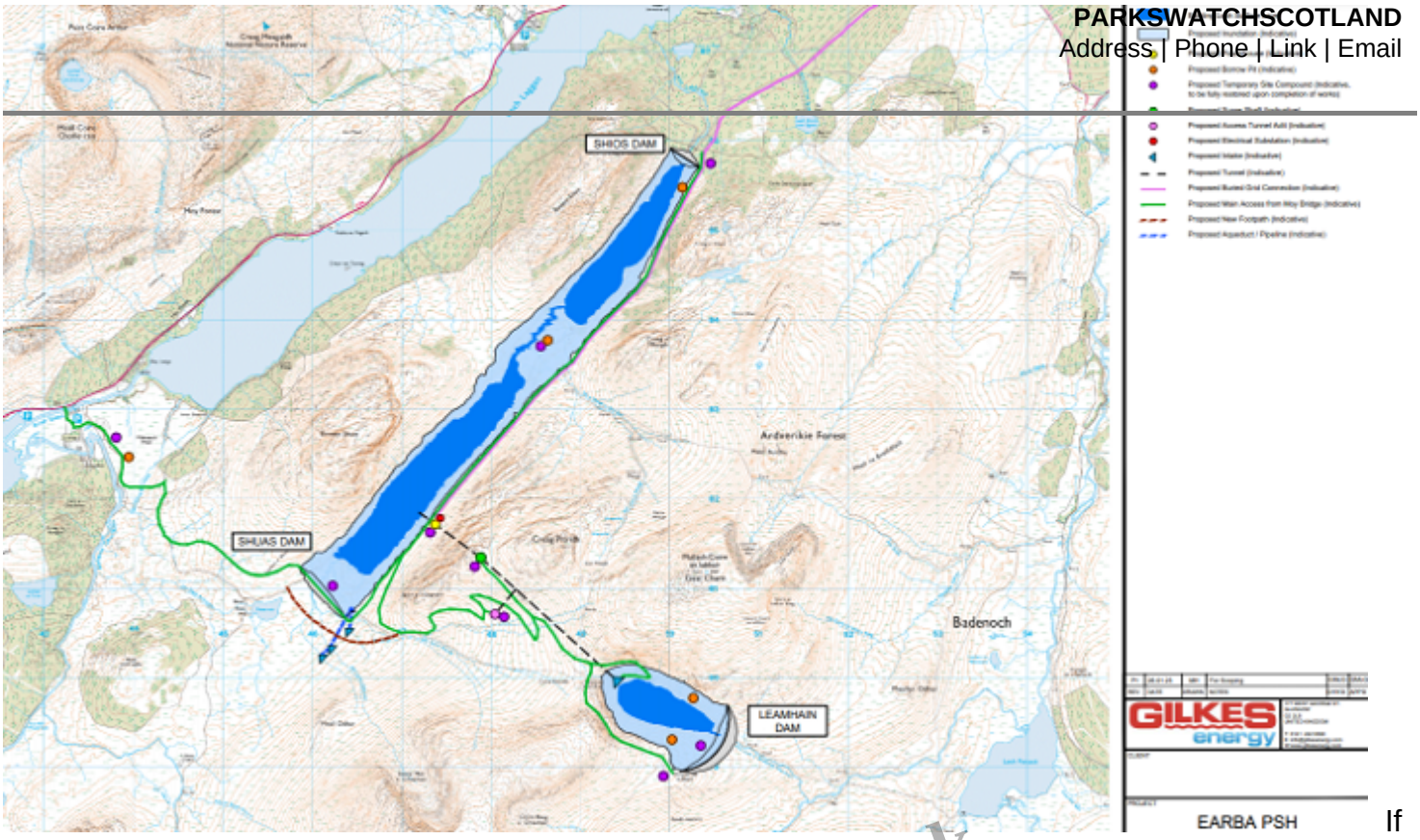
Free market landscape destruction – the proposed Lochan na h-Earba pump storage scheme

Description

Lochan na h'Earba from the west, photo credit Keith Miller

On 1st February Gilkes Hydro announced proposals (see here) to create a new pumped storage hydro scheme on the Ardverikie Estate in a beautiful and unspoiled area:

"At up to 900MW installed capacity and 33,000MWh stored energy, this will be the largest such project in the UK".



