



A Network for Net Zero

Our Approach to Implementing
Biodiversity Net Gain

December 2019

Welcome

Scottish and Southern Electricity Networks (SEN) Transmission published an ambitious new sustainability strategy¹ in May last year which set out how we intend to be an industry leader in sustainability. This identifies six strong ambition areas to ensure we enable a smart, sustainable energy future, one of which is “Promoting the Natural Environment”.

Our RIIO-T2 Sustainability Action Plan sets out our key activities to implement our sustainability strategy commitments to 2026.²

Promoting our natural environment encompasses many areas including biodiversity, natural processes, landscape change and visual amenity. Whilst biodiversity³ is valuable in its own right, it is also crucial to the maintenance of the natural systems. In addition, it is intrinsically linked to the wider societal challenge of climate change and climate regulation, for which we have made a business commitment to setting a Science Based Target consistent with the 1.5 degree climate science pathway.

Protecting and enhancing biodiversity is therefore an essential element of a truly sustainable society. **As such, our ambition is to ensure that our activities not only maintain the existing balance that exists, but enhance the biodiversity in our area, targeting a net gain.**⁴

This document sets out our new approach developed through an extensive consultation process. It identifies the methods that we will use to classify and achieve net gain. Fundamentally, this will be delivered by incorporating biodiversity considerations into our project optioneering, design, consenting and ongoing operational activities. We have set out our methodology of calculating, Biodiversity Net Gain (BNG), thereby enabling us to measure our performance against targets and how we propose to transparently communicate this with our stakeholders.

BNG is an evolving discipline in the UK and Scotland. We will therefore work with stakeholders to share our experience in implementing this approach, participate in wider industry forums and where necessary, update our approach to implement evolving best practice and lessons learned. Our adoption of BNG at this point in time has allowed us to be at the forefront of its application in Scotland, with recognition provided through the BIG Biodiversity Challenge Awards and Green Energy Awards.⁵



Richard Baldwin
Head of Environment

¹ Delivering a smart, sustainable energy future: The Scottish Hydro Electric Transmission Sustainability Strategy”, May 2018 <https://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf>

² Read our Sustainability Action Plan here: <http://www.ssen-transmission.co.uk/riio-t2-plan/>

³ The term Biodiversity, short for biological diversity, refers to the diversity of life forms, species, genetic variation, and ecosystems. UK Biodiversity Indicators (2018). Available at: www.jncc.defra.gov.uk/pdf/UKBL_2018.pdf

⁴ Net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand.

⁵¹ Big Biodiversity Challenge Awards (2018) – Winner of “Overall winner”, “Medium/Large Scale Award” and “Pollinator Award”

⁵² Big Biodiversity Challenge Awards (2019) – “Client Award”

⁵³ Green Energy Awards (2018) – Shortlisted for “Sustainable Development Award”

⁵⁴ Green Energy Awards (2019) – Shortlisted for “Sustainable Development Award” and “Best Practice Award”

About us

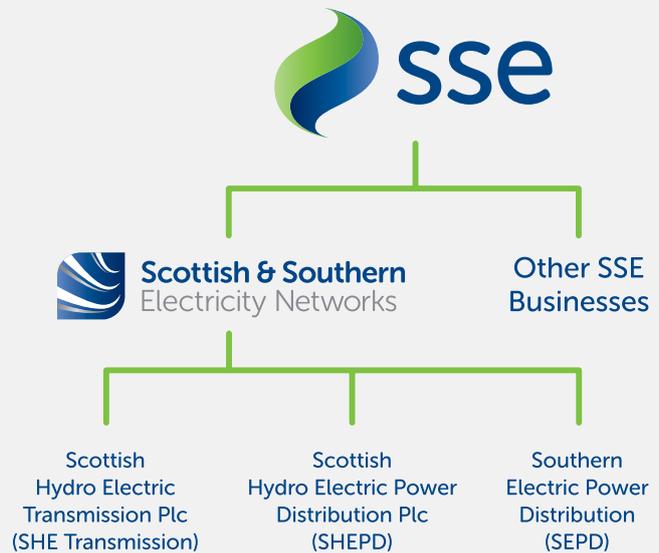
We are part of Scottish and Southern Electricity Networks (SSEN), operating as Scottish Hydro Electric Transmission plc under licence and are responsible for maintaining and investing in the electricity transmission network in the north of Scotland.

