



# Topic: Energy

Engagement version November 2024

## Requirements addressed in this section

Table 1 Information required by the Town and Country Planning (Scotland) Act 1997, as amended, regarding the issue addressed in this section.

Section	Requirement
Section 15(5)(b)	the principal purposes for which the land is used,
Section 15(5)(d)	the infrastructure of the district (including communications, transport and drainage systems, systems for the supply of water and energy, and health care and education facilities).
Section 15(5)(e)	how that infrastructure is used.

## Links to evidence

- National Park (Scotland) Act 2000  
<https://www.legislation.gov.uk/asp/2000/10/contents>
- National Planning Framework 4  
<https://www.gov.scot/publications/national-planning-framework-4/documents/>
- Securing a green recovery on a path to net zero: climate change plan 2018 – 2032 update  
<https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/>
- Infrastructure Plan for Scotland 2021 – 2022 to 2025 – 26  
<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2021/02/national-mission-local-impact-infrastructure-investment-plan-scotland-2021-22-2025-26/documents/national-mission-local-impact-infrastructure-investment-plan-scotland-2021-22-2025-26/national-mission-local-impact-infrastructure-investment-plan-scotland-2021-22-2025-26/govscot%3Adocument/national-mission-local-impact-infrastructure-investment-plan-scotland-2021-22-2025-26.pdf>



- Energy Efficient Scotland  
<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2018/05/energy-efficient-scotland-route-map/documents/00534980-pdf/00534980-pdf/govscot%3Adocument/00534980.pdf>
- Draft Energy Strategy and Just Transition Plan 2023  
<https://www.gov.scot/publications/draft-energy-strategy-transition-plan/>
- The Hydrogen Policy Statement 2020  
<https://www.gov.scot/publications/scottish-government-hydrogen-policy-statement/>
- The Hydrogen Action Plan 2022  
<https://www.gov.scot/publications/hydrogen-action-plan/>
- Bioenergy update, March 2021  
<https://www.gov.scot/publications/bioenergy-update-march-2021/>
- Draft Bioenergy Policy Statement  
<https://www.gov.scot/publications/draft-bioenergy-policy-statement/>
- Beyond 2030. A national blueprint for a decarbonised electricity system in Great Britain  
<https://www.nationalgrideso.com/document/304756/download>
- SSEN Distribution Future Energy Scenarios 2023: Results and methodology report for the North of Scotland licence area.  
<https://www.ssen.co.uk/globalassets/about-us/dso/dfes/ssen-dfes-2023-north-of-scotland.pdf>
- Historic Environment Scotland Climate Action Plan 2020 – 2025  
<https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=94dd22c9-5d32-4e91-9a46-ab6600b6c1dd>
- Renewable Energy Guide for Developers & Communities working with Scottish Water  
<https://www.scottishwater.co.uk/-/media/ScottishWater/Document-Hub/Key-Publications/Energy-and-Sustainability/ScottishWaterCommunityRenewableGuidanceUpdated12022019.pdf>



- Cairngorms National Park Partnership Plan 2022  
<https://cairngorms.co.uk/wp-content/uploads/2022/09/Cairngorms-National-Park-Partnership-Plan-full-version-FINAL.pdf>
- Cairngorms National Park Local Development Plan 3: Strategic Flood Risk Assessment 2024  
<https://cairngorms.co.uk/wp-content/uploads/2024/03/Cairngorms-Strategic-Flood-Risk-Assessment-2024.pdf>
- Moray Council Hydrogen Strategy 2022  
<http://www.moray.gov.uk/downloads/file148757.pdf>
- Draft Aviemore, Rothiemurchus and Glenmore Community Action Plan: Looking to 2030  
Not yet published
- Ballater and Crathie Community Action Plan 2023  
[https://www.ballaterandcrathiecommunitycouncil.com/\\_files/ugd/ff0841\\_f2f9573586ef4cf3a753d7a57adcb57c.pdf](https://www.ballaterandcrathiecommunitycouncil.com/_files/ugd/ff0841_f2f9573586ef4cf3a753d7a57adcb57c.pdf)
- Blair Athol Community Action Plan: Looking to 2030  
<https://cairngorms.co.uk/wp-content/uploads/2023/08/Blair-Atholl-Struan-Community-Action-Plan-2023-final.pdf>
- Boat of Garten Action Plan Review 2018  
<https://cairngorms.co.uk/wp-content/uploads/2020/12/2018-Boat-of-GartenAction-Plan.pdf>
- Braemar Community Action Plan  
<https://cairngorms.co.uk/wp-content/uploads/2021/01/2017-BraemarAction-Plan.pdf>
- Carrbridge Community Action Plan: Looking to 2030  
<https://cairngorms.co.uk/wp-content/uploads/2022/07/Carrbridge-Community-Action-Plan-2022.pdf>
- Cromdale and Advie Community Action Plan 2013  
<https://cairngorms.co.uk/wp-content/uploads/2020/12/2013CromdaleAdvieActionPlan.pdf>



- **Dulnain Bridge Community Action Plan Review 2016**  
<https://cairngorms.co.uk/wp-content/uploads/2020/12/2016-Dulnain-Bridge-ActionPlan.pdf>
- **Dalwhinnie Community Action Plan: Looking to 2030**  
<https://cairngorms.co.uk/wp-content/uploads/2024/03/DalwhinnieCAP2023Report.pdf>
- **Grantown on Spey Community Action Plan**  
<https://cairngorms.co.uk/wp-content/uploads/2020/12/160803-GrantownIconicPlan.pdf>
- **Kincraig Community Action Plan**  
<https://cairngorms.co.uk/wp-content/uploads/2015/07/2011-KincraigActionPlan.pdf>
- **Kingussie Community Action Plan 2018**  
<https://cairngorms.co.uk/wp-content/uploads/2021/01/2018-Kingussie-Action-Plan.pdf>
- **Laggan Community Action Plan: Looking to 2023**  
<https://cairngorms.co.uk/wp-content/uploads/2023/02/Laggan-Community-Action-Plan-2022.pdf>
- **Mount Blair Community Action Plan**  
[https://cairngorms.co.uk/wp-content/uploads/2021/01/1013\\_18-Mountblair-and-Glenshee-Action-Plan.pdf](https://cairngorms.co.uk/wp-content/uploads/2021/01/1013_18-Mountblair-and-Glenshee-Action-Plan.pdf)
- **Nethy Bridge Community Action Plan: Looking to 2030**  
<https://cairngorms.co.uk/wp-content/uploads/2024/03/Nethy-Bridge-Community-Action-Plan-2023-1.pdf>
- **Newtonmore Community Action Plan: Looking to 2023**  
<https://cairngorms.co.uk/wp-content/uploads/2022/07/Newtonmore-Community-Action-Plan-2022.pdf>



- Strathdon Community Action Plan 2016  
<https://cairngorms.co.uk/wp-content/uploads/2015/04/160601StrathdonActionPlan.pdf>
- Cairngorms climate change projections  
<https://cairngorms.co.uk/wp-content/uploads/2024/02/Climate-projections-for-the-Cairngorms-James-Hutton-Institute-31-Jan-2024.pdf>
- The Local Energy Net Zero Accelerator (LENZA) tool  
<https://www.ssen.co.uk/our-services/tools-and-maps/lenza/>
- SHEPD Network Development Report (log in required)  
[https://data.ssen.co.uk/@sssen-distribution/shepd\\_network\\_development\\_report](https://data.ssen.co.uk/@sssen-distribution/shepd_network_development_report)
- SSEN Network Capacity and Generation Availability Maps  
<https://network-maps.ssen.co.uk/>
- SSEN Long term development statements (LTDS)  
<https://www.ssen.co.uk/our-services/tools-and-maps/long-term-development-statements-ltlds/>
- SSEN Flexibility  
<https://www.ssen.co.uk/about-sssen/dso/flexibility/>
- ESO: The Electricity Ten Year Statement  
<https://www.nationalgrideso.com/research-and-publications/electricity-ten-year-statement-etys>
- Scottish Energy Statistics Hub  
<https://scotland.shinyapps.io/sg-scottish-energy-statistics/?Section=WholeSystem&Chart=RenEnTgt>
- SSEN Transmission  
<https://www.ssen-transmission.co.uk/>
- SSEN Transmission – Projects delivering a network for Net Zero: Pathway to 2030  
<https://www.ssen-transmission.co.uk/projects/2030-projects/>



- Electricity System Operator for Great Britain (ESO)  
<https://www.nationalgrideso.com/>
- SSEN Transmission welcomes 'Beyond 2030' investment plan for future energy system  
<https://www.ssen-transmission.co.uk/news/news--views/2024/3/ssen-transmission-welcomes-beyond-2030-investment-plan-for-future-energy-system/>
- SSEN Transmission: Overview of Central Highlands Projects  
<https://www.ssen-transmission.co.uk/projects/2030-projects/Central-Highlands/>
- SSEN Transmission: Projects delivering a Network for Net Zero  
<https://www.ssen-transmission.co.uk/projects/2030-projects/>
- NatureScot Micro renewables and the natural heritage: Revised guidance 2016  
<https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Micro-renewables-and-the-natural-heritage-guidance-note-revised-2016.pdf>
- Historic Environment Scotland Managing Change in the Historic Environment: Micro-renewables  
<https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=7604a41c-077c-42ab-941f-a60b009a4f95>
- NatureScot Hydroelectric schemes and the natural heritage 2015  
<https://www.nature.scot/sites/default/files/2018-05/A1521095%20-%20Hydroelectric%20schemes%20and%20the%20natural%20heritage%20-%20Dec%202015.pdf>
- NatureScot General pre-application and scoping advice for solar farms  
<https://www.nature.scot/doc/general-pre-application-and-scoping-advice-solar-farms>
- Nature Scot Position Statement: Bioenergy and Natural Heritage 2013  
<https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Position-Statement-on-Bioenergy-and-the-Natural-Heritage-Final-2013.pdf>



- NatureScot Background to our Position Statement on Bioenergy and the Natural Heritage 2013  
<https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Background-to-Position-Statement-on-Bioenergy-and-the-Natural-Heritage-2013.pdf>
- Green Heat in Greenspaces data – Scotland  
<https://www.data.gov.uk/dataset/e98578c6-9a32-47bc-8e01-c83b7061c8a0/green-heat-in-greenspaces-ghigs-scotland>
- Highland Council awards £58m contract for treatment and disposal of residual waste  
[https://www.highland.gov.uk/news/article/14683/highland\\_council\\_awards\\_58m\\_contract\\_for\\_treatment\\_and\\_disposal\\_of\\_residual\\_waste#:~:text=The%20Council%20will%20deliver%20residual%20waste%20to%20Viridor%E2%80%99s,electricity%20which%20is%20exported%20onto%20the%20National%20Grid.](https://www.highland.gov.uk/news/article/14683/highland_council_awards_58m_contract_for_treatment_and_disposal_of_residual_waste#:~:text=The%20Council%20will%20deliver%20residual%20waste%20to%20Viridor%E2%80%99s,electricity%20which%20is%20exported%20onto%20the%20National%20Grid.)

## Summary of evidence

### Policy context

#### National Parks (Scotland) Act 2000

The National Park has four distinct aims as set out in The National Parks (Scotland) Act 2000). The first and fourth aims; 'to conserve and enhance the natural and cultural heritage of the area' and 'to promote sustainable economic and social development of the area's communities'. The aims are all to be pursued collectively. However, if there is conflict between the first aim and any of the others, greater weight is given to the first aim (as set out in Section 9(6) of the 2000 Act).

#### National Planning Framework 4

National Planning Framework 4 aims to '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)'.

National Planning Framework 4 states that local development plans should seek to realise their area's full potential for electricity and heat from renewable, low carbon and zero emission sources by identifying a range of opportunities for energy development.



Policy 11 (a) specifically addresses energy and states that proposals for all forms of renewable, low-carbon and zero emission technologies should be supported. Policy 11 (a) ii. States in relation development proposals for all forms of renewable, low-carbon and zero emissions technologies enabling works, such as grid transmission and distribution infrastructure will be supported. With regard to the Cairngorms National Park, Policy 11(b) states that wind farms in National Parks will not be supported. Policy 11 (b) sets out the need for development proposals to maximise net economic benefit.

Policy 11 (d) states development proposals that impact on international or national designations will be assessed in relation to Policy 4. The international and national nature designations in the Cairngorms National Park will be detailed in the Natural Heritage section of the Evidence Report. Finally, Policy 11 (e) sets out the design and mitigation criteria.

Policy 11 states that significant weight should be placed on the contribution of the proposal to renewable energy generation targets and on greenhouse gas emissions reduction targets.

In the case of proposals for new or improvements to existing grid infrastructure, it would be preferable for underground connections to be utilised where possible.

National Planning Framework 4 Policy 19 addresses Heating and cooling. The Policy aims to 'To encourage, promote and facilitate development that supports decarbonised solutions to heat and cooling demand and ensure adaptation to more extreme temperatures'. There is therefore a connection between Policy 11 and Policy 19 in terms of energy demand. Matters specifically relating to heating and cooling are covered in the Heating and cooling evidence report<sup>1</sup>.

Policy 18: Infrastructure First has also been considered as a key connection to this paper in connection with the infrastructure capacity of the energy networks in the National Park. To support Policy 18 local development plans should be based on an integrated infrastructure first approach. SSEN Transmission and SSEN Distribution as the transmission and distribution providers of the energy networks in and serving the National Park have informed the preparation of this paper.

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<sup>1</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/heating-and-cooling-survey/step1>





Policy 2: Climate mitigation and adaption also has a bearing on the plans and strategies outlines in this section. Overarching matters related in Policy 2 will be covered in a separate Climate change evidence paper.

The North region's spatial priorities, which cover the National Park and are relevant to this policy area are:

- Protect environmental assets and stimulate investment in natural and engineered solutions to climate change and nature restoration, whilst decarbonising transport and building resilient connections.
- Support local economic development by making sustainable use of the areas' worldclass environmental assets to innovate and lead greener growth.

The following national developments are also identified to support delivery of the spatial strategy for the North region. Of relevance to this policy area are:

- National Development 2: Pumped Hydro Storage, which aims to play a significant role in balancing and optimising electricity generation and maintaining the operability of the electricity system as part of Scotland's transition to net zero.
- National Development 3: Strategic Renewable Electricity Generation and Transmission Infrastructure, which aims to support renewable electricity generation, repowering, and expansion of the electricity grid.
- National Development 4: Circular Economy Material Management Facilities, which aims to support the development of facilities required to achieve a circular economy. This sector will provide a range of business, skills and employment opportunities as part of a just transition to a net zero economy.

