs are passed on to consumers through network charges.
- In 2024/2025, constraint payments in the UK were around £1.7 billion, and could rise to between £5 billion and £7 billion per year by 2030.
- Battery Energy Storage Systems store excess renewable electricity and release it quickly when needed. At Hunterston, the BESS – along with the LAES – will help make better use of Scotland's renewable energy, reduce curtailment and support a cleaner, more flexible grid.

6. What battery technology will be used?

- The current expectation is that the project will use lithium iron phosphate (LFP) battery technology, a widely used form of lithium-ion battery chemistry that offers high safety standards, long operational life and cost-effective performance for grid-scale energy storage applications.

7. What are the key features of the proposed Hunterston BESS?

- Fast response: The system can respond rapidly to changes in grid demand.
- Flexible storage: The BESS is expected to store power for up to around eight hours.
- Scale: The BESS could provide up to 300MW output capacity on a standalone basis.
- Clean technology: The facility has no direct emissions during operation and enables greater integration of renewable energy.
- Grid support: The system can support frequency regulation, voltage control and wider system balancing.
- Energy resilience: The BESS can help improve reliability during periods of high demand or low renewable output.

HIGHVIEW'S HUNTERSTON PROJECT

8. Will the BESS and LAES operate together?

- The BESS and LAES are separate and can operate independently.

- Highview's intention is to operate them together so that Hunterston can provide both long-duration storage and rapid, flexible response to the electricity system.
- Both the LAES and BESS will connect to the electricity grid via Highview's Stability Island and the 400kV underground cable to Hunterston East substation.

9. What are the phases of Highview's Hunterston project?

- The Stability Island and underground cable will be constructed first, connecting to the Hunterston East substation. The Stability Island and Grid Route planning applications have already been consented by North Ayrshire Council and can operate as a standalone grid-stabilising system.
- The Liquid Air Energy Storage phase will connect to the Stability Island. It was the subject of public consultation earlier this year, and a consent application is due to be submitted to the Scottish Government in Autumn 2026.
- The BESS phase, which will also connect to the Stability Island, is the subject of the current consultation and future consent application.

10. What is the Stability Island?

- The Stability Island is a grid-stabilising facility that can provide services such as inertia, voltage support and short-circuit support.
- At Hunterston, it will help improve the resilience of the network and reduce grid bottlenecks, enabling more clean power to be transmitted from generation areas to demand centres.
- The Stability Island has already secured planning permission and is not dependent on the BESS or LAES in order to operate.

PLANNING APPLICATION

11. What is the decision-making process for the BESS?

- Because the BESS could provide up to 300MW of stored energy output, it will be submitted to Scottish Ministers through the Energy Consents Unit under the Electricity Act Section 36 consenting process.
- Scottish Ministers will consider energy policy, planning policy, environmental matters and community interests. They will consult North Ayrshire Council and statutory consultees such as SEPA, NatureScot and Historic Environment Scotland.
- Following consultation, Highview will prepare a Pre-Application Consultation Report explaining how consultation was carried out, what feedback was received and how that feedback has been considered.

12. Will the public get a say in the decision-making process?

- Yes. The current consultation gives the public an opportunity to view the proposals, ask

questions and provide feedback.

- Feedback can be provided until 14th July 2026 by completing a feedback form at the exhibition or via the project website.
- The pre-application consultation does not affect the public's right to comment on the final application once it is submitted to Scottish Ministers.

13. Why is the BESS being consented separately from the LAES?

- The decision to include BESS came later than the decision to progress the LAES, so the two projects are being taken through separate consent applications.
- Development land becoming available and the evolution of energy markets to support the addition of the BESS were also key reasons why the BESS project is being progressed as a separate project.
- Highview has decided to undertake a voluntary Environmental Impact Assessment (EIA) for the BESS so that the cumulative effects of all of the phases can be assessed together.