We own and maintain the 132kV, 275kV and 400kV electricity transmission network in our licence area. Our network area extends over a quarter of the UK land mass across some of its most challenging terrain. Our operating area is home to vast renewable energy resources and this is being harnessed by wind, hydro and marine generation.

Working closely with National Grid, the GB transmission System Operator, we also enable these electricity generators to connect to the transmission system by providing a connection and allowing the electricity generated by them to be transported to areas of demand across the country.

As a natural monopoly, we are closely regulated by the GB energy regulator, Ofgem, who determine how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network.

These costs are shared between all those using the transmission system, including generation developers and electricity consumers.



Overview of Transmission projects



Context

We have an important responsibility to protect and enhance the natural environment as part of our project and operational works. It is essential that we ensure our activities are undertaken in a sustainable manner to protect our natural environment now and for the benefit of future generations.

Through our development activities we consider a wide range of natural environment aspects at each stage of our work.

In relation to flora, fauna and habitats, the linear nature of our new and existing networks provide real opportunities in the local environment, including the ability to actively improve the connectivity between important habitat types and ecosystems. However, it is equally important to ensure that such linear corridors do not act as ecological barriers.

Biodiversity is valuable in its own right, but it is also crucial to the maintenance of natural systems on which we all depend (for example: pollination of crops, flood management and air quality regulation). Protecting and enhancing biodiversity is therefore an essential element of a truly sustainable society.

This is important as the extent and condition of natural habitats and the abundance of species is reducing year on year⁶. So much so that the UN has set strategies that aim to halt and reverse this trend. In 2018 the UK government published a 25-year plan⁷ for the environment and after further consultation have advised that they will mandate biodiversity net gain as an outcome from development.

As the UK government has proposed to implement Biodiversity Net Gain (BNG) requirements in the planning system in England, it is our ambition to be at the forefront of BNG in Scotland, working alongside policy makers and implementation bodies to enable Scotland to refine its approach to BNG in the future.

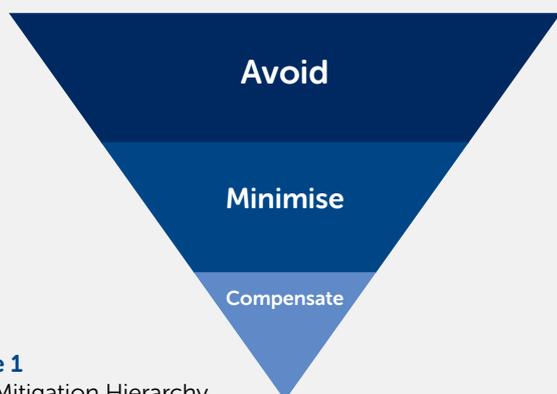


Figure 1
BNG Mitigation Hierarchy

What is Biodiversity Net Gain

The International Union for the Conservation of Nature (IUCN) and the Convention on Biological Diversity (CBD) define biodiversity as follows:

“‘Biological diversity’ means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.”

In applying BNG, avoidance and minimisation of biodiversity impacts should be prioritised through the mitigation hierarchy (Figure 1). Where unavoidable (for example conflicting priorities and policies), compensation may be required. This is to ensure that negative impacts from developments are addressed by either equivalent or preferably additional gains for biodiversity (i.e. no net loss and net gain respectively). To achieve this we will require early consideration of the development boundary to ensure it provides sufficient area for habitat creation or enhancement, and thereby the ability to achieve a net gain. Any remaining biodiversity losses will be compensated outside of the development or ‘offsite’ but ideally within the locale of the development.

