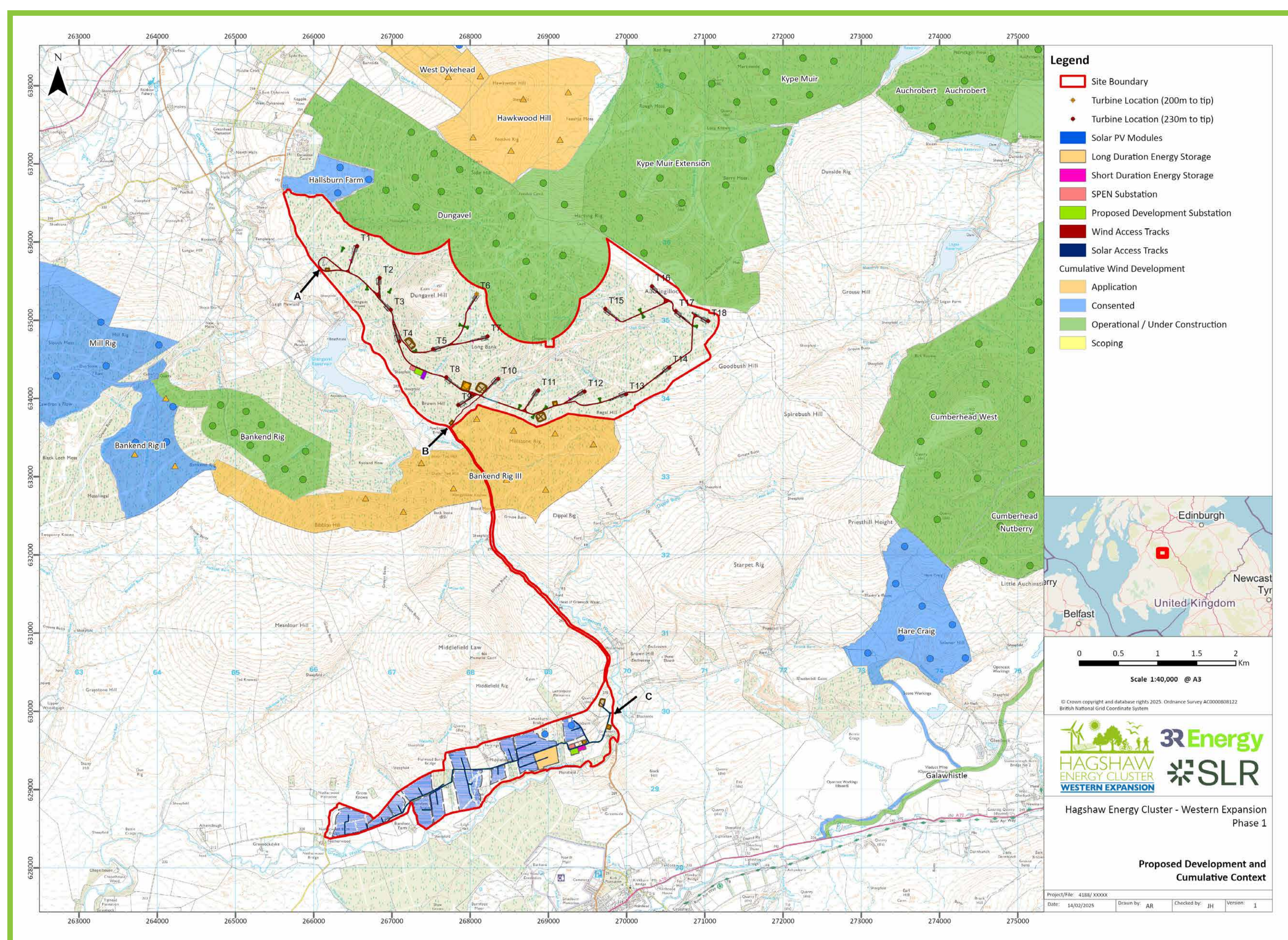


# Hagshaw Energy Cluster Western Expansion | Phase 1

## The Proposed Development

The Proposed Development is planned to comprise approximately 415 megawatts (MW) of renewable energy generation and energy storage output capacity, consisting of approximately 130 MW wind energy, 60 MW solar energy, and 225 MW battery energy storage systems.

The layout as shown below has been optimised in terms of wind yield analysis, landscape advice, ornithological advice and survey results as well as other environmental and engineering considerations.



## Project Components

## Technical Details

<b>Turbines</b>	Up to 18
<i>Turbine Capacity</i>	<i>Around 7.2 MW each</i>
<i>Maximum Tip Height</i>	<i>230 m</i>
<i>Maximum Rotor Diameter &amp; Blade length</i>	<i>163 m &amp; 81 m</i>
<i>Crane Pads</i>	<i>Each wind turbine requires an area of hardstanding adjacent to the turbine which provides a stable base for the cranes that are necessary to erect the structures.</i>
<b>Solar Development Area</b>	Area around 200 ha with panel height up to 3 m and a generating capacity of around 60 MW.
<b>Battery Energy Storage System</b>	A 25 MW short-duration battery energy storage facility will be located alongside the site substation to store electricity generated by the wind and solar components when it is not needed on the grid. A 200 MW long duration energy storage facility is also proposed within the southern development area alongside the solar panels.
<b>Substation &amp; Control Room</b>	An on-site substation and control room compound will house transformers, switchgear and metering to connect the wind and solar farm and the energy storage to the grid via the on-site Network Operator (SPEN) substation.
<b>Temporary Construction Compound(s)</b>	During the construction phase, a secure compound(s) would be required to store construction equipment and machinery and an on-site concrete batching plant. A hardstanding of locally won stone would be required for the base of the compound(s).
<b>Borrow Pits</b>	Wherever possible, the stone required for new tracks, turbine bases and hardstanding areas would be sourced from on-site borrow pits.
<b>Access Route</b>	Access for abnormal loads is proposed to be taken from either J11 of the M74 through the eastern extent of the existing Hagshaw Energy Cluster to meet the A70 west of Glespin, then to Muirkirk before heading north along the B743 to the site (access Point A on the figure above), or leave the M74 at J8 and head west along the A71, through Stonehouse and Strathaven, then south along the B743 to site (access Point A on the figure above). See plan on the next board for proposed abnormal load routes. Other construction traffic and site maintenance traffic will access the site from the B743 via the 3 entry points shown on the plan above.
<b>Grid Connection</b>	It is currently contracted that the Proposed Development will connect to the new Redshaw Transmission Substation near Crawfordjohn. The route of the cable(s) from the on-site substation to the Redshaw Transmission Substation is being developed separately by the Network Operator (SPEN).
<b>Total Generating Capacity</b>	Around 415 MW
<b>Total Energy Generation per Year</b>	Around 477 gigawatt hours
<b>Operational Life</b>	40 years

# 3R Energy