

KILLYMALLAGHT ENERGY STORAGE SYSTEM PROPOSAL

RES are exploring the potential for an energy storage system on land close to Killymallaght Substation in the townland of Disertowen.

In February 2024, RES held a public exhibition to share more information about our early-stage proposal and to enable people to provide us with their feedback. Advertisements for the public exhibition were placed in the Londonderry Sentinel

SITE SELECTION

The site sits on agricultural land just off Trench Road near the necessary electrical infrastructure and sufficient distance from residential areas.

The Killymallaght Energy Storage System takes its name from and has been specifically located as close as possible - approximately 500 metres - to the existing Killymallaght electrical substation. By locating the project here, there is minimum requirement for additional overhead and/or underground cables to connect the project to the grid network, therefore limiting any environmental impacts. Energy storage systems need to be located as close to the substation from which its grid connection is provided in order to limit electrical losses and ensure efficiency of the system.

At an earlier stage, we had explored the potential to site the energy storage project on land directly adjacent to the substation. This land shows on DFI Flood Maps NI as having issues with surface and river waters, therefore, would not be viable for the Killymallaght project.

Most of RES' new onshore wind and solar development proposals incorporate co-located energy storage systems, however, there is also significant need for standalone

and the Derry Journal on 25th and 26th January 2024 respectively, in addition to newsletters which were sent to over 100 local properties. All of the information presented at the public exhibition is still available to view on the dedicated project website at <https://killymallaght-energystorage.co.uk/consultation/>

We have developed this newsletter in response to questions, comments and

concerns raised during the consultation.

We are still at an early stage in the design process for the project and as such, there have been some questions we are unable to answer until further surveys and assessments are completed. We will circulate a further newsletter when this additional information is available.

This newsletter is also available to view at www.killymallaght-energystorage.co.uk

energy storage systems to manage the increasingly complex supply and demand needs of the 21st Century. An energy storage system needs to be able to both import and export energy. The availability of sites with sufficient import and export capacity is extremely limited with the lack of grid capacity a serious threat to net zero and energy security targets. The Killymallaght scheme is located in an area with sufficient capacity on the grid network.

RES have considered the gas main in all aspects of the design process, to date, and we are engaging with the gas operator, SGN. SGN have raised no concerns to date and RES will remain in close contact with them throughout the design evolution process.

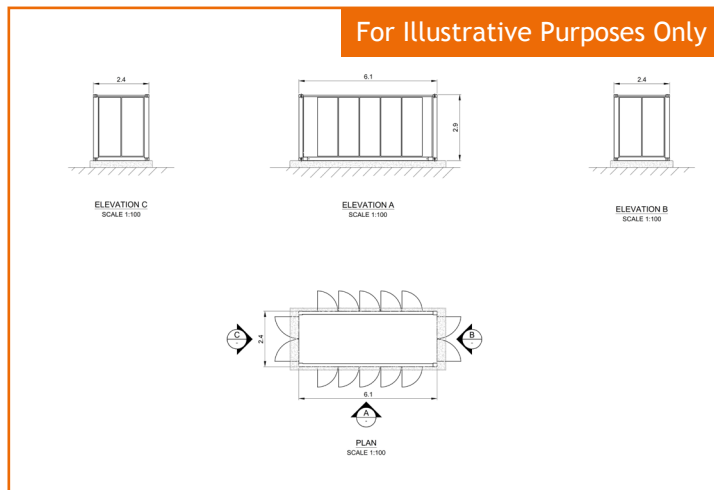
RES are not proposing an extension to the Killymallaght project, if it is consented.



LAND USE AND INFRASTRUCTURE

Our preliminary layout, as presented at the public exhibition and available to view at <https://killymallaght-energystorage.co.uk/consultation/> shows the development area denoted by a red line encompassing two fields. This area allows flexibility during the design evolution phase allowing for possible relocation of infrastructure as site constraints are considered through surveys and assessments. When the design is finalised, we expect this area to not exceed approximately 4 hectares.