Planning for BNG is a stepwise assessment process which is applied to developments to quantify biodiversity change, including impacts and gains. When applied early in the development stages BNG outputs can be factored into engineering and landscape design in a way which also allows for transparent, comparable and evidence based biodiversity reporting across the business and wider industry.

BNG is based around the application of a standardised environmental metric. Within the UK, “The Biodiversity Metric 2.0 – Calculation Tool – Beta Test”⁸ (hereafter referred to as the ‘Defra Biodiversity Metric 2.0’) is the new standard metric used to quantify biodiversity losses and gains.

By collating data on type, condition and area of habitat, the Defra Biodiversity Metric 2.0 provides a quantified indicator of the biodiversity on-site before and after development in terms of ‘Biodiversity Units’. This information is then used to assess whether the development meets BNG targets for the habitats on site. It should also be used in conjunction with qualitative ecological data for the site (such as information on legally protected sites and species) to enable a full assessment of biodiversity impacts as part of a the wider environmental assessment that is undertaken.

⁶ State of Nature Partnership (2019), The State of Nature 2019, State of Nature Partnership (2019), The State of Nature 2019: Scotland
⁷ HM Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment
⁸ Defra (2019), The Biodiversity Metric 2.0 – Calculation Tool – Beta Test

Our commitments

Our ambition for biodiversity was recently consulted on as part of our Sustainability Strategy⁹ with feedback showing overwhelming support to achieve biodiversity net gain in future projects. Therefore, our ambition is to ensure that our activities not only maintain the existing balance, but help to enhance the biodiversity in our area, to achieve a net gain.

Following consultation, the following targets have been set.

For new infrastructure projects on land, we propose to:

- Ensure natural environment considerations are included in decision making at each stage of a project's development
- Utilise the mitigation hierarchy to avoid impacts by consideration of biodiversity in project design
- Achieve an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards
- Achieve and overall 'Net Gain' on projects gaining consent in 2025 onwards
- Work with our supply chain to understand enhancement opportunities to gain the maximum benefit during asset replacement and upgrades.

For upgrade, maintenance and operational activities on land, we propose to:

- Collaborate with partners to realise opportunities for improving the biodiversity on and around our existing sites
- Enhance biodiversity through a comprehensive review of management activities.

Intertidal biodiversity is currently being considered for the next update to the Defra Biodiversity Metric 2.0. When this is released, we will review it with the intention to adopt it for our marine projects where appropriate. Methodologies for calculating marine biodiversity impacts beyond intertidal habitat are less well developed and therefore, for new infrastructure projects in the marine environment, we propose to:

- Actively participate in industry forums to support the development of marine biodiversity enhancement methodologies
- Seek out opportunities to trial new methodologies on our marine projects.



Developing our approach

In developing our approach, we have sought to understand the views and needs of our stakeholders. To do this, over the summer of 2019 we published a consultation document outlining our proposed approach to implementing BNG.¹⁰

Our consultation document was published on our website and circulated to a wide range of stakeholders including:

- Government
- Regulators
- Non-governmental agencies
- Voluntary bodies
- Professional environmental institutions
- Environmental consultancies
- Our supply chain
- The general public.

In addition, we also arranged two workshops in Glasgow and London, bringing together biodiversity specialists and policy makers from across the UK to discuss our approach in detail. Those participating in the specialist workshops included Scottish Natural Heritage (SNH), Scottish Environment Protection Agency (SEPA), Defra, Natural England, CIEEM, RSPB, National Grid, Scottish Power, Transport for London, Balfour Beatty and AECOM.

All responses welcomed the commitment and approach to BNG taken by SSEN Transmission. There was broad support for the method, approach and the engagement with conservation organisations, like the British Dragonfly Society. There was also broad support for all adaptations we have proposed to the Defra Biodiversity Metric 2.0, ensuring it is suitable for Scotland.

An overview of the comments received and how these have been incorporated into our approach is shown in [Appendix A](#).



Working with stakeholders

Stakeholder engagement has been critical to the success of developing our approach to BNG and we will seek to continue and grow our relationships with these (and new) stakeholders as we implement BNG on our projects. Our experience to date at a project level demonstrates the importance of working with stakeholders to understand local priorities in each stage of our project development process and we will therefore seek to identify and engage with local experts, community and conservation groups throughout.