## **Securing a green recovery on a path to net zero: climate change plan 2018 – 2032 update**

The document provides an update to the 2018 Climate Change Plan. Since that Plan Scottish Government have set new ambitious targets to end its contribution to climate change by 2045. Scottish Government have committed to reduce emissions by 75% by 2030 (compared with 1990) and to net zero by 2045. As Scotland emerged from COVID-19 the Government identified an opportunity to rebuild the economy in a way that delivers a greener, fairer and more equal society. This Plan sets out the Governments approach to delivering a green recovery and sets out a pathway to deliver its climate change targets. In line with the 2018 plan, the focus is on the period up to 2032.



With regards to electricity the update highlights that as Scotland transitions to net zero, a growing and increasingly decarbonised electricity sector is critical to enabling other parts of the economy to decarbonise – notably transport, buildings and industry.

The Plan also outlines that in order for Scotland to meet its climate change targets there needs to be shift from a low to a zero-carbon electricity system, with the potential for Negative Emission Technologies to deliver negative emissions from the electricity sector, for example through the use of bioenergy for electricity generation combined with carbon capture and storage (BECCS).

The Update sets out the following vision that renewable generation will increase substantially between now and 2032, and Scottish Government expect to see the development of between 11 and 16 GW of capacity during this period, helping to decarbonise the transport and heating energy demand.

To deliver this, the Plan sets out a number of outcomes, that are supported by policies and proposals, relating to electricity. These are as follows.

The outcome 'The electricity system will be powered by a high penetration of renewables, aided by a range of flexible and responsive technologies', is supported by the following policies and proposals:

- Support the development of a wide range of renewable technologies by addressing current and future challenges, including market and policy barriers.
- Support improvements to electricity generation and network asset management, including network charging and access arrangements that encourage the deployment and viability of renewables projects in Scotland.
- Publish a revised and updated Energy Strategy, reflecting our commitment to net zero and key decisions on the pathways to take us there.
- Develop and publish a Hydrogen Policy Statement by the end of 2020, followed by a Hydrogen Action Plan during 2021.
- A new renewable, all energy consumption target of 50% by 2030, covering electricity, heat and transport.
- Introduce a new framework of support for energy technology innovation, delivering a step change in emerging technologies funding to support the innovation and commercialisation of renewable energy generation, storage and supply.
- Renewed focus on developing local energy projects and models, including through the Community and Renewable Energy Scheme (CARES), supporting the achievement of 1GW and 2GW of renewable energy being in Local Community ownership by 2020 and 2030.



- We will carry out detailed research, development and analysis during 2021 to improve our understanding of the potential to deliver negative emissions from the electricity sector.
- We will continue to review our energy consenting processes, making further improvements and efficiencies where possible, and seeking to reduce determination timescales for complex electricity generation and network infrastructure applications.
- Accelerate our work with aviation, energy and other stakeholders to ensure that all radars are wind turbine tolerant/neutral during the coming decade.
- Review and publish an updated Electricity Generation Policy Statement ahead of the next Climate Change Plan.

The outcome 'Scotland's electricity supply is secure and flexible, with a system robust against fluctuations and interruptions to supply', is supported by the following policies and proposals:

- Support the development of technologies which can deliver sustainable security of supply to the electricity sector in Scotland and ensure that Scottish generators and flexibility providers can access revenue streams to support investments.
- Press the UK Government for market mechanisms and incentives which recognise locational value, both for energy and for security of supply, and which do not create undue barriers for investment in Scotland.
- Collaborate on actions to support investment in new pumped storage hydro capacity.
- Work with all parties to secure maximum benefits from the move towards smarter and more flexible electricity systems and networks, as set out in the UK Smart Systems and Flexibility Plan (2017).
- Encourage and support increased interconnection which can enhance Scottish system security while considering effects on domestic capacity and investment.
- Launch a call in 2021 for evidence and views on technologies that can transform our electricity system, including energy storage, smart grid technologies, and technologies to deliver sustainable security of supply. This will help ensure that our funding and interventions support world leading activity in Scottish based companies.
- Develop a series of whole system energy scenarios to guide infrastructure investment decisions for Scotland.
- Ensure that sustainable security of electricity supply is included as a priority within future Scottish Government energy innovation funding programmes.

The outcome 'Scotland secures maximum economic benefit from the continued investment and growth in electricity generation capacity and support for the new and



innovative technologies which will deliver our decarbonisation goals', is supported by the following proposals:

- Press the UK Government to further reform and maintain the Contract of Difference (CfD) mechanism in a manner which better captures the economic benefits and total value added for the Scottish and UK supply chains.
- Introduce new requirements for developers to include supply chain commitments when applying to the ScotWind leasing process run by Crown Estate Scotland.
- Identify and support major infrastructure improvements to ensure that Scotland's supply chain companies and facilities can benefit from the continued growth of renewable energy.

### **Infrastructure Investment Plan 2021 – 2022 to 2025 – 2026**

The Infrastructure Investment Plan focuses on three core strategic themes for guiding investment in decisions in Scotland, namely:

- Enabling the transition to net zero emissions and environmental sustainability.
- Driving inclusive economic growth.
- Building resilient and sustainable places.

The Infrastructure Investment Plan is closely linked to the development of the National Planning Framework 4 and the Climate Change Plan which aim to support the delivery of the Plan.

The Climate Change Plan update shows how Scotland will drive down emissions to meet its climate targets up to the year 2032. Scottish Government have committed to £1.6 billion investment in heat and energy efficiency in our homes and buildings. Scottish Government are rolling out a Net Zero Carbon Public Sector Buildings Standard, ensuring new public buildings are net zero ready.

### **Draft Energy Strategy and Just Transition Plan 2023**

In 2023 Scottish Government opened the consultation for the Energy and Just Transition Plan which will provide a route map of actions Scottish Government will take to deliver a flourishing net zero energy system that supplies affordable, resilient and clean energy to Scotland's workers, households, communities and businesses.

The draft strategy sets out the target of more than 20GW of additional renewable electricity on and offshore by 2030. Ambitions are set for increased contributions from solar, hydro, marine energy and hydrogen in our energy mix, and for accelerating the decarbonisation of domestic, industry, transport, and heat. In the National Park in the



absence of wind or marine energy generation, solar and small-scale hydro projects may be put forward.

The strategy also reinforced the UK Government Policy position that by 2030, the need for new petrol and diesel cars and vans are to be phased out. It also sets out Scottish Governments commitment to reducing car kilometres by 20% by 2030 (more detail on transport in the National Park can be found in the Sustainable Transport paper). This opens opportunities for hydrogen re-fuelling opportunities and the increase in projected EV vehicles will increase electricity demand in the National Park.

The vision set out in the document highlights the importance of community owned renewable projects aiming to 'maximise community benefit from energy projects, including through community ownership and shared ownership of renewables.' The draft strategy sets out the aim of 2GW of community and locally owned energy by 2030 across Scotland.

## **The Hydrogen Policy Statement 2020**

The Hydrogen Policy Statement sets out Scotland's ambition to become a leading hydrogen nation, generating at least 5GW of renewable and low-carbon hydrogen by 2030 and at least 25GW by 2045. This is intended to support Scottish Governments commitment to achieve net zero by 2045, aligning with Scottish Governments Climate Change Plan. This ambition expects both battery electric and hydrogen systems to decarbonise transport in Scotland. To date, most of Scotland's emissions reductions have come from decarbonisation of electricity generation. Decarbonisation of heat, industry and transport are now priorities and require a broader range of technologies, strategies and energy systems. Further details on Scottish Governments Climate Change Plan will be included in the Climate topic paper.

The Hydrogen Policy Statement and subsequent Hydrogen Action Plan aim to support Scottish Governments ambition to establishing low-carbon hydrogen production at scale by the mid-2020s, linked to Carbon Capture and Storage (CCS).

## **The Hydrogen Action Plan 2022**

The Hydrogen Action Plan sets out Scottish Government's five-year action plan to support the development of a hydrogen economy in Scotland supporting the countries transition to net zero by 2045. It follows the roadmap set out by The Hydrogen policy Statement setting out its ambition is to transform Scotland into a leading producer and exporter of hydrogen.



The project underway to deliver Hydrogen to the North of Scotland is the North of Scotland Hydrogen (NOSH) is a series of scalable green hydrogen projects based in the Cromarty Firth which will produce hydrogen from renewable energy for regional, national and export use. The Phase 1 project aims to have a 35 MW electrolyser facility operational by the end of 2024, producing up to 14 tonnes of renewable hydrogen per day to meet local distillery demands and prove the technology at this scale. The project will initially supply renewable hydrogen to local distilleries.

In addition to the existing projects the Hydrogen Action Plan earmarks the following projects in close proximity to the National Park:

- The Inverness hydrogen transport hub
- Inverurie Energy Hub

Although there are no current or planned hydrogen projects in the Cairngorms National Park, an increase in future anticipated demand may require infrastructure within the National Park. One of the key actions in the Hydrogen Plan is to ensure the regulatory, planning and consenting framework for renewable developments support the scale up of hydrogen use and production. Within the National Park, the spatial plans should support the enabling of hydrogen projects. As there are no on-gas properties in the National Park, it can be expected that hydrogen use will be mainly confined to transport related infrastructure.

There are a number of businesses, including distilleries, located in the National Park which in future may look to Hydrogen to decarbonise their operations.

The Emerging Energy Technologies Fund (EETF) is a £180m package of funding up to 2025 / 2026 that will provide capital support to accelerate low-carbon infrastructure projects and unlock private sector co-investment that will be essential to deliver net zero. The fund will make £100m available to support renewable hydrogen projects in line with Scottish Government's Hydrogen Policy Statement.

## **Moray Council Hydrogen Strategy 2022**

The Council's Hydrogen Strategy aims to support the Scotland Hydrogen Action Plan. Moray Council is exploring opportunities with partners to develop pilot projects and considering suitable hydrogen production and refuelling sites. A report to the Council's Economic Development and Infrastructure Services Committee on 6 February 2024 approved a Scoping Report for delivery of Phase two of the Moray Hydrogen Strategy.



The Strategy aims to support the growth of a hydrogen economy in Moray during the short to medium term, including connecting into adjacent areas, could:

- Contribute towards a reduction in greenhouse gas and particulate emissions.
- Improve the security of Moray's energy supply.
- Increase and make better use of local renewable energy generation; and help to address fuel poverty issues, particularly in rural areas.

To deliver a hydrogen economy the following key steps are proposed in the Moray Hydrogen Strategy:

- In the short term (2023 – 2030): create a hydrogen steering group within Moray to drive the development of hydrogen opportunities, stimulating both supply and demand. This group is led by Moray Council and includes key stakeholders from the industrial base and wider community.
- Develop a pilot project to generate demand for hydrogen locally. A small-scale pilot project or projects are proposed to include combined hydrogen generators, storage and refuelling at a single site. The potential locations to be considered are not within the National Park.
- In the short to medium term, the aim is to expand the hydrogen generation facilities to further stimulate the demand from road freight transport and from the industrial users such as the distilleries.
- In the long term (beyond 2040), the hydrogen economy for Moray could be based on generating hydrogen from green electricity sources within Moray, purchasing hydrogen from outside the area, and distributing hydrogen through the area through a pipeline network. The demand for hydrogen would come from a wider range of sectors including the distilleries, other high-heat industry, the road haulage industry, council services and potentially to heat homes and businesses.

To progress delivery of the Moray Hydrogen Strategy a grant from The Just Transition Fund was received. This allowed development of a scoping report for the delivery of Phase 2 of the Hydrogen Strategy. This research recommended to separate the pilot into two aspects – an initial small pilot for Council fleet vehicles using hydrogen from outwith Moray, and the later development of public refuelling facilities as the hydrogen economy matures.

### **Beyond 2030. A national blueprint for a decarbonised electricity system in Great Britain.**

The document has been produced by the National Grid Electricity System Operator (ESO) for Great Britain. Its function is to operate Great Britain's electricity transmission





system, working with work in partnership with governments, the Office of Gas and Electricity Markets (Ofgem), and industry to guide Great Britain on what energy resources, markets, and networks are required to securely accelerate the transition away from fossil fuels into new energy technologies and economies.

The blueprint recognises that Britain's electricity needs are set predicted to significantly increase (by up to approximately 65 per cent) by 2035. The Electricity System Operator, alongside Great Britain's Transmission Owners (TOs) have undertaken a network assessment to recommend a high-level network design to accommodate the countries decarbonised electricity network.

In response to the Energy Act 2023, the Electricity System Operator is transitioning into an independent public corporation named the National Energy System Operator (NESO) in the summer of 2024.

The electricity transmission network in and connecting to the Cairngorms National Park is used to transport high voltage electricity over long distances, to ensure all the settlements and buildings in the National Park are connected and supplied. Great Britain has three onshore Transmission Owners (TOs) that own, maintain, and develop their networks. In the Cairngorms National Park and the North of Scotland region as a whole the Transmission owner is Scottish and Southern Energy Networks Transmission (SSEN Transmission).

## **SSEN Distribution Future Energy Scenarios 2023: Results and methodology report for the North of Scotland licence area**

Scottish and Southern Electricity Networks (SSEN) Distribution is the electricity distribution arm of the energy company, Scottish and Southern Energy. SSEN Distribution are the Distribution Network Operator (DNO) for the north of Scotland and as such the Cairngorms National Park. This report outlines the results from the 2023 Distribution Future Energy Scenarios (DFES) analysis for Scottish and Southern Electricity Networks' (SSEN) North of Scotland electricity distribution network licence area (which covers the Cairngorms National Park). The North of Scotland electricity distribution licence area refers to the area served by the low voltage (LV), 11 kV and 33 kV network that is managed by SSEN.

Across the whole of the North of Scotland licence area base line there is currently 3.7 GW of generation and storage capacity connected to SSEN Distribution's network.





Within the National Park small scale hydropower sites contribute to the overall mix of key baseline technologies across the whole of the north of Scotland.

In the North of Scotland licence area there is 13 GW of generation and storage capacity that either has a connection agreement or an offer to connect to SSEN Distribution's network. This includes one project within the National Park.

## **Renewable energy guide for developers & communities working with Scottish Water**

The document aims to help developers and communities understand how to engage with Scottish Water to develop renewable energy and low carbon heat projects. There are a number of existing small-scale hydro projects in the National Park (Table 4), in addition to some of the Community Action Plans setting out community aspirations to explore community energy generation projects, including hydro projects. There are three main categories of supply, outlined in the document, that could be utilised for hydro projects namely:

1. Renewable development is installed on third party land adjacent to a Scottish Water asset and a private water supply is connected to the Scottish Water asset as a secondary off-grid supply. Any surplus power can be exported to the grid via Scottish Water's grid connection if there is export capacity available in the network.
2. Renewable development is installed on Scottish Water land / assets and a private wire supply is connected to the Scottish Water asset as a secondary off-grid supply within the site. An example of this would be installing a solar array on an area of a Scottish Water asset not in use on an operational asset. Any surplus power can be exported to the grid via Scottish Water's grid connection if there is export capacity available in the network.
3. Renewable development is installed on Scottish Water land or catchments and the electricity is exported to the grid via a developer export connection. An example of this would be installing a hydro turbine in a Scottish Water reservoir. In this case, the developer would sign a land rental agreement with Scottish Water as there is no requirement for the electricity as there is no demand.