14. Will an Environmental Impact Assessment be carried out?

- Yes. Highview has decided to undertake a voluntary Environmental Impact Assessment for the BESS.
- The BESS is expected to have minimal environmental impact on its own because it is located on previously developed brownfield land. However, the EIA will consider potential cumulative effects from the BESS and LAES operating on the same wider site.
- Independent environmental specialists will ask Scottish Ministers for a scoping opinion on which environmental topics should be included. Scottish Ministers will consult organisations such as NatureScot, SEPA and North Ayrshire Council before issuing that opinion.

15. What is the route for the grid connection?

- The BESS will connect to the electricity grid via Highview's Stability Island and underground cable to Hunterston East substation.
- This same grid connection is part of the wider Hunterston project and the underground cable has already secured the required planning consent.

HEALTH AND SAFETY

16. What health and safety measures will be in place for the BESS?

- Safety will be a key priority in the design, construction and operation of the BESS.
- The project adheres to the National Fire Chiefs Council (NFCC) guidelines for Grid Scale Energy Storage Systems.
- The system will include multiple layers of protection, including continuous monitoring of battery

temperature, voltage and other operating conditions.

- It will also include early smoke and gas detection, automatic shutdown and isolation systems, and fire detection and suppression equipment within battery units.
- The site layout will include appropriate separation between equipment to reduce the risk of fire spreading within the site or beyond it.

17. What is thermal runaway and how will it be managed?

- Thermal runaway is an overheating event within a battery cell or battery unit that can occur in the unlikely event of a serious malfunction.
- The BESS will be designed with monitoring, detection, isolation and suppression systems to reduce the likelihood and consequences of such an event.
- Independent large-scale fire testing of modern BESS containers has found that, when thermal runaway was deliberately initiated in one battery container, it did not spread to other neighbouring BESS containers and no explosion hazards were observed.

18. Could a BESS fire spread to the LAES facility?

- The BESS and LAES are separate but complementary parts of Highview's Hunterston proposals.
- Because they would be located on the same wider site, the detailed design and emergency plans will consider how the two facilities interact.
- This will include appropriate separation distances, detection and automated shutdown procedures to shut down the relevant BESS and LAES equipment if required.

19. Will there be an Emergency Response Plan?

- Yes. An Emergency Response Plan will be developed in consultation with the Scottish Fire and Rescue Service before the facility becomes operational.
- The plan will establish clear procedures for responding to any emergency incident, including battery faults, fire events and other unlikely operational incidents.
- The plan will set out clear procedures to protect staff, emergency responders, the wider site and the surrounding community.
- Major accident and emergency scenarios, however unlikely, will also be considered as part of the Environmental Impact Assessment.

20. What will happen to the batteries at the end of their life?

- Battery cells will be removed and transported to approved battery treatment operators or approved exporters for recycling and treatment.
- This process is typically managed through the Original Equipment Manufacturer.
- Recycling technologies for utility-scale battery systems continue to develop rapidly and are expected to be well established by the time the Hunterston BESS reaches the end of its

operational life.

- Highview will ensure all batteries are managed and disposed of in accordance with relevant environmental regulations and industry standards.

LOCATION

21. Why is Hunterston PARC a key location for renewable energy and supporting infrastructure?

- Hunterston has generated reliable power for more than 60 years through its nuclear facilities and is already connected to the electricity transmission network.
- Following the closure of Hunterston B in January 2022, spare capacity is available on grid connections that can carry large amounts of power across Scotland and the UK.
- The Hunterston network is connected to North Wales through the Western HVDC link which allows surplus renewable energy to be transferred to areas of high demand. Our project would help to improve the efficiency and volumes of energy being transferred.
- Hunterston PARC has National Development status under Scotland's National Planning Framework 4, recognising its national importance for Scotland's energy transition and net-zero goals.