Examples of the type of organisation we have successfully worked with to date include the Bumblebee Conservation Trust, British Dragonfly Society and the British Herpetological Society. We believe a key benefit to this is that local knowledge can help to ensure that our project plans are developed in such a way that not only achieves a high BNG score but also promote local priority species and regional initiatives.

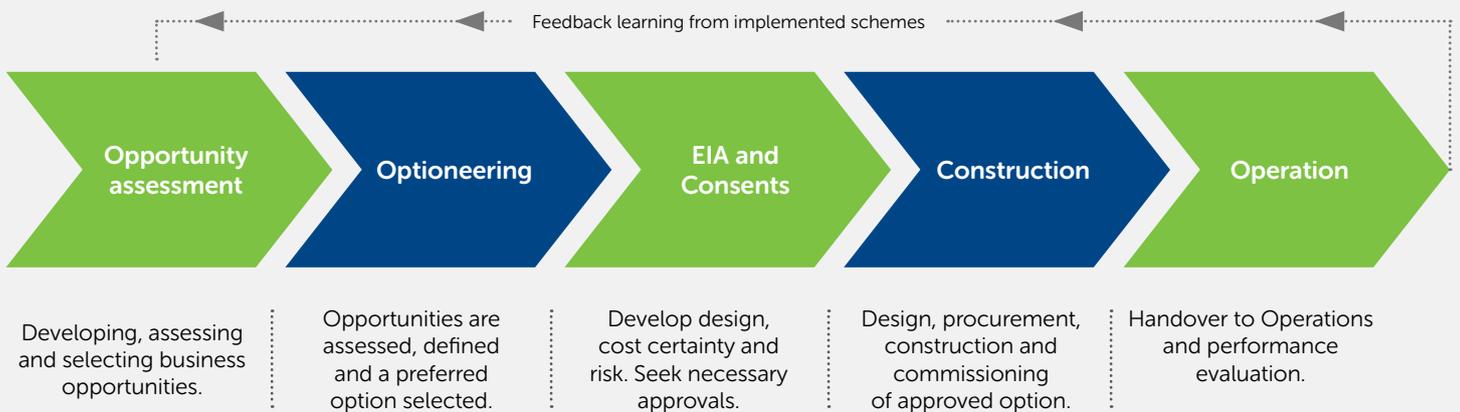
Further to this we also recognise that supporting and working with our supply chain is critical to help us meet our targets. Developing clear expectations on BNG delivery, including appropriate input into design with our supply chain will ensure our ambitions are realistic, achievable and delivered for the long term.

Beyond project level engagement, we will seek to reinforce and build our existing relationships with industry BNG leaders, government and policy makers to allow us to contribute to and fully understand future developments in national approaches.

Our approach

Going forward we will embed biodiversity considerations into our Project Development Process and project lifecycle, from site optioneering through to operations and maintenance. We believe the earlier stages of our development process can be the most influential on helping us achieve our biodiversity targets.

Figure 2 Project lifecycle



Opportunity assessment

At the opportunity assessment stage high level constraints mapping will be used to identify areas of irreplaceable habitat, high biodiversity value and areas of opportunity where land has been historically degraded.

These will be used to support strategic level decisions on areas that should be avoided or promoted, and the most appropriate connection options.

Optioneering

At project optioneering and during the route option/substation site selection stage, high level BNG assessments of each option will be undertaken through the use of our bespoke BNG site optioneering toolkit.

The tool uses high-level mapping and readily available data sets (or detailed data where it exists) to predict indicative biodiversity units for different options.

The results of the assessment will inform our overarching site or route selection process. It will also allow us to identify any additional design requirements (e.g. extent of site) that may need consideration to achieve our BNG targets.

EIA and Consents

Once the route/site has been selected for the project, habitat surveys will take place to inform the EIA/EA. The field information will be used in the Full BNG Toolkit to establish the biodiversity baseline for the project.