The document also sets out Scottish Water's Horizon project which is facilitating low carbon heat projects by enabling the extraction of heat from Scottish Water's vast wastewater network. The Horizons project is partnered with SHARC Energy Systems who provide technology to capture and distribute the heat found in the sewer network. However, due to the applied use being most efficient and practical for buildings with a



circa heat demand of over 1GWh, in the National Park application of this technology would be limited.

## **Bioenergy update, March 2021**

In 2021, Scottish Government published a Bioenergy Update which set out the current role of bioenergy and how that may change as Scotland moves towards a net zero future. Scottish Government identified the complex interdependencies throughout the biomass supply chain, as well as the potential competition for finite resources. The Update set out the importance of a strategic deployment of bioenergy technologies to ensure available resources are used in the most effective way. The document highlights the emerging role for Bioenergy with Carbon Capture and Storage (BECCS) as integral to achieving the negative emissions potential which will make net zero possible in Scotland.

## **Draft Bioenergy Policy Statement 2024**

The draft policy statement sets out the parameters that need to be considered when setting bioenergy use now and, in the future, to support a reduction in emissions to meet the Climate Change Plan targets. It identifies what we think the priority uses of bioenergy are in the short, medium and long term, and sets out the potential domestic biomass supply that could be available as feedstock for energy production. It examines how available domestic biomass feedstock could be increased by planting energy crops. It also acknowledges the potential constraints on the use of bioenergy, the importance of having strict sustainability criteria and that biomass feedstock production and use should facilitate key sustainable development goals.

The Statement points out that in Scotland the wood fuel supply chains are efficient and for the most part based on domestic supplies, and Scotland has a large number of distilleries, including many located in remote or island locations. The by-products of whisky production can be used to generate energy, or they can utilise biomass to displace fossil fuels.

Scotland priorities for bioenergy use at a high-level follow those set out by the UK Biomass Strategy. In the short term there will continue to be demand for biomass to be used in power, heat and transport. Where possible, we support early adoption of Carbon Capture Utilisation and Storage (CCUS) paired with bioenergy applications. In the medium term it is expected bioenergy will transition away from unabated uses towards Bioenergy with Carbon Capture and Storage (BECCS) technologies.



In the short to medium term, it is expected bioenergy will be utilised through the following:

- Power – new biogas combined and heat power (CHP) plants that utilise waste resources.
- Heating – biomass or biofuel offer a solution to buildings not able to transition to clean heating systems (for example heat networks and heat pumps).
- Transport – use of biofuels for Heavy Duty Vehicles and Heavy Good Vehicles.
- Industry - Distilleries and breweries, pulp and paper mill, wood panel and pellet production, fuel switching from fossil fuels with potential for linking to future carbon capture and storage (CCS) infrastructure.

The longer term (post 2035) use of bioenergy should prioritise bioenergy with carbon capture and storage applications where possible, and the majority of biomass uses should deliver negative emissions, but specific timing and detail will depend on how technologies develop.

The majority of Scotland's renewable heat currently comes from bioenergy, with 67% from biomass and 16% from biomethane injected to the gas grid (biomethane currently accounts for 1.65% of Scottish gas demand). For buildings, biomass boilers that burn wood pellets, chips or logs are a well-established heating technology, however changes to the Building Standards in Scotland in 2024 mean that under the New Build Heat Standard, solid fuel burning stoves can only be installed in new homes to provide 'emergency heating' where required. Removing biomass from buildings a source of heat will potentially increase the demand for electricity for heating.

## **Historic Environment Scotland Climate Action Plan 2020 – 2025**

In this action plan Historic Environment Scotland have set out how they plan to transform the way they operate in response to the growing climate emergency. The actions focus on:

- How they will tackle the causes of the climate crisis and respond to the impacts.
- Changes in the way they protect and operate some of Scotland's most recognisable places and landmarks and the landscapes and infrastructure around them.
- Sharing knowledge, building resilience, and investing in sustainability to support others to address the climate emergency.

The action plan contains a number of actions specific to energy and carbon management. These include:

- Setting a long term 'net-zero' target by 2045, in line with new national emission reduction targets.



- Ensure that energy and carbon management objectives are mainstreamed within strategic and operational decision-making across the organisation.
- Develop increased funding options for carbon reduction projects, including external partnerships, loan funding and potential for leasing of appliances and infrastructure.
- Support energy efficiency retrofit programmes and qualification development for construction industry, including working with Scottish Government and partners (for example, Energy Saving Trust, Home Energy Scotland) to develop toolkits such as the Energy Improvements Report to improve domestic energy efficiency.
- Continue to improve energy reduction at sites through the installation of low-energy systems (for example, lighting and heating), improved controls and insulation measures.

## **Cairngorms National Park Partnership Plan 2022**

The National Park Partnership Plan's Outcome A1 aims to ensure the Cairngorms National Park reaches net zero as soon as possible and contributes all it can to helping Scotland meet its net zero commitments.

Policy B1 seeks to deliver a wellbeing economy in the Cairngorms National Park which strengthens existing business sectors, supports business start-ups, develops green jobs, supports diversification and the circular economy, and maintains the number of workers employed in the National Park. This can, in part, be achieved through criterion f:

- Broadening the economic base of the National Park into sectors such as the creative industries and renewable energy, making stronger links with higher and further education.

Policy C2 seeks to support the development of a low carbon, circular economy, with a particular focus on:

- a) Increasing renewable electricity and heat generation, especially biomass, hydro, solar, small-scale wind turbines and heat exchange pumps that are compatible with conserving the special qualities of the National Park and maintain the integrity of designated sites.
- b) Supporting businesses and communities to use less energy, reduce emissions, improve the energy efficiency of existing buildings, generate low impact renewable energy, reduce, reuse and recycle resources, and plan for a changing climate.
- c) Maximising the benefits to communities through direct use of locally-generated energy or, where sold to the grid, reinvesting income to support community development.



Policy C2 also sets out that ‘large-scale wind turbines are not compatible with the landscape character or special landscape qualities of the National Park. They are inappropriate within the National Park or in areas outside the National Park where they adversely affect its landscape character or special landscape qualities’<sup>2</sup>.

## **Cairngorms 2030**

The Cairngorms 2030 projects will support the delivery of the National Park Partnership Plan 2022 – 2027. In Partnership Plan, the Park Authority have committed via objective A1 – ‘Net Zero’ to putting the power to tackle the climate and nature crises in the hands of people who live, visit and work in The Cairngorms National Park.

Two projects that are of relevance to energy are:

- Climate conscious communities
- Climate learning and education

The climate conscious communities project will increase awareness and deepen understanding of the climate emergency and its relevance to residents, communities, landowners and businesses in the National Park through a series of dedicated workshops. The workshops, led by Keep Scotland Beautiful, are aimed at anyone with a desire to increase their understanding and make more informed decisions to reduce their impact on the environment.

The climate learning and education project will put the voices of young people at the heart of decision making in the National Park and will empower and inspire our young people and educators to take forward pro-environmental behaviours and activity. We will adopt UNESCO’s Education for Sustainable Development mission and make it relevant to the Cairngorms National Park and its people.

## **Community action plans**

The following action plans identified issues and / or priorities relating to energy.

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<sup>2</sup> The landscape impacts of wind farm development are covered in the Landscape evidence paper. See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>



## **Draft Aviemore, Rothiemurchus and Glenmore Community Action Plan: Looking to 2030**

Under the Climate Conscious Community theme, the action plan contains a priority to improve public transport to reduce need for / use of cars. An action to deliver this is to commission electric buses for regular access to Glenmore / Cairngorm Mountain.

Furthermore, under the Economically Thriving Community theme, the action plan contains a priority to increase parking availability or deliver a better bus service for workers in the town. An action to deliver this is to investigate the feasibility of a park and ride scheme, which would include charging points for electric vehicles.

These matters are covered in more detail in the Sustainable Transport evidence paper.

## **Ballater & Crathie Community Action Plan 2023**

Under the Environment and Energy theme, the community set out the aim 'to strive to make Ballater and Crathie as resilient, self-sufficient and carbon negative a place in which to live, work and visit as they can'. The community set the following strategic goal:

- To investigate the provision of local energy supply whether ground source, solar, hydro-electric or geothermal and how best to improve the provision of transport with less carbon dioxide generation.

It also sets the following tactical goal to:

- Promote the insulation of properties and ways to assist reduction in the need for energy.

## **Blair Athol Community Action Plan: Looking to 2030**

The community did express the need for further electric vehicle (EV) charging in the area, and this is picked up in the Sustainable Transport Topic Paper. There are no other implications for the Energy topic paper with respect to this Plan.

## **Braemar Community Action Plan**

Under theme four: Community capacity the community set out its plans complete the community hydro scheme on the Corriemulzie Burn on the Mar Estate, with income generated made available for local projects. The project was completed in 2016 and a 100kW hydro-electric scheme is now generating electricity which is fed into the national



Grid. More details on the hydro scheme can be found here on the Braemar community hydro groups Facebook page:

- <https://www.facebook.com/Braemarhydro/>

### **Carrbridge Community Action Plan: Looking to 2030**

Under the Climate Conscious Community theme the Plan sets out the following priority:

- (to) Use our natural assets to develop enterprise, business and tourism opportunities. The Community are seeking to explore harnessing renewable energy for local use which could include hydro or wind energy generation the community are seeking to:
  1. Engage with the Park Authority for support with possible hydro project using the Dulnain and also community wind turbines.
  2. Buy community shares in a local windfarm / Add 1 extra Wind Turbine Generator to development next to Tom nan Clach for example the Fintry ownership model, to provide income to village for further projects.

Under the same priority the community highlight the desire for a community-led development and explore the use of the sawmill area for commercial use. This could include a site for solar panels and energy storage for the whole village.

During the public consultation the following suggestions were made supporting the proposed actions:

- A community-owned renewable energy project for example a wind turbine that could generate both energy and income.
- Possible shared renewable energy scheme (could the community take 'ownership' of one or two of the wind turbines going in on the Dava and benefit directly from renewable power?).

### **Dalwhinnie Community Action Plan: Looking to 2030**

In the Dalwhinnie Community Action under the climate conscious community theme the community have set out a priority to 'reduce energy consumption as a village / (and for) households', The Plan sets out the community aim to investigate and seek advice and support available with the aim of setting up an information event at hall for local residents and businesses to drop in. They set out the aim to work with Laggan Community Council who expressed a desire to do something similar.

Within the responses relating to the environment the suggestion to turn off streetlights could also produce energy savings.



## **Laggan Community Action Plan: Looking to 2023**

Under the theme of 'a climate conscious community' in the Laggan Community Action Plan sets out the priority of 'energy efficient housing / community properties' to achieve this the community will seek to:

- Investigate opportunities for a village turbine (electric or hydro).

Under the theme of 'a socially connected community' the community sets out the priority of 'having affordable places to live' The community have set out the following action to achieve this:

- Community support scheme to help residents & businesses make their homes more energy efficient/better insulated (double glazing, solar panels, heat pumps, smart meters etc) this will be delivered through:
  - Investigating advice / support available – set up an information event at hall for local residents and businesses to drop in.
  - Exploring possible use of SSE money for a scheme.

Under the suggestions put forward as part of their community consultation the following responses were garnered:

- The need for insulation and energy efficiency programme with support for local housing.
- Initiate a programme of insulation and energy efficiency inspections undertaken in all tenanted properties and community owned properties to reduce energy use and costs.
- Explore possibilities for a community renewable energy scheme at the Speyside dam.

The community did express the need for further EV charging in the area, and this is picked up in the Sustainable Transport Topic Paper.

## **Mount Blair Community Action Plan**

The vision set out in the Mount Blair Community Action Plan includes the following aim of reducing our carbon footprint and lowering our costs of living, which in part can be achieved through the use of renewable energy and lowering the communities carbon footprint.

One of the main strategies, titled Infrastructure and renewable energy specifically addresses the communities' challenges in terms of high cost of fuel. To tackle this the community proposed the following priorities:

- Develop wood fuel / biomass community initiative





- Establish collective buying scheme for oil.

The Action Plan also sets out the priorities under the Community and recreational facilities theme (three) to:

- Support Ballintuim Village Hall to make improvements to car parking area, install renewable and cost-effective heating and other upgrades.

### **Nethy Bridge Community Action Plan: Looking to 2030**

Under the theme of 'an economically thriving community' The Nethy Bridge Community Action Plan set the priority to review the possibility of a community-owned renewable energy project involving looking into the feasibility for wind turbines, hydro scheme or solar farm to help fund other community initiatives. They propose the following actions to achieve this:

- Revisit up to date possibilities for community energy scheme and revenue generation for benefit of community projects. Feasibility study for locations for example Dell farm solar. Need to seek advice on funding sources.
- Consider a wider range of renewables for example Nano-hydro micro generators.
- Lobby ScotGov and Cairngorms National Park Authority to amend policy to allow for 2 – 3 community owned turbines for example above Dirdhu which is out of sight for most.
- Support for individual households to help with green energy generation.
- Advice sessions and help with funding installations.
- Encourage use of small domestic wind turbines.

Under the other suggestions the community would like to explore / see initiatives to help the community learn about better insulation and other energy efficiency measures

### **Newtonmore Community Action Plan: Looking to 2023**

Under the theme of 'a socially connected community' The Newtonmore Community Action Plan set the priority to explore harnessing renewable energy for local income generation (hydro / wind). They propose doing this by:

- Speaking with National Park Authority for support with possible hydro project using the Calder or Allt Lارايدh and also community wind turbines.
- Buy community shares in a local windfarm / add an extra Wind Turbine Generator to a development for example the Fintry ownership model, to provide income to village for further projects



Under the other suggestions the community would like to explore options for future proofing for houses with alternative heating supplies away from fossil fuels / home insulation measures.

### **Strathdon Community Action Plan 2016**

Within the Strathdon Community Action Plan there is interest in exploring the potential of a community-run project to raise revenue, which would strengthen the community. This might include identifying assets that could be purchased, developed and managed by the community. Of the various suggestions one included small-scale renewable energy schemes.

Under theme 9 of the action section for Housing and resident support the community sets out the aim of ensuring privately rented houses are in appropriate condition including in terms of energy efficiency and fuel costs.

An update to Strathdon Community Action Plan is being undertaken in November 2024.



## Baseline of energy infrastructure matters

This paper summarises a number of matters relating to energy infrastructure, including:

- Electrical transmission
- Electrical distribution
- Network capacity, including connection and generation
- Energy generation, including renewable energy and battery storage.