The site would comprise of up to 64 battery containers which would be one of two types depending on the final choice of supplier - either shipping containers or modular battery containers. The drawing below shows the typical dimensions of the battery enclosure. Please note all dimensions are in metres unless otherwise stated, the location of doors is indicative only - access to batteries may be external from side doors and battery container foundations are indicative only and subject to detailed design.



Other infrastructure would include power conversion systems (PCS) and transformers, a customer substation, auxiliary transformer, grid compliance equipment, grid connection infrastructure, security system, drainage scheme and landscaping. The tallest infrastructure is expected to be the DNO Control Building which would have a maximum height of 4.5 metres.

The project, if consented, would be located on land currently used for livestock-grazing and would not pose a risk to food security. One of the biggest risks to food security is the changing climate. This is clear from reports on the 2022 heatwave in the UK affecting fruit and vegetable harvests and according to the Department for Environment, Food and Rural Affairs (DEFRA), climate change could reduce the UK's stock of high-grade agricultural land by nearly three-quarters by 2050¹. Energy storage schemes like Killymallaght can enable and accelerate the rollout of renewable energy, directly tackling the effects of climate change.

The lighting within the proposed development would be passive infrared (PIR) lighting associated with the CCTV system plus PIR external lights mounted above doorways. The proposed development does not incorporate any visible, permanent artificial lighting to avoid any potential light pollution.

There are a number of similar sized energy storage schemes in operation across Northern Ireland including the Drumkee project in Co. Tyrone and Mullavilly project in Co. Armagh².

SAFETY

RES has been working in the battery energy storage market for a decade and design safe storage systems using proven Lithium-ion technology.

Unlike electric scooters and cars, for example, RES managed battery systems are monitored 24/7. Any fluctuation in temperature, even by 1 degree, will be picked up through the monitoring and any necessary action, such as shutting down an individual battery rack, can be done remotely. RES have a 24/7/365 control centre

based in Glasgow. There are also other control measures implemented which reduce the risk of fire significantly.

All batteries must be tested and certified to an industry standard (UL 9540A), demonstrating resistance to thermal runaway, and which ensures there is no likelihood of explosion, with any fire contained within the affected battery rack. In addition, each battery enclosure will be fitted with fire suppression and protection systems and the project design will also take into account equipment spacing, access to battery enclosures and access for emergency services. A Fire Risk Statement will accompany the planning application.

LANDSCAPE AND VISUAL

A Landscape and Visual Assessment (LVA) will be undertaken to assess the potential effects of the proposed energy storage system upon landscape features, landscape character and visual amenity. The LVA will also inform a landscaping plan which sets out measures to reduce potential visibility.

Typically, native planting is introduced on earth bunds and our preliminary layout, available to view at

<https://killymallaght-energystorage.co.uk/consultation/> shows bunds to the south and west, although this is subject to change as the design evolves. We will also consider existing hedgerow to the north and east as visibility screening in terms of infill planting and maintained hedgerow height. Further information will be provided on the landscape plan in our next newsletter.

PROPERTY VALUES

Queries are often raised in relation to the potential of energy storage projects to impact upon the value of house prices as there can be a perception that there must be a negative effect on house prices. Property value is subjective and can be affected by a range of factors. There is no firm evidence on whether such projects do or do not affect house prices.

NOISE

The main sources of sound within the proposed development are from the cooling fans for the inverters housed within the PCS units, air conditioning for the battery enclosures and the transformers.

At this early stage, our initial noise modelling indicates there will be no impact on residential properties within the local area.

Detailed acoustic modelling is due to commence shortly with noise monitoring equipment to be deployed at locations to be agreed with the principal EHO. The noise monitoring will be carried out 24/7 over a number of weeks to capture various wind directions and will determine the baseline background sound levels. Predicted sound levels from the project will then be assessed against the baseline in order to determine the level of any potential impact. The energy storage system will be designed to comply with strict noise limits set by the local authority, to ensure residential properties are not affected.

BIODIVERSITY

RES take the protection of the site and surrounding area's ecology seriously and an ecological assessment will form part of the planning application which ensures any potential impact on ecology is appropriately assessed and mitigated, where necessary.