Estimations of the habitat loss and associated compensation to meet the BNG target will be achieved through this process.



Construction

BNG outputs will be included as a deliverable in the environmental requirements for all large construction contracts. Following construction, a habitat and condition assessment survey will be undertaken as a result of any changes in design. The data from this survey will be used to update the BNG Toolkit. The updated Project BNG Report will then be produced which evaluates BNG delivery and includes any required changes to habitat management activities to meet BNG targets (for example, changes in species composition, management of wetland habitats, linking in natural wildlife corridors).

Operation

Long term management plans will be developed for sites with input from local stakeholders. These will identify the required management activities to achieve the biodiversity outcomes identified in the project BNG assessments. These plans will also identify an appropriate long term monitoring strategy, surveyed at intervals relevant to the nature of the habitat type (e.g. grass meadow or peat bog) to ensure successful progression and establishment.

Appropriate monitoring will ensure frequency is proportionate to the progress of Establishment (for example, every 5 years). We propose to monitor until the period at which target establishment has been achieved (or 30 years, whichever is less). Our monitoring will focus on a review of the site against the long term management plan objectives. Once we believe target condition has been met we will carry out a final BNG calculation to validate the scheme success.

Should a project be decommissioned in the future, this will be subject to reinstatement requirements at that point (following the achievement of BNG) and therefore following decommissioning a scheme may result in additional biodiversity improvement at that point in time.

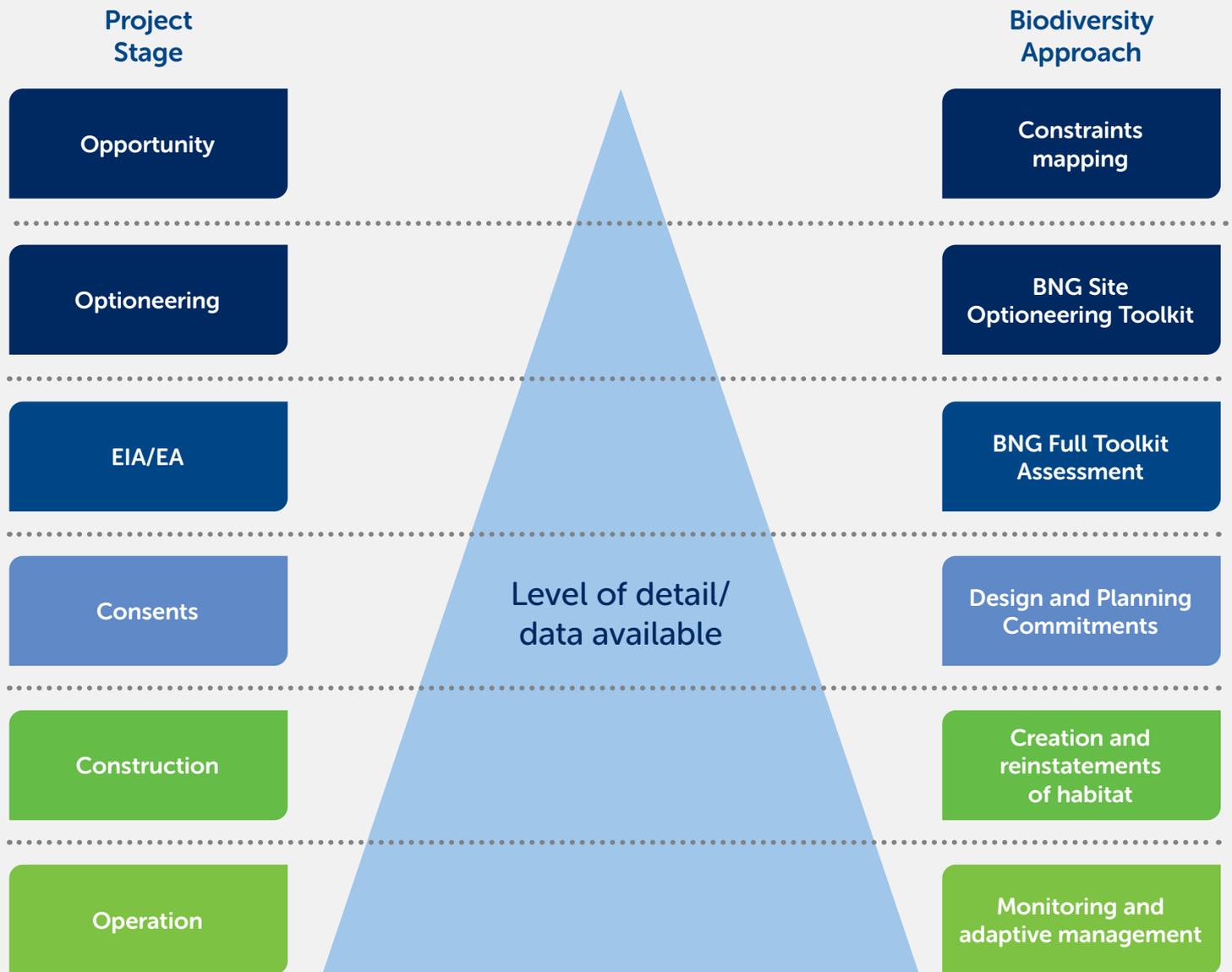
Table 1 and **Figure 3** provide further detail on our project process and how we will integrate biodiversity considerations into each stage.