There are links between this policy area and climate change, economic development<sup>3</sup>, flood risk<sup>4</sup> and water management, heating and cooling<sup>5</sup>, housing, historic and cultural heritage<sup>6</sup>, landscape<sup>7</sup>, land use, soil and resources<sup>8</sup>, natural heritage, sustainable transport<sup>9</sup>, and zero waste<sup>10</sup>.

## Electricity infrastructure and capacity

The National Grid Electricity Ten Year Statement (EYYS) outline that over the next decade the British Electricity Transmission System faces growing system needs, driven primarily by low carbon and renewable generation. This will drive requirements for new network capability in the move towards the 2035 UK Government target of 100% zero carbon electricity system and beyond. In Scotland, future generation growth is primarily from renewable generation located at the peripherals of the network. Different solutions are required to ensure the high voltages are managed in central Scotland.

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<sup>3</sup> Topic papers on climate change, flood risk and water management, economic development, natural heritage and housing will be engaged on in 2025.

<sup>4</sup> Information on flood risk in the Cairngorms National Park is contained within the Strategic Flood Risk Assessment 2024. See <https://cairngorms.co.uk/wp-content/uploads/2024/03/Cairngorms-Strategic-Flood-Risk-Assessment-2024.pdf>

<sup>5</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/heating-and-cooling-survey/step1>

<sup>6</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Historic-and-cultural-heritage-Engagement-version.pdf>

<sup>7</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>

<sup>8</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/11/Land-use-soil-and-resources-Engagement-version.pdf>

<sup>9</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/sustainable-transport-survey/step1>

<sup>10</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/zero-waste-survey/step1>



## Electrical transmission

SSEN Transmission are responsible for the electrical transmission serving the distribution network that provides electricity to the residents and businesses in the Cairngorms National Park. The primary source of data of open data on SSEN Transmission can be accessed here:

- <https://www.ssen-transmission.co.uk/>

SSEN Transmission are investing over £20bn to upgrade the network infrastructure across the north of Scotland between now and 2030.

As a mass transporter of renewable energy, the north of Scotland electricity transmission network has a major role to play in supporting delivery of Scotland and the UK's 2030 net zero targets, connecting new onshore and offshore renewables generation and transporting the power generated to demand centres in the rest of Scotland and beyond.

This investment is critical to powering change and meeting Scotland and the UK's renewable energy targets, accelerating Scotland's delivery to meet the 2030 offshore wind connection dates, known as the Pathway to 2030.

The projects include new overhead lines, substations and subsea links and are part of a major upgrade of the electricity transmission network across Great Britain. More information on SSEN Transmission projects can be found here:

- <https://www.ssen-transmission.co.uk/projects/2030-projects/>

## SSEN Transmission projects

The Electricity Supply Operator's (ESO) plan for the North of Scotland sets out proposals for a number of projects to proceed now for delivery by 2035, which combined represent a potential estimated investment of over £5bn for SSEN Transmission (Figure 1).

SSEN Transmission have indicated that the 'progression of these investments will require an appropriate regulatory framework, including early confirmation that SSEN Transmission will be the Delivery Body, alongside securing all planning and regulatory approvals. They will also be subject to extensive public consultation to help inform the development of these new and upgraded network infrastructure requirements.'



In the Cairngorms National Park there is one project that falls within the National Park boundary, the Beaully Denny 400kV Upgrade. The project involves the upgrading of existing overhead power lines to accommodate home grown renewable electricity generation.

The existing Beaully – Denny overhead line is 137 miles long and runs from Beaully, north of Inverness, to Denny near Falkirk. It was the first 400kV overhead line built in the network area and became fully operational in 2015. There are two circuits on the overhead line, one running at 400kV and the other at 275kV. Scottish and Southern Energy Networks Transmission are now required to upgrade the second circuit to 400kV to help transport large scale renewable generation from the North of Scotland to areas of demand.

Due to the overhead line being constructed for 400kV operation on each of its two circuits but put into service with one operating at the lower voltage of 275kV, Scottish and Southern Energy Networks transmission team do not anticipate any alterations to the existing overhead line will be required in order to upgrade it. More details on the completed project can be found here:

- <https://www.ssen-transmission.co.uk/projects/project-map/beaully-denny-400kv-upgrade/>

The VISTA (Visual Impact of Scottish Transmission Assets) project between Boat of Garten and Nethy Bridge has moved into the operational phase. The Cairngorms National Park schemes saw 12km of overhead line and 46 existing transmission towers near the villages of Boat of Garten and Nethy Bridge replaced with underground cabling. As part of the VISTA initiative, a 132kV twin cable section of the existing 132kV double overhead line circuit has been installed between Beaully and Boat of Garten. More details on the completed project can be found here:

- <https://www.ssen-transmission.co.uk/projects/project-map/vista---boat-of-garten-to-nethy-bridge/>

SSEN Transmission's Projects delivering a network for Net Zero: Pathway to 2023 also sets out the new Peterhead to Beaully transmission line (Figure 1). Although the planned new Peterhead to Beaully 400kV transmission line project will not directly impact the National Park, its delivery will bring indirect benefits in terms of reinforcing the electricity supply to the distribution network operating within the National Park and may help to



improve capacity for any future renewable energy generating which may come forward in the next ten-year Local Development Plan period.



Figure 1 Planned improvements to the SSEN Transmission network in the central highlands. Map provided by SSEN Transmission, 2024.

In the case of proposals for new or improvements to existing grid infrastructure, it would be preferable for underground connections to be utilised where possible. However, SSEN Transmission have requested that the National Park Authority needs to be mindful that new electrical transmission grid projects may need to be administered within the next ten-year Local Development Plan which could not be undergrounded due to geological constraints or that the environmental impact of excavating carbon-rich soils may outweigh the benefits of the development, for example. Therefore, a pragmatic approach would be taken in relation to the supporting policy in the Proposed Plan. SSEN Transmission have communicated, however, they recognise the starting point, and would be attempting to underground as much infrastructure as possible in National Parks due to the special qualities of its landscape and direct economic benefits this provides to local economies through tourism.





## Electrical distribution

Electricity doesn't reach the homes and businesses of the residents in the National Park via the transmission network, it's the distribution network that handles this part of the operation. SSEN Distribution are the responsible organisation who 'distribute' the electricity to the end users in the North of Scotland and the National Park. They connect the transmission network to where electricity is used, 'distributing' it at lower, more usable voltages.

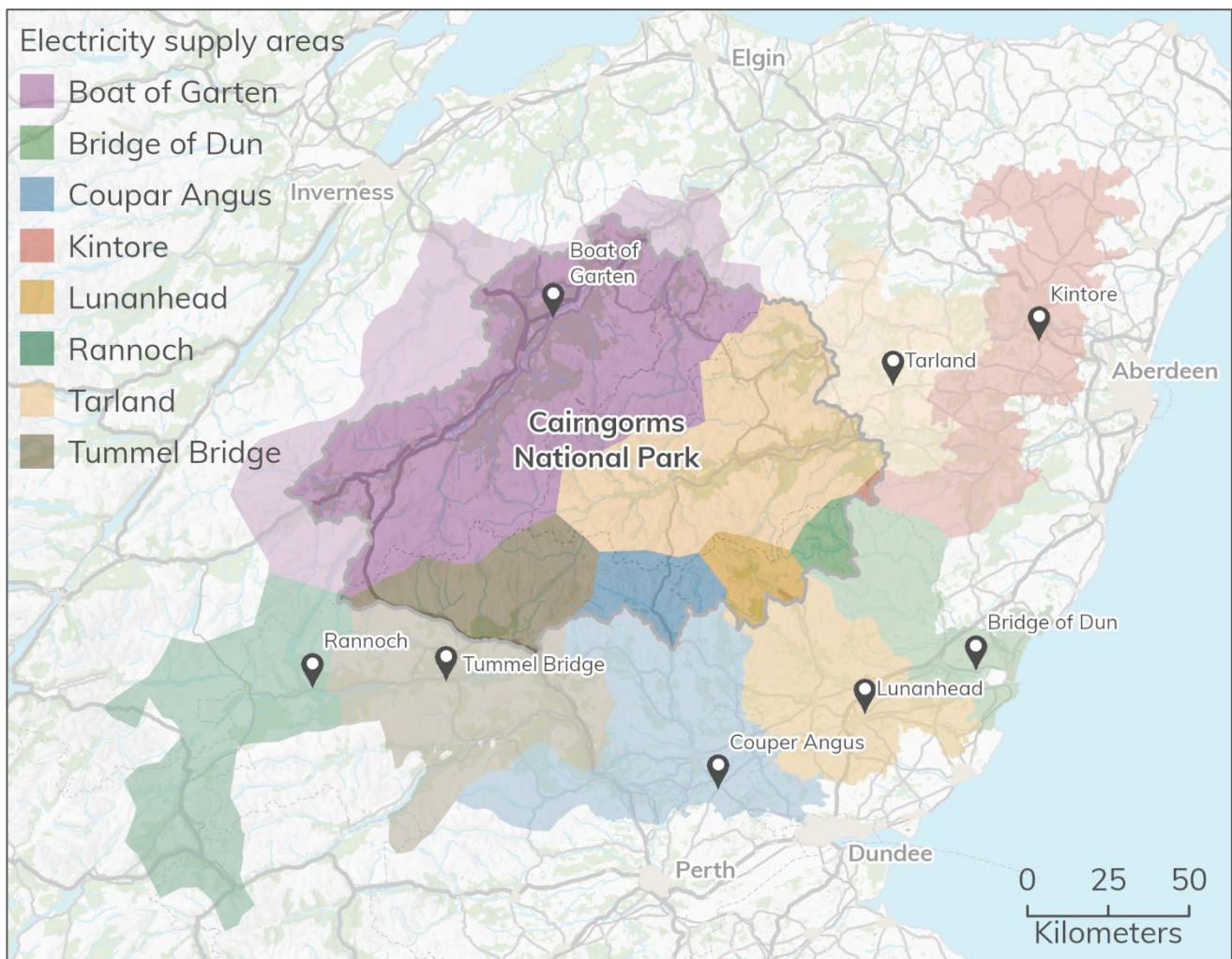


Figure 2 Grid Supply Points and Grid Supply Areas serving areas covered by the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © SSEN Distribution, 2024.

The Grid Supply Points are where the transmission network is connected to the Distribution network. Grid Supply Point are substations that act as the interface between SSEN's 132kV network and the transmission network operated at 400kV or



275kV. The supply of electricity enters the distribution network through the Grid Supply Points (GSP's) which serve supply areas (Figure 2).

Each of the Grid Supply Points shown in Figure 2 are then connected to smaller Substations within the supply areas that provide electricity to the areas of the National Park. It is worth noting that some of the substations are outwith the National Park boundary but are distributing electricity to areas within the National Park boundary (Figure 3). Each of the substation located within a supply area are connected to the Grid Supply Point for that area.

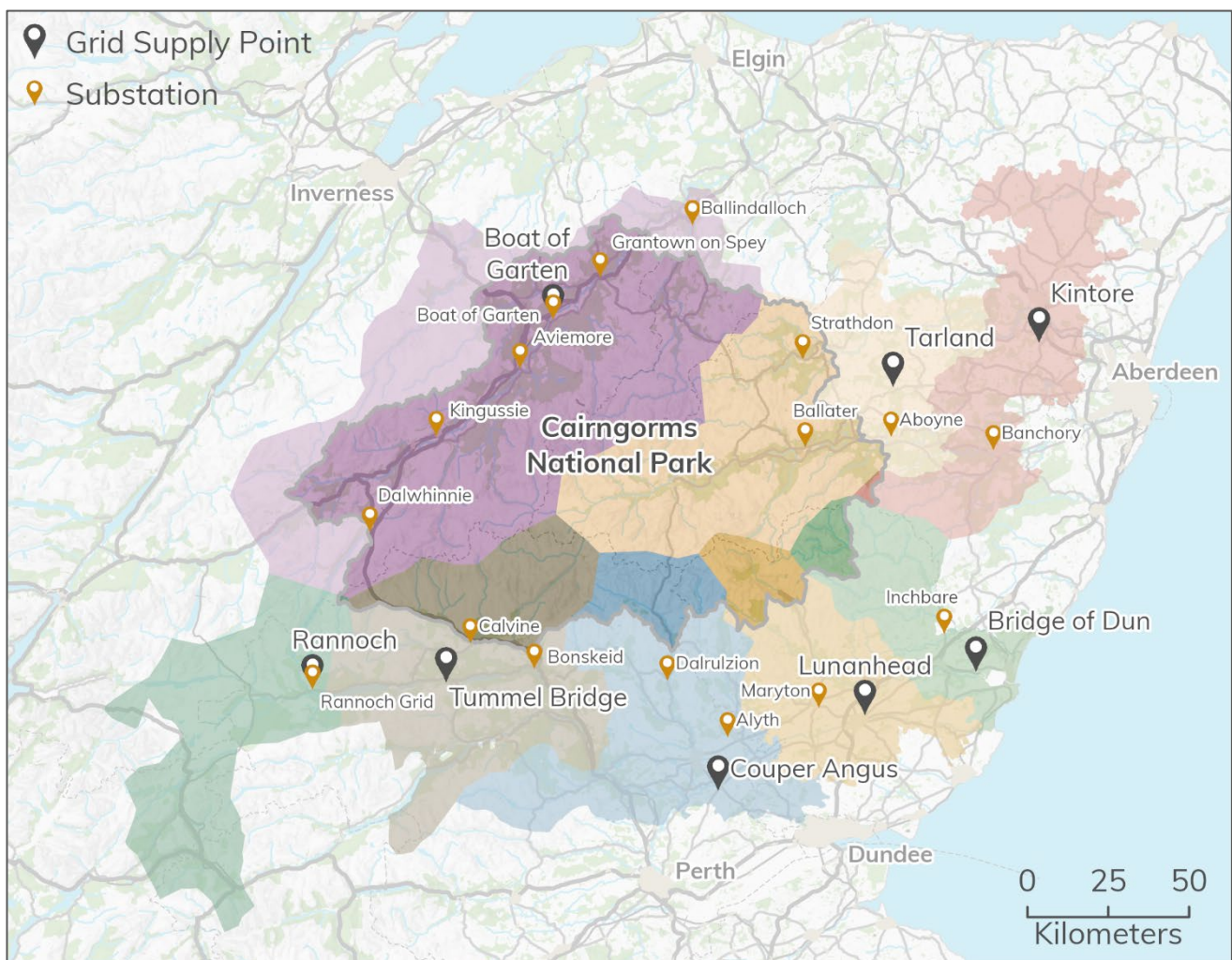


Figure 3 Substations that distribute electricity to the areas of the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © SSSEN Distribution, 2024.





## Network capacity

SSEN Distribution publish network maps that provide an indication of their network's capability to connect loads greater than 200amps and generators applying under the G99 process to major substations (Figure 4).