If constructed, the scheme would link Lochan na h-Earba, which is actually two lochs, with Loch a' Bhealaich Leamhain, on the other side of the col linking the Munros Geal Charn and Beinn a' Chlachair. The proposal is to raise Lochan na h-Earba by 20m and build a 900m dam 65m high across the outfall of Loch a' Bhealaich Leamhain. Water will then be pumped up or flow down underground pipes between the two reservoirs, with the powerhouse (mainly underground) sitting on the shore of Lochan na h-Earba.

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Looking across the west end of Lochan na h'Earba across which it is proposed to build an earth dam to create a new reservoir that will raise water levels by 20m. Photo Credit Keith Miller.

The project now has its own website (see here) and it is worth viewing the flyovers to appreciate the existing landscape.

Loch a' Bhealaich Leamhain viewed from the North West ridge of Carn Dearg July 2021. Photo credit Nick Kempe

Imagine a 900 x 65m rock wall built across the end of this loch. It will dominate the landscape and be visible from the Drumochter Hills, Beinn Udlamain and A'Mharconaich, across Loch Ericht in the Cairngorms National Park. Having objected to wind-farms visible from its borders, one would expect the Cairngorms National Park Authority also to object to this scheme.

There will also be a permanent access road up to the new reservoir.

From close up the landscape impact of this dam and that of Lochan na h-Earba below will be even worse. For pumped storage to deliver as much power as possible, sometimes the reservoirs must be full, sometimes almost empty. After 36 hours of electricity generation, anyone walking around the top reservoir will be looking down into a 200ft deep hole.

Looking across Lochan na h'Earba towards Binnein Shuas, a beautiful rocky hill famed for its climbing and one of the most famous easy routes in Scotland, Ardverikie Wall. Photo credit Keith Miller.

There is already a small dam across the west end of Lochan na h-Earba, visible in the second photo above, which has helped create a small strip of shoreline denuded of vegetation on either side of the loch, which you can see in the photo above.

Now imagine that Lochan na h-Earba rises and falls not just by 1-2m but 20m or possibly more in a dry summer! Scars along the shore will dominate the landscape when water has been pumped up to Loch a' Bhealaich Leamhain above. Associated with this will be a wide range of adverse ecological impacts which Ron Greer described on parkswatch almost five year ago in The hidden horrors of hydro.

Camping at west end of Lochan na h'Earba. Photo credit Keith Miller

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The impact on outdoor recreation will also be considerable, whether this is camping, climbing, walking, biking or horseriding.

The climate emergency and the need to store power

We need to make renewable energy work if we are to save the planet and save humanity. That means we need to devise ways to store electricity that is produced from intermittent sources like wind. At present there are three main ways this could be done (apart from polluting batteries): pumped storage, hydrogen storage or compressed air storage. Of these options, pumped storage, while an inefficient use of energy, is at present significantly cheaper but by 2030 is predicted to be more expensive than hydrogen storage (see here). That is only seven years away and given Gilkes say this scheme could take three- four years to build suggests there are good green reasons to be sceptical about the need for this scheme. In addition there needs to be a proper calculation of the carbon emissions that would be produced by the construction of schemes such as this.

However, even if we do need more pumped storage in Scotland – and I would be happy to concede that the climate emergency is such that we cannot afford to wait to see if hydrogen technology becomes more viable – why does the scheme need to be constructed at Lochan na h-Earba? Are there no better locations?

The logical thing for Scotland to do – and I was pleased to be quoted saying this in a piece on the

scheme in the Herald last Sunday (see here) – would be to:

- work out what out what pumped storage capacity we need
- work out whether this is best delivered through one or more big schemes or several smaller schemes (which might spread the risk of drought better)
- then identify the locations that pumped storage would do least to the natural environment

Unfortunately, the Scottish Government under Nicola Sturgeon's leadership could see no further than the private market and instead of doing this work has left energy developers to respond.