Initial findings from the ecologist site walkover noted there was no evidence of badgers recorded, no features suitable for roosting bats recorded and moderate levels of bird activity. We acknowledge the current grasslands provide suitable pasture for livestock-grazing, in biodiversity terms they are classified as species-poor. Further detailed ecological assessment will be undertaken over the coming months.

In addition, for the Killymallaght proposal, as with all RES developments, our goal is to deliver a biodiversity net gain of 10% as a minimum and higher wherever possible. We aim to retain all existing hedgerow and woodland and create new hedgerow and woodland to benefit a

range of local species. Areas around the compound are typically sown with a wildflower meadow mix and riparian woodland planted around any surface water and drainage systems. Where appropriate we would also introduce bird, bat and reptile housing.

There is likely to be some temporary noise during the construction phase of the development, largely associated with site activities and vehicle movements, however, this noise can be controlled to a negligible level through a Construction Environmental Management Plan (CEMP). The acoustic assessment will also accompany the planning application.

FLOOD RISK AND SURFACE WATER MANAGEMENT

A Flood Risk Statement and Drainage Impact Assessment will be undertaken incorporating sustainable drainage systems (SuDS) best practise principles, to ensure no significant impacts are created by the development.

Drainage measures will also be incorporated into the construction phase through a Construction Environmental Management Plan (CEMP) to ensure that the rate of run-off during construction will not increase any flood risk beyond the site boundary and to prevent any impact on any watercourses and private water supplies.

At this early stage, we are still working on surface water management measures to be incorporated into the design and further information will be provided in our next newsletter.

The Flood Risk Statement and Drainage Impact Assessment will accompany the planning application.



TRAFFIC AND TRANSPORT

Our engineering assessments to date, indicate the proposed delivery route is suitable for the vehicles required during the construction phase of the project, if it is consented.

Throughout the anticipated 12-month construction phase there will be a combination of HGVs (for the component and material deliveries) and cars/vans (for construction staff), on site. Typically, there is peak HGV movements during the first few months of construction with traffic during the remainder of the construction period generally limited to personnel getting to and from site.

A transport statement will be developed to accompany the planning application, which sets out the overall framework for managing the safe movement of construction and

delivery traffic as well as itemising the expected number of traffic movements and timing restrictions.

We understand cattle and farm workers cross the road on a regular basis and we will liaise with any affected parties, prior to construction if the project is consented, to ensure this is managed safely. RES will also make every reasonable effort to ensure that there is no disruption to local services e.g., bin collections and school buses.

We do not expect there to be any road closures related to the construction phase. Traffic management may be required for the grid connection.

Operational traffic movements are generally low, on average once a month for maintenance purposes and site inspections. Active monitoring is carried out by the Operations & Maintenance team and site manager which can reduce site attendance through early fault detection.

OPERATIONS

It is common across the industry for projects to change hands over their operational lifetime. However, planning consent goes with the land, not the developer, therefore, all conditions associated with the planning application must be followed by any new owner to ensure that the project is operated and maintained to the agreed standard. This includes decommissioning of the site.

As well as development services, RES provide construction and asset management services and would seek to maintain an interest in the scheme, throughout its

operational life. RES currently manage and operate over 600MW of energy storage projects across the UK and Ireland.

RES provide full-scope operations and management and asset management services and support 12GW of operational assets around the globe. Our people-first approach and decades of experience has led to the development of robust systems of work, ensuring assets perform safely and reliably.



WHAT HAPPENS NEXT?

As the Killymallaght project design is refined and more information is available from site surveys and assessments, we will send out another newsletter with additional information.

Should a planning application be made, this will be publicly available on the Planning Register and will also be available in full on the Killymallaght website. Copies of all technical and environmental surveys and assessments will accompany the application.



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ABOUT RES

As a British family-owned firm, RES has a proud history in Northern Ireland where we have been operating from offices in Larne since the early 1990s.

RES is committed to improving everyday life and long-term futures. We are driven by our vision to create a future where everyone has access to affordable zero-carbon energy.

Across the UK and Ireland, RES has developed over 700MW of energy storage projects including the development and construction of the 50MW Gorman Energy Storage project in Co. Meath.

For more information about RES, visit www.res-group.com

WWW.KILLYMALLAGHT-ENERGYSTORAGE.CO.UK