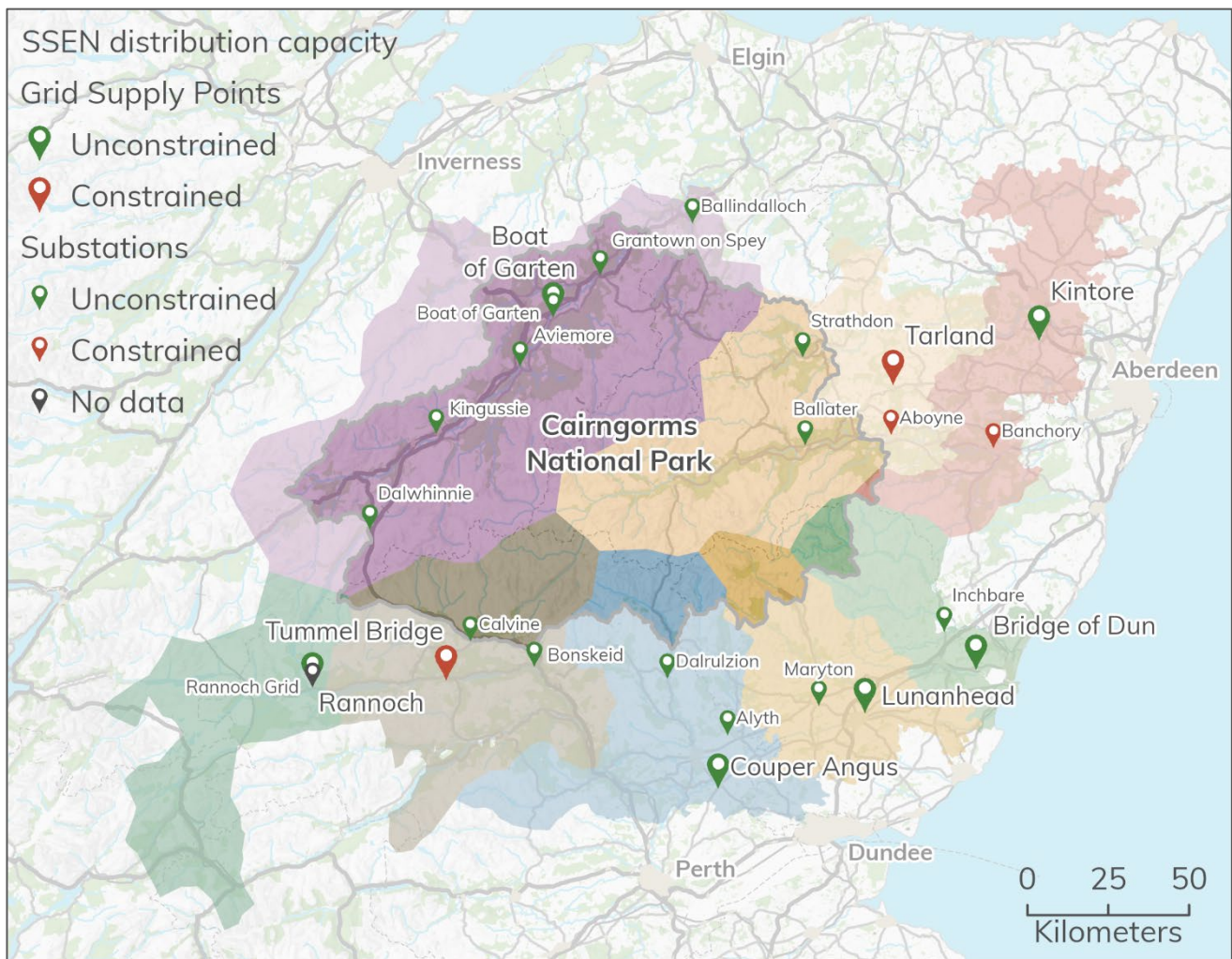


Figure 4 Network Capacity – classification of Grid Supply Points and Substation SSEN Distribution assets serving the areas of the Cairngorms National Park in terms of the Distribution status. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © SSEN Distribution, 2024.

The data provides constraint information down to primary substation level. The data provides an indication of the network's capability and provides information on the potential opportunities to connect to the network. The distribution network data for the SSEN Distribution assets in the National Park which includes the Grid Supply Points and substations reports all currently have an unconstrained transmission status attributed to them. When looking at the SSEN Distribution asset status', there are a small number of



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assets which have a constrained distribution status attributed to them. If there is a constrained substation this means the network does not have the capacity to transport electricity required or produced from a new connection. If the transmission or distribution works are constrained or partially constrained, then reinforcement works will be needed to connect to the network here which will incur additional costs to complete the connection. If constraint statuses are partially or fully constrained further information is provided on what works are underway and what the completion date is.



### Detailed substation information: network capacity

SSEN Distribution provide detailed breakdown of circuit information at substation locations such as voltage, constraint levels, ongoing works at transmission and distribution levels (Table 2).

Table 2 Detailed Capacity Information on SSEN Distribution assets in the Cairngorms National Parl. Data from SSEN Distribution, 2024.

Location	Type	Transmission status	Distribution status	Grid Supply Point	Voltage (kV)	Constraint status
Boat of Garten	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Dalwhinnie	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Kingussie	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Aviemore	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Boat of Garten	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Grantown on Spey	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Ballindalloch	Substation	Unconstrained	Unconstrained	Boat of Garten	33 / 11	Unconstrained
Tummel Bridge	Grid Supply Point	Unconstrained	Constrained	Not applicable	132 / 33	No information available
Calvine	Substation	Unconstrained	Unconstrained	Tummel Bridge	33 / 11	Unconstrained
Tarland	Grid Supply Point	Unconstrained	Constrained	Not applicable	132 / 33	A new primary transformer to be established between Aboyne and Ballater



Location	Type	Transmission status	Distribution status	Grid Supply Point	Voltage (kV)	Constraint status
						(expected completion March 2023).
Strathdon	Substation	Unconstrained	Unconstrained	Tarland	33 / 11	Unconstrained
Ballater	Substation	Unconstrained	Unconstrained	Tarland	33 / 11	Unconstrained
Bridge of Dun	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Rannoch	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Kintore	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Lunanhead	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Couper Angus	Grid Supply Point	Unconstrained	Unconstrained	Not applicable	132 / 33	Unconstrained
Bonskeid	Substation	Unconstrained	Unconstrained	Tummel Bridge	33 / 11	Unconstrained
Dalrulzion	Substation	Unconstrained	Unconstrained	Coupar Angus	33 / 11	Unconstrained
Banchory	Substation	Unconstrained	Constrained	Kintore	33 / 11	Distribution re-enforcement completion date expected March 2023.
Aboyne	Substation	Unconstrained	Constrained	Tarland	33 / 11	Distribution re-enforcement completion date expected March 2023.



Location	Type	Transmission status	Distribution status	Grid Supply Point	Voltage (kV)	Constraint status
Maryton	Substation	Unconstrained	Unconstrained	Lunanhead	33 / 11	Unconstrained
Alyth	Substation	Unconstrained	Unconstrained	Coupar Angus	33 / 11	Unconstrained
Rannoch Grid	Substation	No Information available	No information available	Rannoch	No information available	Unconstrained
Inchbare	Substation	Unconstrained	Unconstrained	Bridge of Dun	33 / 11	Unconstrained



## **SHEPD Network Development Report (May 2024)**

This is the Scottish and Southern Electricity Networks Distribution's (SSEN Distribution) 2024 Network Development Report (NDR) for the Scottish Hydro Electric Power Distribution (SHEPD) licence area. The Report is part of a suite of new information that sets out SSEN Distribution's longer-term Network Development Plans for its Distribution networks.

It gives users access to information pertaining to SSEN Distribution's network plans for the next ten years in relation its 11kV networks and above, allowing all interested parties to better assess and identify the future opportunities to use and engage with SSEN Distribution and the network. The report includes:

- A description of those parts of the Distribution Network Operator's (DNO's) network that are most suited to new connections and distribution of further quantities of electricity.
- A description of those parts of the Distribution Network Operator's network where reinforcement may be required to connect new capacity and new loads.
- Information that supports the secure and efficient operation, coordination, development and interoperability of the interconnected system.
- Flexibility or Energy Efficiency Services that the Distribution Network Operator's reasonably expects to need as an alternative to reinforcement.

The Report and SSEN Distribution's wider Network Development Plan (NDP) build on existing publications, including the Long-term Development Statements and Flexibility Services publications, which provide information on SSEN Distribution's nearer-term opportunities and key focus areas as they continue to develop and improve the network to meet the changing needs and requirements of all stakeholders.

The Report provides a comprehensive view of SSEN Distribution's network, bringing together their plans for the current price control period (RIIO-ED2, which runs until March 2028) and initial programmes for subsequent years, up to 2034.



## **Scottish Hydro Electric Power Distribution (SHEPD) interventions**

This section provides information on planned interventions in the SHEPD licence area, within or affecting distribution networks on the Cairngorms National Park. There are two planned interventions potentially affecting supply in the National Park, namely at Tarland and Tummel Bridge.

### **Tarland**

Tarland Grid Supply Point is located within the Aberdeenshire region of the SHEPD licence area and currently supplies approximately 10,237 customers. The area it serves partially covers part of the area of the National Park (Figure 2) Tarland Grid Supply Point currently supplies the following primary substations; Aboyne, Ballater, Mossat, Strathdon, Whitehouse. There are plans to supply a new substation at Braemar:

- The planned reinforcement project in initial development at Braemar will deliver a new proposed substation that will establish a new twin 6.3MVA primary substation in the Braemar area.

Tarland Grid Supply Point group reinforcement projects in detailed development and delivery include a project to separate Aboyne Primary from the Tarland 33kV ring and establish a new Primary Substation in Braemar.

### **Tummel Bridge**

Tummel Bridge Grid Service Point is located within the Perthshire region of the SHEPD licence area and currently supplies approximately 6,836 customers. The Grid Service Point supplies the following primary substations; Aberfeldy, Bonskeid, Calvine, Fincastle, Kinloch Rannoch, Pitlochry and Tummel Bridge.

Tummel Bridge Grid Service Point reinforcement projects in initial development within the National Park include a project to replace the single 2.5MVA transformer with a 6.3MVA unit at the Calvine substation.

## **SSEN Distribution ED2 (2023 – 2028) capital projects**

Additional SSEN Distribution ED2 (2023 – 2028) capital projects that are planned for delivery in the Cairngorms National Park are shown in Table 3. The ED2 period is SSEN Distribution's price control five-year timeline whereby they are provided with suitable funds from Ofgem to complete certain projects. SSEN Distribution have informed the National Park Authority that there will be further projects in the ED3 period, post 2028 for the next five years but these are still being developed. In addition to the above there will be a large volume of new connection projects whereby SSEN Distribution are providing supplies to new homes, industrial buildings, etc. These are more reactive





projects lead by customers requesting supply and are part of SSEN Distribution's business as usual activities.

Table 3 List of SSEN Distribution ED2 (2023 – 2028) Capital Projects.

Project number	Project name	Grid reference
PH002739	Aboyne and Ballater 11kV network reinforcement	NJ47370192
PH003314	Ballater River Dee Crossing Solution	NO36829488
PH004221	Tarland Ring Voltage Solution	Various locations on Electric Office
PH004324	AONB 806.001 Braemar / Marr Lodge Linn o Dee	NO13029085
PH003316	Dalwhinnie 33kV CB and Pole Structures Replacement	NN63678467

Coupar Angus Grid Supply Point T2 was disconnected from network in May 2022 after it tripped the local protection. Coupar Angus T2 will be replaced with a 6.3MVA transformer. It is expected to be completed in September 2024.

## **SHEPD Long-term Development Statement**

Long-term development statements provide information for anyone connecting to our distribution system at extra high voltage (EHV) level (including high voltage busbar of primary substations). It is designed to help to identify and evaluate opportunities for entering into arrangements with SSEN Distribution relating to use of system or connection. The statements include the following: network data; the likely development of our distribution system; plans for modifying the distribution system; and identification of parts of the distribution system that are likely to reach capacity limit in the next years. The information provided in the SHEPD Long Term Development Statement is reflected in the SHEPD Network Development Report.

## **The Local Energy Net Zero Accelerator (LENZA) tool**

The Local Energy Net Zero Accelerator (LENZA) tool has been developed by SSEN to support users in their strategic energy planning endeavours. At the time of writing this tool is only available to the local authorities in Scotland, however there are plans to include the National Parks at a later point. The tool is designed to support local area energy plans as well as informing the production of the local heat and energy efficiency strategies (LHEES) produced by the local authorities. Local authority local heat and





energy efficiency strategies are covered in the Heating and cooling evidence paper<sup>11</sup>. The platform (currently in a beta phase) provides local authorities and their delivery partners with data and modelling tools that support informed decision making, including information on network capacity, building stock, and energy consumption.

## Development site implications

A key initial consideration of the site selection process will be identifying any existing SSEN Distribution assets on the site. Figure 5 shows the locations of all substations in the National Park, including Primary Substations, ground and pole mounted distribution units.