Table 1 Integrating BNG considerations into our project lifecycle

	Project Activity	Data Requirements	Methodology	Deliverable
Opportunity	Strategic Options Assessment	Using existing data and high-level mapping (e.g. aerial imagery covering the strategic option area), and environmental constraints data.	GIS constraints mapping of irreplaceable, high value or already degraded habitats across the strategic options.	Biodiversity constraint/opportunity maps
Optioneering	Route/Site Options Assessment	High-level mapping (e.g. aerial imagery, constraints and opportunity data), Areas and habitat types required.	BNG Site Optioneering Toolkit assessment to determine high value biodiversity present along the route options.	Route/Site Options BNG Dashboard detailing Indicative biodiversity units for each option and estimations of habitat creation or enhancement required to meet net gain targets This would be used to inform our Environmental options assessment and where possible mitigate biodiversity impacts through engineering, land and landscape design.
EIA and Consents	Environmental Impact Assessment/ Environmental Appraisal	Site habitat surveys (including habitat condition assessment) and ground-truthing of aerial habitat data. Technical infrastructure design (temporary and Permanent), including access Requirements and duration. This will include information on peat depths across the site/route.	BNG Full Toolkit to establish the biodiversity baseline, assess temporary and permanent Losses and gains from the landscape and management plan. Collaborative working between project managers, design engineers, landscape specialists, ecologists and BNG specialists to adapt the landscape designs where necessary.	Produce a Project BNG Report detailing biodiversity baseline and predicted net change as a result of the development (net loss/no net loss/net gain) Management plan covering planting requirements and habitat management.
	Planning Permission	Landscape design drawings and EIA/EA.	Full BNG Toolkit assessment will be updated when/if required due to project changes.	Update Project BNG Report and Management Plan .
Construction	Construction Environmental Management Plan (CEMP)	Project BNG Report and associated Management plan to be included (maps showing habitat to be avoided/minimised/mitigated).	Full BNG Toolkit assessment will be updated when/if required due to project changes.	Project BNG Report and Management Plan produced at previous stages to be included in contract documents . Updates will be made when/if required due to project changes.
Operation	Legacy project consent conditions (i.e. restoration, ecology monitoring)	Project BNG Report and associated Management plan, including requirements for long term habitat management. Site habitat surveys (including habitat condition assessment) at identified intervals.	Implementation of adaptive management to ensure BNG targets will be met over the agreed management timeframe. Full BNG Toolkit assessment at identified intervals to confirm biodiversity gains.	Long term management plan defining adaptive management regime, monitoring requirements and reporting. BNG Monitoring Report within one year of commissioning and as per frequency agreed in the long term management plan.