22. Why has Hunterston PARC been chosen for the BESS?

- The site is strategically located on the UK's electricity transmission network and has spare grid capacity following the closure of Hunterston B.
- It is a previously developed brownfield site within an established energy and industrial landscape.
- The BESS can help store and shift renewable energy, maximising renewable generation while reducing curtailment costs.
- The BESS will make efficient use of the existing and consented grid infrastructure being developed as part of the wider Hunterston project, including the Stability Island and underground cable connection to Hunterston East substation.

23. How close is the site to Southannan Sands (SSSI)?

- Southannan Sands Site of Special Scientific Interest is an important coastal wildlife area to the west of the site.
- Because works will be within 100 metres of the SSSI, biodiversity will be included in the scope of the Environmental Impact Assessment.
- The EIA will assess the nature and significance of potential impacts and identify measures needed to protect the SSSI from harm.
- A bund will be constructed to prevent any pollution into the SSSI in the unlikely event of a fire.

COMMUNITY AND ECONOMIC DEVELOPMENT

24. Will there be job opportunities from the project?

- Independent analysis of the Hunterston facility estimates nearly 6,000 full-time equivalent years of jobs across the project lifetime.
- The same analysis estimates £1.04 billion gross value added to the UK economy, including £323 million GVA and 1,180 full-time equivalent years of jobs directly in North Ayrshire.
- It also estimates that 66% of project expenditure will be retained in the UK, with 20% in North Ayrshire.
- The BESS is expected to strengthen the economic case for the wider Hunterston project. Highview's current assessment indicates that the addition of the BESS could increase the overall economic benefits of the Hunterston facility by approximately 10%, including additional jobs, expenditure and supply-chain opportunities across North Ayrshire, Scotland and the wider UK. Highview is continuing to assess the full economic contribution of the BESS as the project design develops.

25. What skills development will take place at the facility?

- The Hunterston facility is expected to operate for 50 years, creating opportunities for long-term skills development and training.
- Highview is exploring opportunities with Ayrshire College to develop apprenticeships and training programmes needed to build Ayrshire's energy transition workforce.
- The project provides an opportunity to invest in the current and future workforce across the energy supply chain.

26. How will local communities benefit?

- Highview is committed to supporting local communities by funding projects and initiatives that bring direct benefits to the area.
- Highview has committed to funding breakfast and lunches for students at Ayrshire College's Kilwinning Campus.
- Highview is keen to hear directly from the community on how community benefit funds could be used. Feedback can be provided through the consultation questionnaire.
- The Scottish Government is reviewing community benefit guidance for net-zero energy developments, including BESS projects, with updated recommendations expected following its recent consultation.

ENVIRONMENTAL ISSUES

27. What environmental topics will be assessed?

- The EIA scoping process will determine the final topics to be included in the Environmental Impact Assessment.
- Highview expects biodiversity to be included because of the nearby Southannan Sands SSSI.
- Noise will also be included so that cumulative effects from all phases of development can be assessed.
- Regardless of the final EIA scope, comprehensive surveys, assessments and management plans will be completed across key areas including traffic and transport, flood risk, noise, visuals and ground conditions.
- The Environmental Impact Assessment will consider the cumulative environmental effects of the BESS and LAES facilities operating together.
- Major accident and emergency scenarios will also be considered as part of the assessment.

28. What will be the impact on road traffic during construction?

- The majority of large loads and heavy goods will be transported by sea to take advantage of the existing port facilities, significantly reducing construction traffic on public roads.
- Road traffic will route from the south via the A78, accessing the site through the existing south coal yard gate or main north gate.
- All traffic will approach from the south to avoid Fairlie village, following a Construction Traffic Management Plan.
- Construction traffic on public roads will mainly consist of smaller lorries, vans and cars.

29. What will be the impact on road traffic during operation?

- Operational traffic will be limited to approximately 10 staff vehicles per day plus periodic maintenance and supply vehicles.
- For this reason, significant transport effects during operation are not expected.