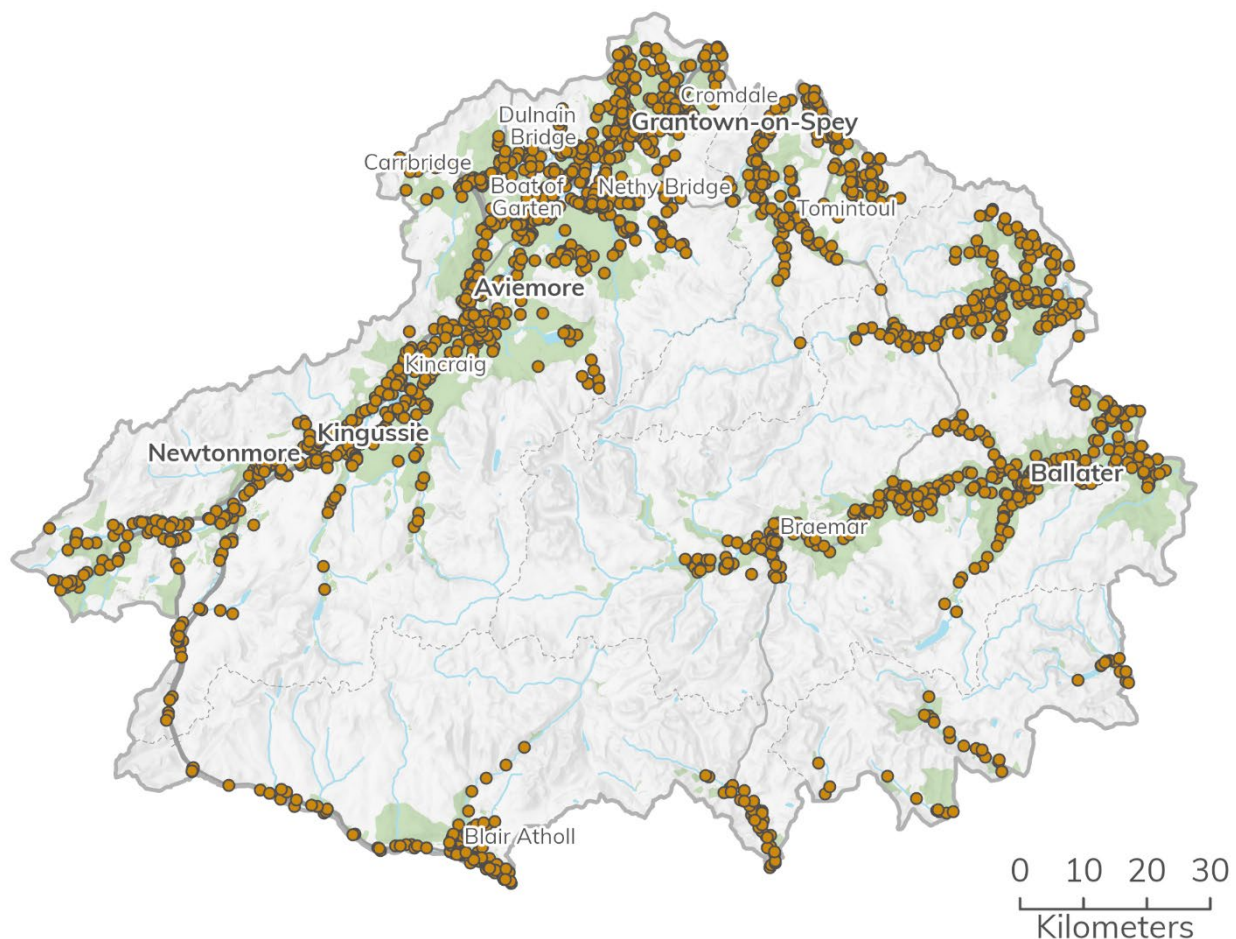


Figure 5 Map showing all SSEN Distribution substations (including Primary Substations) in the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © SSEN Distribution, 2024

<sup>11</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/heating-and-cooling-survey/step1>



During the preparation of the Proposed Plan, the Park Authority will engage with SSEN Distribution and Transmission as part of the site assessment process. This will help identify any constraints and / or opportunities that may exist in relation to potential site allocations and proposals.

## **Energy generation**

In order to safeguard the special landscape qualities of the Cairngorms National Park, the Scottish Planning Policy has historically implemented restrictive policies on large scale renewable energy development in the National Park. This policy approach has been carried forward by National Planning Framework 4. As a result, developments of energy generating infrastructure have been relatively minor in scale and number.

At a national level the Scottish Energy Statistics Hub sets out the national targets for renewable energy generation. One of the headline targets in Scotland's Energy Strategy is for the equivalent of 50% of the energy for Scotland's heat, transport and electricity use to come from renewable sources. This is also one of Scotland's 81 indicators in the National Performance Framework.

Scotland's renewable energy target is calculated by the sum of renewable electricity generation and biofuel use, divided by Scotland's total final energy consumption. Progress towards this target comes from both increasing renewable generation and falling energy consumption.

In 2021 Scotland consumed 137,412 GWh total final energy and generated 34,116 GWh energy from renewable sources. The energy that Scotland generates from renewable sources is equivalent to 25% of total final consumption. The figures provided here are based on final electricity consumption rather than gross electricity consumption and will vary with those presented in the National Performance Framework

Figure 6 shows the total kW of renewable energy generation development granted permission in the Cairngorms National Park, according to the available data from planning permissions granted by the Park Authority and the five local authorities covering the National Park's area. It should be noted that this may not reflect the amount actually generated, due to some permissions not being implemented and also variations in predicted and actual generation once built. Furthermore, due to the small population size in the National Park and its rural nature, larger developments can skew the annual total figures.

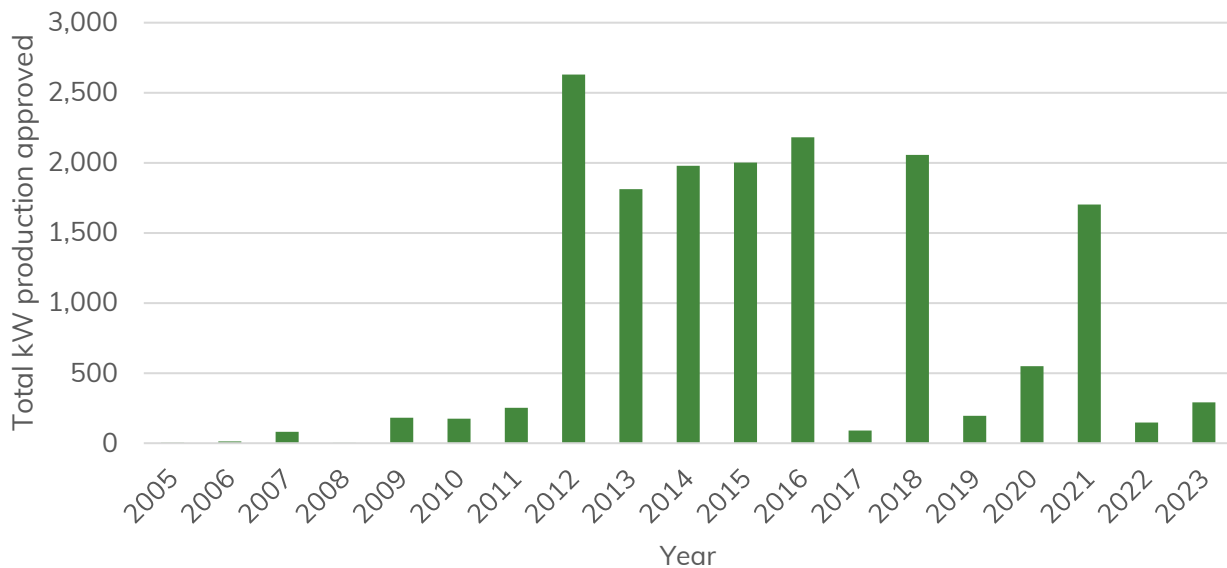


Figure 6 The total annual kW of installed renewable energy generation delivered through planning consents in the National Park, 2005 – 2023 (Data available through planning applications submitted to Cairngorms National Park Authority and local authorities).

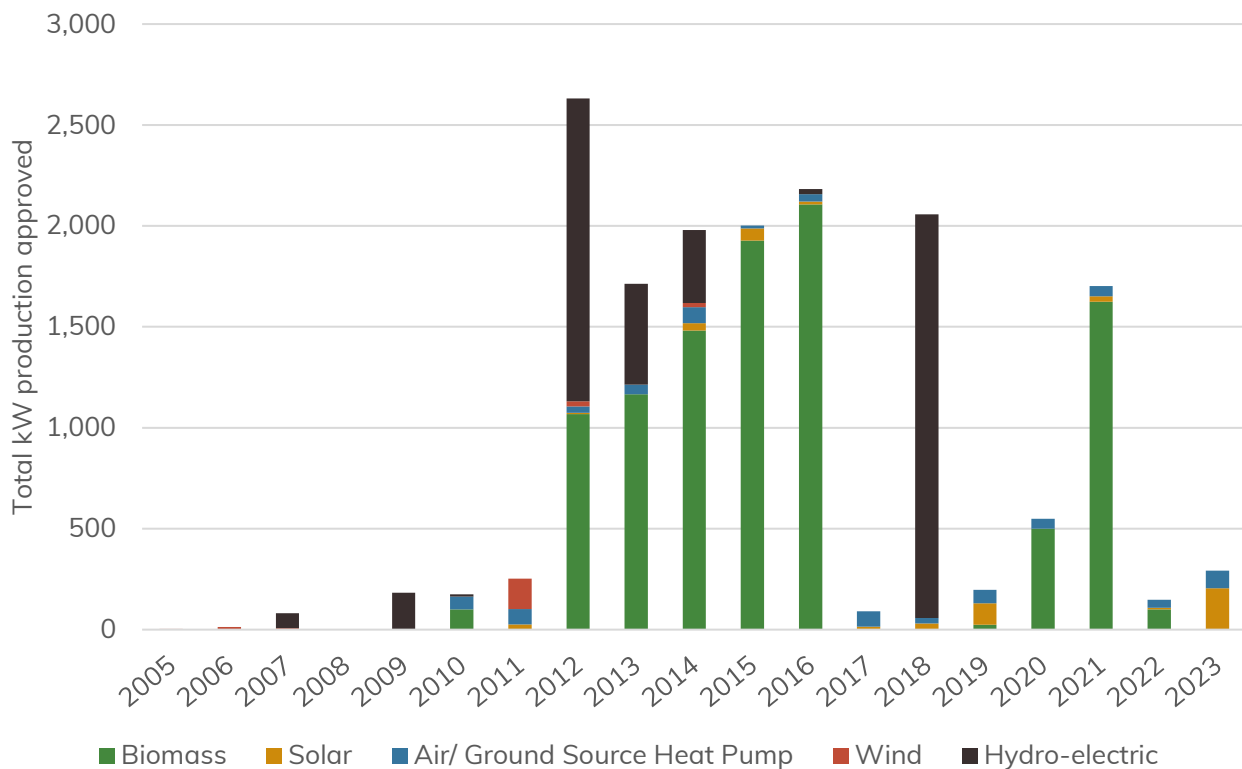


Figure 7 Total kW of renewable energy production approved via planning applications per type per year from 2005 - 2023. (Data available through planning applications submitted to Cairngorms National Park Authority and local authorities).

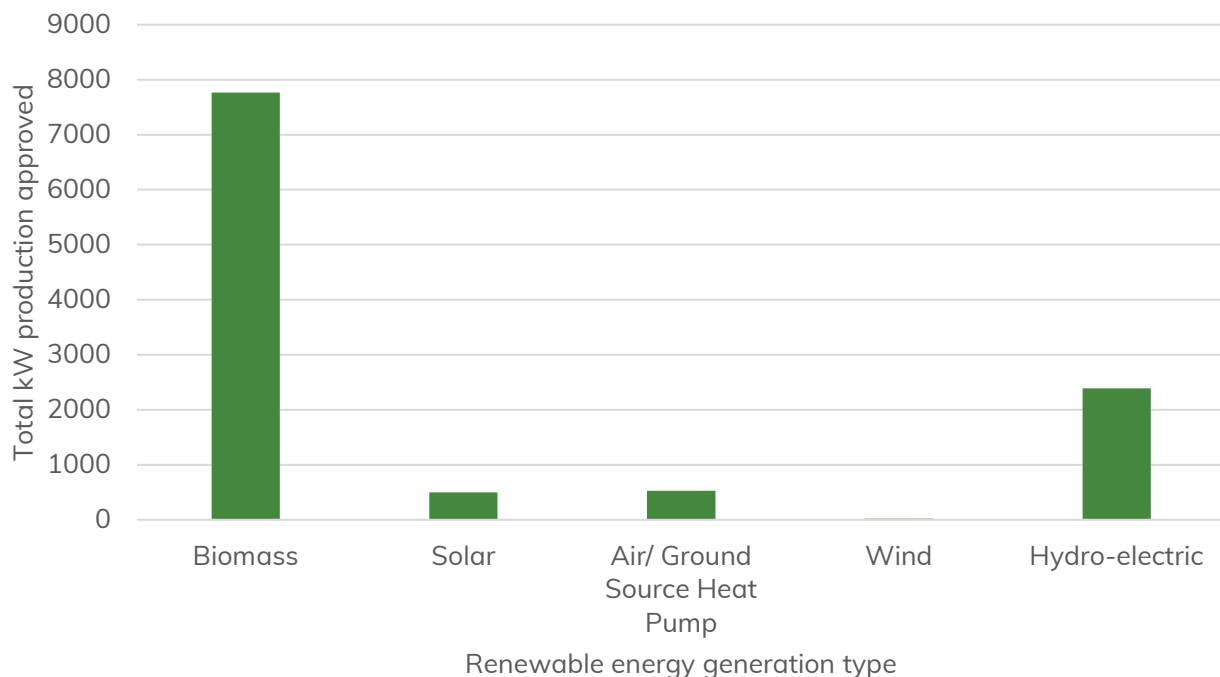


Figure 8 The total annual kW of planned renewable energy installation (all types) by year 2014 – 2023 reflecting approved planning applications. (Data available through planning applications submitted to the National Park Authority and local authorities).

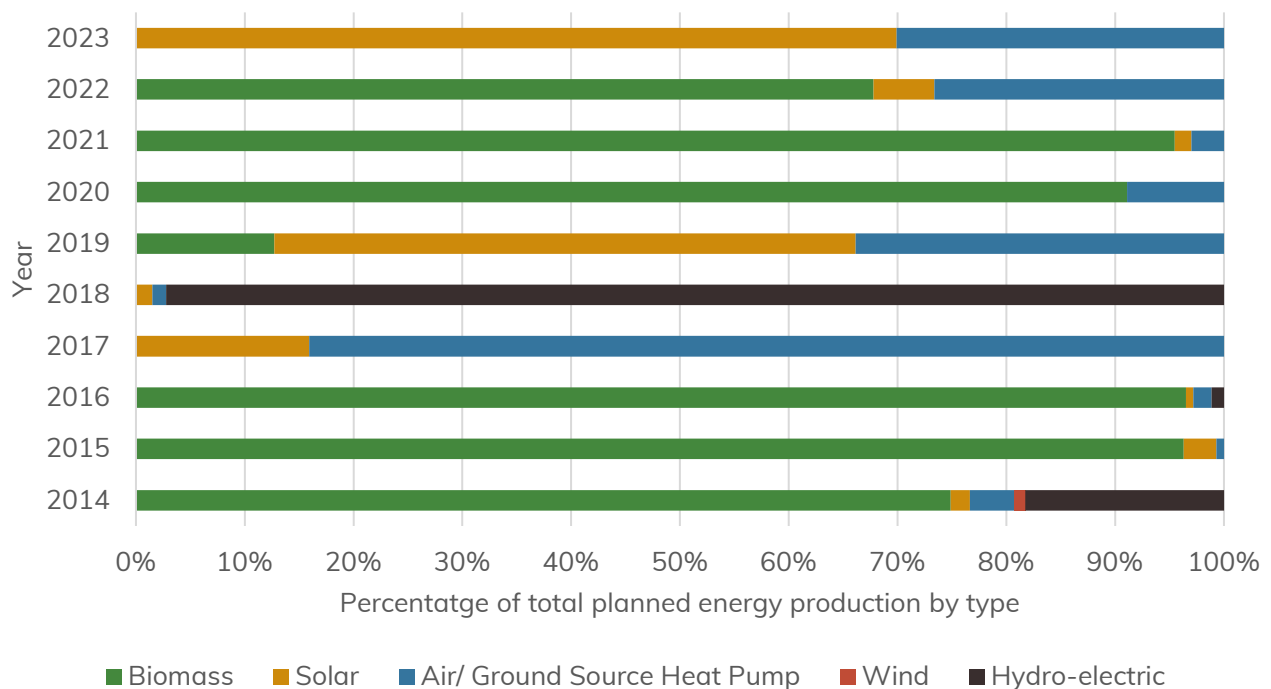


Figure 9 Proportion of energy production mix by type per year of granted planning applications from 2014 – 2023. (Data available through planning applications submitted to the National Park Authority and local authorities).