Our approach

Figure 3 Biodiversity approach during the project life cycle



How we calculate BNG

It is important to ensure that calculations for BNG are reported consistently and transparently across our portfolio of projects and the country as a whole. The most widely used BNG metric in the UK has been developed by Defra with input from a wide range of stakeholders. Since the original release in 2012 further updates have been provided, the most recent of which is version 2.0 in 2019.¹¹

As the Defra Biodiversity Metric 2.0 has been developed with extensive input from a wider range of UK stakeholders, we propose to use this metric to formally calculate biodiversity units (BU) pre and post construction on our development projects with a number of amendments to account for specific sensitivities and availability of data in Scotland.

As previously highlighted, we have developed two toolkits to calculate biodiversity values:

- BNG Site Optioneering Toolkit
- BNG Full toolkit.

Both of these toolkits use the criteria and calculation principles of the Defra Biodiversity Metric 2.0. The optioneering toolkit has been designed to work with national and regional habitat data sets, with assumptions made on other characteristics (for example condition), should more detailed habitat data not be available at this that stage.

Calculating the baseline

To understand the current baseline, we will undertake a Phase 1 or UKHab habitat assessment (including all temporary areas), together with a condition assessment of all habitats.¹² In addition to this, the connectivity and strategic significance of those habitats allow the number of Biodiversity Units (BU) on that site to be calculated pre-development, as a baseline, as can be seen in [Figure 4](#).

With the optioneering toolkit, the number of baseline Biodiversity Units for each of the site options habitats, linear and water course habitats) can then be compared, which allows consideration of biodiversity within the environmental options assessment. An example output form the tool is represented in [Figure 5](#).

The tool identifies biodiversity hot spots and provides an estimation of habitat creation or enhancement required to meet no net loss/net gain targets at each site. This information will be used to inform design decisions and land requirements for the site.