30. What are the main sources of noise and how will noise be managed?

- During construction there will be typical construction noise, managed by limiting the noisiest work to daytime hours, using acoustic screens or enclosures where needed and following a Construction Environmental Management Plan.
- During operation, the main sources of noise will be inverters, transformers and cooling equipment.
- The site already benefits from natural noise barriers such as embankments and woodland. Highview will also fit acoustic barriers or enclose the noisiest equipment where required, and all factory-made components will have specified maximum noise levels.
- The nearest property is approximately 150 metres away and most properties are more than 400 metres away.

31. How will visual impact be minimised?

- Views from the A78 and nearby properties will be screened by existing roadside trees.
- From the south and Hunterston Estate, views will be screened by existing woodland and landforms.
- When viewed from Millport to the west and from higher ground to the east, the BESS facility is unlikely to be visible.
- There may be views across the tops of the BESS containers from the coastal path to the southwest, but these are expected to be minimal because of existing trees in the foreground.
- Photo panels and a Landscape and Visual Appraisal will be prepared and submitted as part of the consent application.

32. Will the site be at risk of flooding?

- Although the site is on the coast, ground levels are outside the flood risk zone.
- Patches of standing water where depressions in the ground collect rainwater will be levelled as part of the build.
- Surface water from the site will be managed so that it is clean of silt and other contaminants before discharge to the neighbouring watercourse, under a licence from SEPA if required.

33. How will watercourses and the nearby SSSI be protected?

- Pollution control measures will be agreed with SEPA to protect the neighbouring watercourse and Southannan Sands SSSI from contamination in the event of a spill or leak.
- These measures will be monitored under an Environmental Management Plan.
- The EIA will assess biodiversity impacts and identify any additional measures needed to ensure the SSSI is protected from harm.

FUNDING

34. Who backs Highview?

- Highview's lead investors include Centrica, Rio Tinto, Goldman Sachs, KIRKBI and Mosaic Capital.
- In 2024, the National Wealth Fund provided funding for Highview's first commercial-scale UK project at Carrington, near Manchester.
- The Scottish National Investment Bank is a lead investor in Highview's project portfolio at Hunterston.

35. What is the Cap and Floor scheme?

- The Cap and Floor scheme is administered by Ofgem and is designed to encourage the development of clean, secure and cost-efficient long duration energy storage.
- The floor provides a minimum revenue for operators to help manage high capital costs and long build times.

- The cap protects consumers by limiting revenues and ensuring operators do not earn excess profits.
- The scheme is intended to support the development of clean, secure and cost-efficient long-duration energy storage projects by providing investment certainty while ensuring value for money for consumers.

36. Has the Hunterston project been accepted into the Cap and Floor scheme?

- Highview's proposed Hunterston project, combining both LAES and BESS, has been accepted into Ofgem's Cap and Floor scheme process for consideration.
- The scheme assessment will consider the economic, strategic and financial case for eligible projects before any final decision is made.

NEXT STEPS

37. What happens next?

- The anticipated process is:

1. Today's consultation: You view the plans, ask questions and give feedback by 14th July 2026.
2. We'll hold another event in late Summer 2026 to show you how we've addressed your feedback. Details will be on our website.
3. Design refinement in summer 2026: Highview reviews feedback and makes any changes before finalising the application.
4. Application and EIA Report submitted in Autumn 2026: Highview submits the application to Scottish Ministers via the Energy Consents Unit because projects over 50MW need national approval.
5. Public comment period: The public will have another chance to comment directly to Scottish Ministers.
6. Decision by Scottish Ministers: Scottish Ministers will balance energy needs, environmental considerations and community interests, and will consult North Ayrshire Council, SEPA, NatureScot and Historic Environment Scotland.

38. How can I provide feedback?

- You can provide your views by completing a feedback form at the consultation event or via the project website.
- Feedback can be provided until 14th July 2026.
- If you have any further questions, please contact the project team by email at hunterston@highviewpower.com or visit www.highviewpower.com/HunterstonBESS.
- We cannot take verbal feedback alone so it is important that you put any comments in writing using the paper forms or via the website.