Installing certain renewable energy technologies, such as solar panels and biomass boilers, is within the permitted development rights of most householders and businesses provided certain conditions are met. This means that no data is available on energy generation installed under permitted development rights as it is not recorded officially. Therefore, does not offer a comprehensive indication of the amount of energy generated within the Cairngorms National Park – the figures are likely to be higher. Guidance on micro-renewable energy developments, which is not limited to those developed under permitted development rights, is available from a range of sources, including NatureScot<sup>12</sup> and Historic Environment Scotland<sup>13</sup>.

## **Solar**

There are no large or medium scale solar farms in the National Park. The majority of the applications are small scale residential energy generation serving the immediate buildings with excess sold back to the National Grid. In terms of overall numbers there are relatively few applications submitted which include solar energy production (Figure 11).

With respect to approved planning applications within the National Park for solar energy production development between 2016 and 2019 this was increasing. During 2020 no applications were submitted or approved, likely reflecting the development environment imposed by the Covid-19 Pandemic. However, post pandemic further solar energy development has been approved and 2023 saw a significant increase in the combined kW of solar energy generation applications being approved at 204.4kW.

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<sup>12</sup> <https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Micro-renewables-and-the-natural-heritage-guidance-note-revised-2016.pdf>

<sup>13</sup> See <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=7604a41c-077c-42ab-941f-a60b009a4f95>

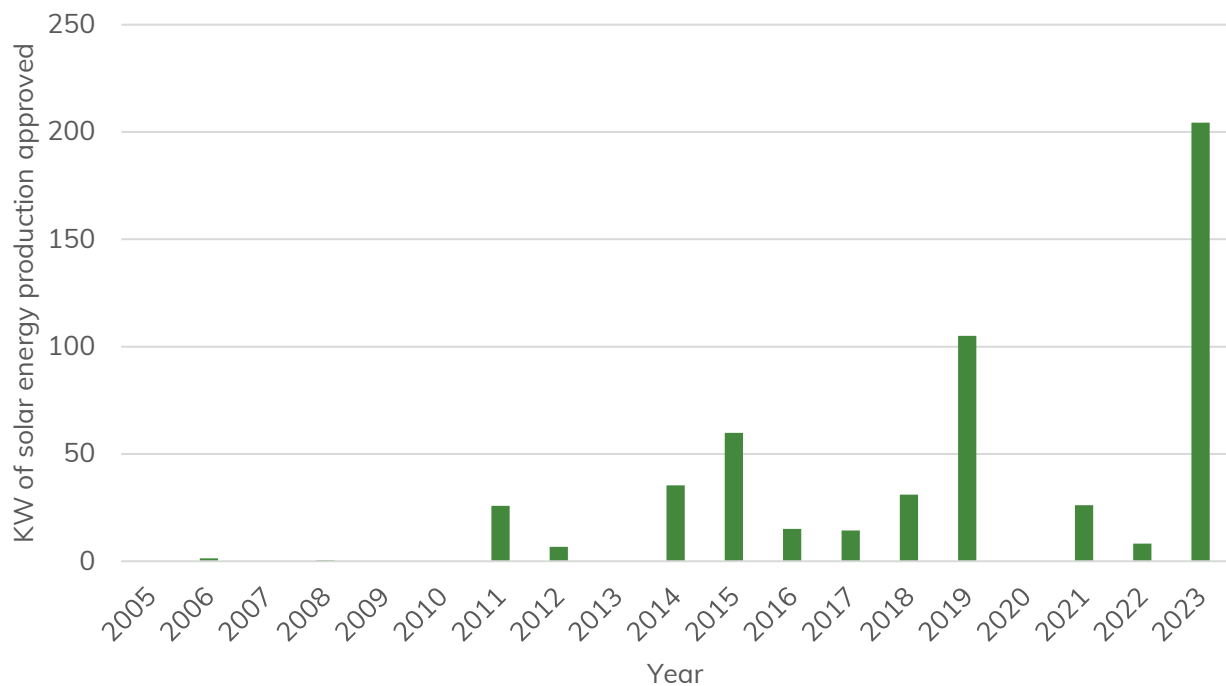


Figure 10 Annual solar kW capacity in terms of planning applications approved for solar energy development in the Cairngorms National Park, 2005 – 2023. (Data available through planning applications submitted to the National Park Authority and local authorities).

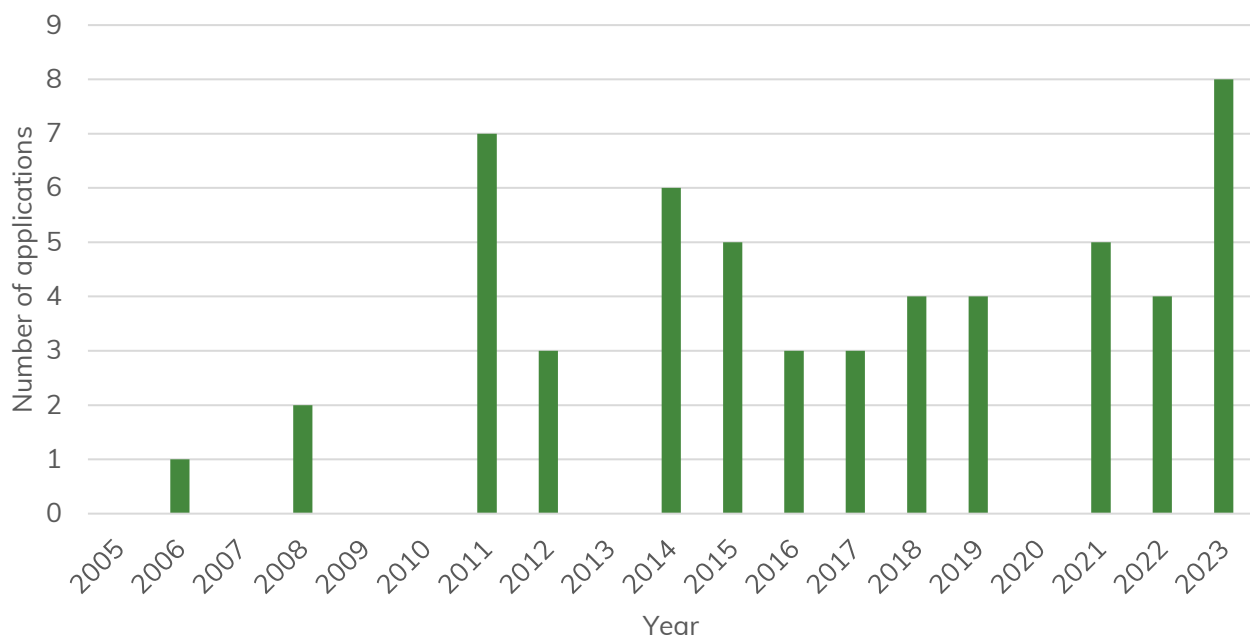


Figure 11 Number of individual applications submitted annually for solar energy generation. (Data available through planning applications submitted to the National Park Authority and local authorities).



NatureScot provide general pre-application and scoping advice for solar farms<sup>14</sup>, and proposed developments within the National Park will need to consider a range of environmental considerations, factors, including:

- Protected sites and their qualifying features, including Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas and Ramsar sites.
- Protected species, such as bats.
- The special landscape qualities of the National Park.
- Wild land designations.
- Carbon rich soils, such as peatlands.

Matters relating to landscape are considered in more detail in the Landscape evidence report<sup>15</sup>, while those relating to carbon rich soils are covered in the Land use, soil and resources evidence paper. A further evidence report covering matters relating to natural heritage is currently being prepared and will be subject to engagement in 2025.

## **Wind**

National Planning Framework 4's Policy 11 (b) states 'Development proposals for wind farms in National Parks and National Scenic Areas will not be supported.' This policy approach is reflected in the adopted Local Development Plan 2021, which states that, 'Large-scale commercial wind turbines are not compatible with the landscape character or special landscape qualities of the National Park and will not be supported.' Large scale is defined as 'more than one turbine and more than 30m height'. This approach is supported by Policy C2 of the National Park Partnership Plan 2022.

The development for small-scale wind energy could be acceptable under the current policy framework if it meets the following criteria: to minimise impacts from noise and shadow flicker and minimises impact on all aviation interests. The Proposed Plan will reflect the existing policy framework for wind energy development in the National Park, limiting the size and scale of such development.

Matters relating to the landscape impact of wind farm and wind turbine development are covered within the landscape evidence paper<sup>16</sup>.

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<sup>14</sup> See <https://www.nature.scot/doc/general-pre-application-and-scoping-advice-solar-farms>

<sup>15</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>

<sup>16</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>





In terms of planning applications for wind energy development there has not been any submitted or granted since 2014 (which was single application for a 20kW wind turbine in Grantown on Spey). The last significant (in terms of production capacity within the National Park context) wind energy generation application was granted in 2011 for a 150kW wind turbine at the Lecht ski Resort (Figure 7).

## Hydroelectric

Hydroelectric energy generation make up some of the largest individual energy (kW) producing developments in the Cairngorms National Park. The largest schemes are located at Glen Muick where there is a 2,000kW hydroelectric development, and Blair Atholl where there is a 1,500kW generating hydroelectric scheme. There are also a number of small scale private and community Hydroelectric schemes (Table 4).

Table 4 List of planning applications for hydroelectric schemes in the National Park from 2005 – 2023. (Data available through planning applications submitted to the National Park Authority and local authorities).

Location	Power	Year approved	Planning reference
Strathdon	75kW	2007	06/456/CP
Strathdon	11kW	2010	09/014/CP
Glen Clova	180kW	2009	09/0117/CP0
Dalwhinnie	99kW	2013	2011/0411/DET
Kingussie	700kW	2014	2011/0281/DET
Blair Atholl	1,500kW	2012	2012/0055/DET
Kingussie	20kW	2014	2013/0376/DET
Braemar	100kW	2013	2013/0261/DET
Glenferstate	100kW	2013	2013/0192/DET
Glen Prosen	100kW	2013	2013/0125/DET
Balmoral	100kW	2013	2013/0067/DET
Braemar	100kW	2013	2013/0261/DET
Glen Isla	100kW	2014	2013/0409/DET
Glen Esk	57.5kW	2014	2014/0205/DET
Glen Esk	84.1kW	2014	2014/0207/DET
Glen Esk	100kW	2014	2014/0206/DET
Laggan	9MW	2015	2015/0339/DET
Glen Muick, Ballater	25kW	2016	2016/0134/DET
Glen Muick, Ballater	2,000kW	2018	2018/0063/DET



Ballater, Laggan, and Newtonmore community action plans, specifically mentioned the desire to explore the future possibility of developing community hydroelectric schemes.

There is also a small (2.5MV) hydroelectric scheme at Cuaich Power Station at Loch Cuaich by Dalwhinnie, Inverness-shire PH19 1AF Scotland. The plant is owned and operated by Scottish and Southern Energy and has been operating since 1959.

Pumped Hydro Storage is one of the national developments identified for the North region in National Planning Framework 4. NatureScot provide guidance on the natural heritage considerations relating to hydroelectric developments<sup>17</sup>, and proposed developments within the National Park will need to consider a range of environmental factors, including:

- Protected sites and their qualifying features, including Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas, and Ramsar sites.
- The special landscape qualities of the National Park.
- National Scenic Areas.
- Wild land designations.
- Flood risk, water quality and river flow rates.

These matters are considered in more detail in the Landscape evidence report<sup>18</sup>. Flood risk, including the risk from reservoir inundation, is considered by the Strategic Flood Risk Assessment prepared to support the preparation of the Local Development Plan.<sup>19</sup> Further evidence reports covering matters relating to natural heritage and flooding and water management are currently being prepared and will be subject to engagement in 2025.

### **Battery storage**

In terms of National Planning Framework 4 Policy 11, battery storage is regarded as a green technology and considered a form of energy generation. Battery Energy Storage Systems (BESS) allow excess energy generated through renewable means to be stored at low demand periods for use when generation cannot meet demand at a later point.

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<sup>17</sup> See <https://www.nature.scot/sites/default/files/2018-05/A1521095%20-%20Hydroelectric%20schemes%20and%20the%20natural%20heritage%20-%20Dec%202015.pdf>

<sup>18</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>

<sup>19</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/03/Cairngorms-Strategic-Flood-Risk-Assessment-2024.pdf>



In the Cairngorms National Park, only one application for battery storage development has been submitted and approval was granted in September 2022. The development was for the construction of a battery energy storage facility (49.9 MW), control building, switch room, battery storage containers, inverter containers, landscaping and associated works near Boat of Garten. Conditions attached to the approval notice included (but not limited to) a decommissioning and restoration plan, landscaping plan and noise impact assessments to ensure noise does not exceed 30Db. Policy surrounding future developments for battery storage may need to reflect the conditions set out in this application. The application and its determining form the only evidence of prior Battery Storage applications in the National Park.

### **Bioenergy**

The majority of applications for biomass in the National Park to date have been for systems that utilise a wood-chip or pellet burning system.

Biogas technology represents a potential future development opportunity for farm diversification in the National Park, however, to date no application pertaining to this type of energy generation have been forthcoming. It is expected that the emerging Bioenergy Policy, once adopted will set out the emerging role for bioenergy with carbon capture and storage in Scotland.

Depending on the scale of expansion of the bioenergy industry in Scotland, there may be implications (positive or negative) for land use and the natural heritage. At a National level, NatureScot highlight the need to monitor the demand for bioenergy feedstocks, quantities produced, trade flows, changes in land use and seek to understand the potential impacts on biodiversity<sup>20</sup>.

### **Hydrogen**

The UK Government will take decisions on the role of hydrogen in the Great Britain gas network from 2026. Given the Scottish Government's proposed hydrogen use hierarchy and the absence of a gas network in the National Park, hydrogen is not currently

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<sup>20</sup> NatureScot's position on bioenergy is set out in their Position Statement: Bioenergy and natural heritage (August 2013): <https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Position-Statement-on-Bioenergy-and-the-Natural-Heritage-Final-2013.pdf>

Background to this paper is available here: <https://cairngorms.co.uk/wp-content/uploads/2024/11/NatureScot-Background-to-Position-Statement-on-Bioenergy-and-the-Natural-Heritage-2013.pdf>

NatureScot have informed the Park Authority that these documents are now out of date, and that there will be an updated version of the position statement provided by the Scottish Government as a result of the recent consultation on the Draft Bioenergy Policy Statement 2024.



considered as a significant potential energy resource in the Cairngorms National Park. There are no planned hydrogen projects identified on Scottish Government's Hydrogen Asset Map in the Cairngorms National Park<sup>21</sup>.