The new policy framework – NPF4

National Planning Framework 4 (see here), adopted in the middle of February, is in many respects better than previous planning frameworks but it opens the door for more hydro-related schemes almost anywhere.

Policy 11 is about Energy and is intended:

"To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. This includes energy generation, storage, new and replacement transmission and distribution infrastructure and emerging low-carbon and zero emissions technologies including hydrogen and carbon capture utilisation and storage (CCUS)."

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It reads:

a) Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:
i. wind farms including repowering, extending, expanding and extending the life of existing wind farms;
ii. enabling works, such as grid transmission and distribution infrastructure;
iii. energy storage, such as battery storage and pumped storage hydro;
……
b) Development proposals for wind farms in National Parks and National Scenic Areas will not be supported.

Clause b) only refers to windfarms. The implication therefore is that planning applications for pumped storage schemes could be given the go-ahead in both National Parks and NSAs. Lochan na h'Earba is not in either, but it is in the Rannoch-Nevis-Mamores-Alder Wild Land Area.

Policy 4 in NPF4 on protecting the natural environment contains a presumption against development in Wild Land Areas for everything EXCEPT, guess what, renewable energy developments. It does, however, go on to say this:

"All such proposals must be accompanied by a wild land impact assessment which sets out how design, siting, or other mitigation measures have been and will be used to minimise significant impacts on the qualities of the wild land, as well as any management and monitoring arrangements where appropriate. Buffer zones around wild land will not be applied, and effects of development outwith wild land areas will not be a significant consideration."

Luckily, the Drumochter Hills also lie in the Wild Land Area!

The first policy statement under Policy 4 could also be used to argue against the scheme:

a) Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment, will not be supported.

Under NPF4 pumped storage schemes are now classed as national developments, decided by the Scottish Government not the planning authority and there is a section at the end of the document about them:

2. *Pumped Hydro Storage*
   This national development will play a significant role in balancing and optimising electricity generation and maintaining the operability of the electricity system as part of our transition to net zero. This is necessary as we continue to move towards a decarbonised system with much more renewable generation, the output from which is defined by weather conditions.
   This national development supports additional capacity at existing sites as well as at new sites. Cruachan in Argyll is a nationally important example of a pumped storage facility with significant potential for enhanced capacity that could create significant jobs in a rural location.
   Location
   All Scotland

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The politics of the Lochan na h-Earba pumped storage scheme

The reason we are faced with this scheme rather than any other is because Gilkes Energy knows the area well, having designed the River Pattack hydro scheme which is also on the Ardverikie Estate and the landowner has seen an opportunity to make lots of money. If we need pumped storage schemes it would be far better for the Scottish Government to compulsorily purchase the best sites and then build and manage the schemes in the public rather than private interest. That would have been quite feasible if the ScotWind off-shore permits for windfarms had not been auctioned off on the cheap.

The announcement of this scheme just after the Scottish Parliament approved NPF4 and before the Scottish Government adopted it is not, I believe, a coincidence. Once through parliament, Gilkes Energy were assured there was a presumption in favour of schemes such as this and they could take it direct to the Scottish Government's Energy Consents Unit who have an appalling record when it comes to protecting the natural environment and have never been held to account for the damage done by the Beauly Denny powerline construction to the Drumochter Special Area of Conservation (see here).

There thus appears a real danger that the Scottish Government, in their wish to rush ahead with

pumped storage, will give the nod to the Lochan na h-Earba pumped storage scheme without proper scrutiny unless the public start protesting about the scale of the scheme, its impact on wild land and its likely impact on the natural environment.

It is worth noting that Gilkes Energy, who in 2018 sold 6 hydro schemes to Aberdeen Standard Life for £43m (see here), are unlikely to have access to the finance necessary to implement their proposals on their own. It seems probable they intend to try and get their plan approved by the Scottish Government and will then either join a partnership with a big construction company or sell on the rights.

Category

1. Cairngorms
2. National Parks

Tags

1. CNPA
2. landscape
3. planning
4. renewables
5. Scottish Government

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