Hydrogen does have the potential to help decarbonise the energy used in distilleries, of which there are many in the National Park.

### **Energy from waste**

Waste management within the National Park is the responsibility of the local authorities that cover its area. Matters and implications relating to the local development plan are considered in the zero waste evidence paper<sup>22</sup>.

There are no energy from waste plants within the Cairngorms National Park and there are no proposals for developing one. Due to the location and scale of waste management facilities in the National Park, there are unlikely to be any opportunities for such facilities to operate viably.

Figure 12 shows the location and types of energy from waste plants within local authorities covering and surrounding the National Park. The Highland Council have a 5-year contract that commenced 1 January 2023 to deliver residual waste to Viridor Dunbar Waste Services Limited's energy from waste facility in Dunbar, East Lothian, which is not shown on the map.

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<sup>21</sup> See <https://experience.arcgis.com/experience/413bd1f94258456a8538f42c19f9e4be>

<sup>22</sup> See <https://cairngormsldp.commonplace.is/en-GB/proposals/zero-waste-survey/step1>

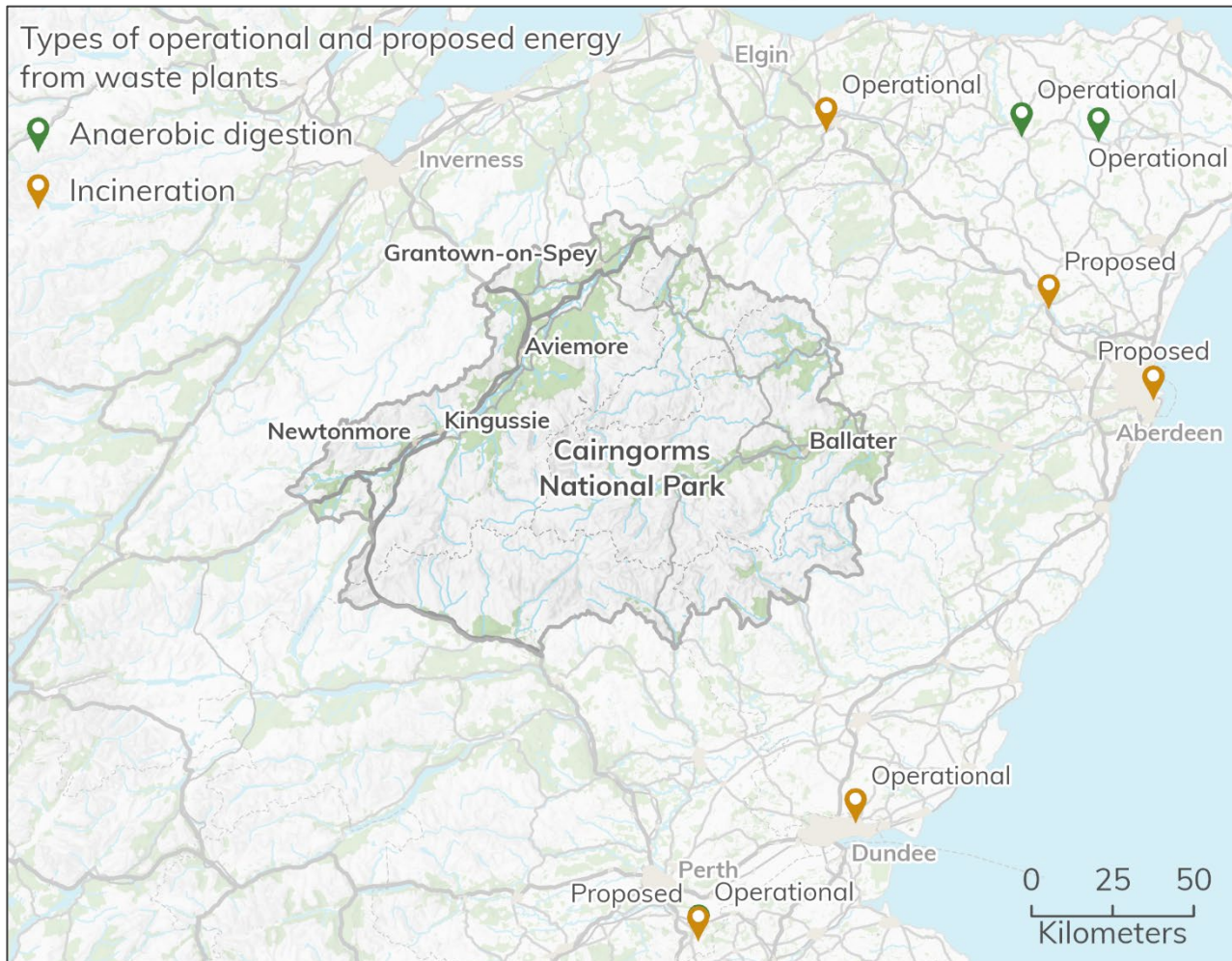


Figure 12 Location and type of operational and proposed energy from waste plants within local authorities surrounding the Cairngorms National Park Authority. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © Greenspace Scotland, 2024

### Heat from renewable, low carbon and zero emission sources

Matters and implications relating heat are covered in the heating and cooling evidence paper<sup>23</sup>.

### Landscape

Landscape matters relating to all development in the National Park, including renewable energy, have been considered in the Landscape evidence paper<sup>24</sup>.

<sup>23</sup> <https://cairngormsldp.commonplace.is/en-GB/proposals/heating-and-cooling-survey/step1>

<sup>24</sup> See <https://cairngorms.co.uk/wp-content/uploads/2024/07/Topic-paper-Landscape-Engagement-version.pdf>



## **SSEN Distribution energy generation availability capacity**

To understand the potential for further energy generation in the National Park, it is necessary to understand the capacity of the existing network. SSEN Distribution provide generation availability and demand maps for the Scottish Hydro Electric Power Distribution licence area. The maps provide an indication of the networks capability to connect large-scale developments to major substations. Accompanying the maps, SSEN Distribution also provide data on Grid Supply Point (GSP) details, Grid Supply Points and substation transformer ratings, fault level information, and contracted and quoted generation projects at each Grid Supply Point. Data pertaining to the SSEN Distribution assets within or serving the National Park geography have been included in this report.

SSEN Distribution provide detailed breakdown of circuit information at Grid Supply Points and substation locations such as voltage, constraint levels and contracted generation (Figure 13 and Table 5).



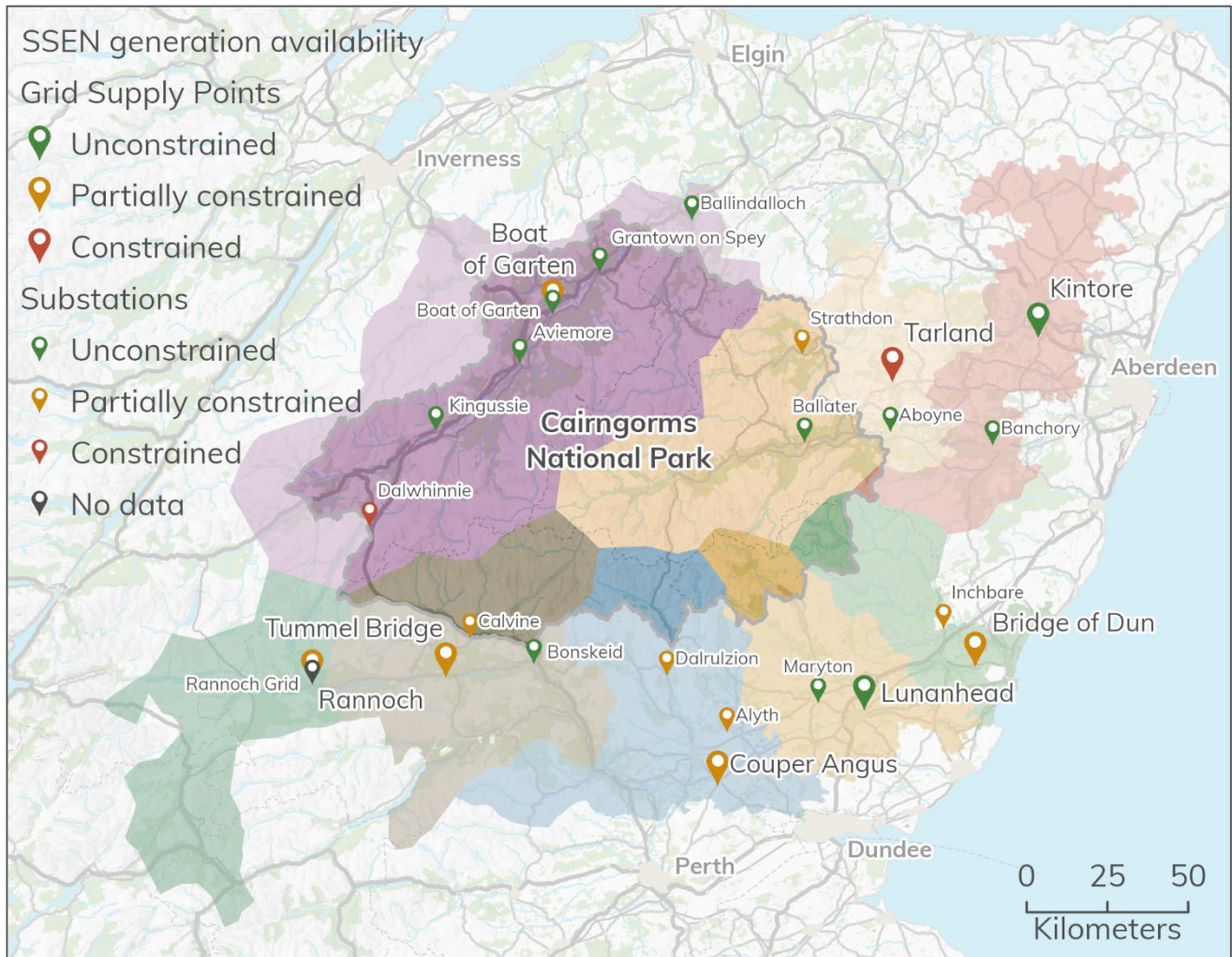


Figure 13 Map of SSEN Distribution Generation availability at Grid Supply Points and substations in the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © SSEN Distribution, 2024.





Table 5 SSEN Distribution generation availability at Grid Supply Points and substations in and serving the Cairngorms National Park. Data from SSEN Distribution, 2024.

Location	Asset type	Classification	Contracted generation (MVA <sup>25</sup> )	Reverse power flow capacity	Break fault level rating
Boat of Garten	Grid Supply Point	Partially constrained	140.11		9.22 / 25
Dalwhinnie	Substation	Constrained	0.5	100%	0.68 / 13.1
Kingussie	Substation	Unconstrained	0.74	50%	4.54 / 13.1
Aviemore	Substation	Unconstrained	0	50%	7.14 / 13.1
Boat of Garten	Substation	Unconstrained	0	50%	7.39 / 13.1
Grantown on Spey	Substation	Unconstrained	0	50%	5.84 / 13.1
Ballindalloch	Substation	Unconstrained	0	50%	3.02 / 20
Tummel Bridge	Grid Supply Point	Partially Constrained	55.9		No information available
Calvine	Substation	Partially Constrained	0.52	100%	No information available
Tarland	Grid Supply Point	Constrained	53.04		6.86 / 25
Strathdon	Substation	Partially Constrained	0.17	100%	1.28 / 13.1
Ballater	Substation	Unconstrained	0.23	50%	4.38 / 16
Bridge of Dun	Grid Supply Point	Partially Constrained	36.27		8.11 / 31.5
Rannoch	Grid Supply Point	Partially Constrained	62.79		No information available

<sup>25</sup> MVA stands for megavolt-amperes, and it is equivalent to one million volt-amperes. MVA is used to measure the electrical load of a system.



Location	Asset type	Classification	Contracted generation (MVA <sup>25</sup> )	Reverse power flow capacity	Break fault level rating
Kintore	Grid Supply Point	Unconstrained	319.29		17.27 / 25
Lunanhead	Grid Supply Point	Unconstrained	206.1		10.75 / 25
Couper Angus	Grid Supply Point	Partially Constrained	282.43		12.76 / 25
Bonskeid	Substation	Unconstrained	0.1	50%	2.28 / 13.1
Dalrulzion	Substation	Partially Constrained	0.5	50%	2.43 / 25
Banchory	Substation	Unconstrained	0.1	50%	5.55 / 25
Aboyne	Substation	Unconstrained	0.21	50%	5.06 / 25
Maryton	Substation	Unconstrained	2.21	50%	6.44 / 13.1
Alyth	Substation	Partially Constrained	0.25	50%	4.7 / 13.1
Rannoch Grid	Substation	No Information available	No information available	No information available	No information available
Inchbare	Substation	Partially Constrained	0.26	100%	1.24 / 7.9



## Summary of opportunities for energy development

Due to the Cairngorms National Park's special natural heritage and landscape qualities, identifying specific geographical locations for energy development in the local development plan is considered inappropriate. Furthermore, National Planning Framework 4 specifically forbids windfarm development within the National Park. Additional evidence gathered through the preparation of the Evidence Report, including the identification of nature networks and blue and green infrastructure, may identify further areas of constraint. Micro-scale and small-scale energy developments may be supported by the statutory Development Plan and these are best managed through the policy framework set out by National Planning Framework 4, including policies 4, 11 and 19, and any specific requirements identified in the Cairngorms National Park Local Development Plan.

## Summary of implications for Proposed Plan

The proposed plan needs to be prepared in accordance with:

- The four aims of the National Park as set out in The National Parks (Scotland) Act 2000), in particular the first aim to 'conserve and enhance the natural and cultural heritage of the area' and the fourth aim 'to promote sustainable economic and social development of the area's communities'.
- The spatial strategy and principles of National Planning Framework 4.

The Park Authority will need to engage SSEN Transmission and SSEN Distribution on the development of the Proposed Plan's spatial strategy and the allocation of development sites in line with National Planning Framework 4's infrastructure first principles.

In its preparation the Proposed Plan should seek to:

- Support development that incorporates onsite renewable energy development.
- Support community led renewable energy generation projects.
- Support development for battery storage with robust mitigation plans in place.
- Ensure siting and design of energy infrastructure, for example, substations and renewable energy developments, do not have significant negative impacts on existing or proposed neighbouring residential areas, or the natural, historic and cultural heritage of the area, including the National Park's special landscape qualities.
- Define what constitutes large-scale and commercial windfarm development within the National Park context.



- 
- Ensure mitigation for noise and shadow flickering pollution is considered at the onset of any new energy development proposals.
  - Support development of a hydrogen economy.