Figure 4 Baseline Biodiversity unit calculation

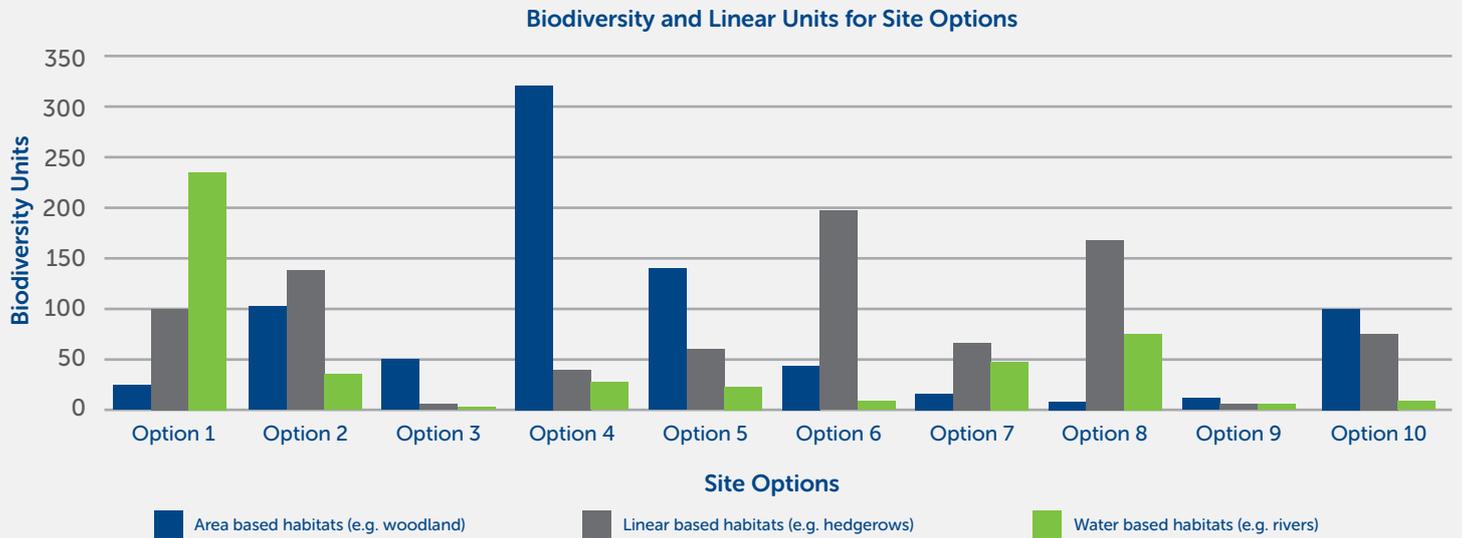


¹¹ Defra (2019), The Biodiversity Metric 2.0 – Calculation Tool – Beta Test

¹² For BNG optioneering toolkit a Phase 1/UKHab assessment would not normally be undertaken and assumptions on characteristics (e.g. condition) would be made

How we calculate BNG

Figure 5 Output for BNG Site Optioneering Toolkit



Calculating the net change

After taking into account the areas of habitat that will be lost to development, a similar calculation is made of all the habitats that will be retained, created or enhanced and be present post development. However, difficulty, time and spatial issues also have to be accounted for as can be seen in [Figure 6](#).

The final stage of the assessment is to compare the number of BU (area, linear and water) on the site before development against the number of BU after the development has been completed.

Figure 6 Creation of new habitats BNG unit calculation



Modifications to the Defra Biodiversity Metric 2.0

Whilst we are committed to using the Defra Biodiversity Metric 2.0 as a basis for calculating BNG, through trialing the metric on our sites and speaking to biodiversity specialists and our stakeholders¹³, we recognise there are specific requirements for Scotland that are not currently accounted for within the metric. We have therefore developed our own calculation tool based on the Defra Biodiversity Metric 2.0, with the following amendments shown in **Figure 7**.

Figure 7 Amendments to the Defra Biodiversity Metric 2.0

The Defra Biodiversity Metric 2.0	Our amendments	
	Now	Future
<ul style="list-style-type: none"> Habitat classification Habitat distinctiveness (see exception), condition, strategic location, connectivity scores Risk factors, Time to target condition, spatial risk and difficulty to create BU calculation for the baseline and post development habitats (for creation, enhancement and accelerated succession). 	<ul style="list-style-type: none"> Distinctiveness scores for native pine forests Classify peatland of moderate or above condition as irreplaceable. 	<ul style="list-style-type: none"> Condition assessment method for habitats specific to Scotland Method/approach for identifying connectivity and strategic location.

Detail on the modifications:

Distinctiveness scores for specific habitats

- Default distinctiveness scores for areas of Scots pine woodland did not reflect accurately the condition on the ground. The Defra Biodiversity Metric 2.0 does not allow sufficient differentiation, for example between relatively old, and diverse, Scots pine plantations and densely stocked commercial plantations
- We have therefore increased the distinctiveness scores for native pine woodlands to match those of other important native woodland habitats.

Irreplaceable habitats

- Irreplaceable habitats are common in the north of Scotland presenting major challenges for developers. For example, peatland habitats of various quality are common. There is a concern that if BNG was not possible when peatland habitats are present, regardless of significance of the impact, there would be a disincentive for developers to work towards BNG. It is also believed that it should, in certain circumstances, be possible to compensate losses of certain types of peatland habitat. There are examples of successful restoration of currently degraded peatland habitats
- We will therefore treat peatlands with moderate (or above) condition as irreplaceable.

Re-defining connectivity and strategic significance categories to be Scotland-specific.

- Equivalent data is not currently available in Scotland for these factors, therefore we will use a multiplication factor of 1 for strategic location and 1 or 1.15 for connectivity depending on the distinctiveness of the habitat. This follows the approach set out in the Defra biodiversity metric method documents
- The next steps include further development of a connectivity measure and identification of strategic locations for biodiversity for Scotland. These measures will need to be developed with partners and stakeholders.

¹³ Example sites where BNG calculations have been undertaken include Spittal and Tomatin Substations

When has BNG been achieved

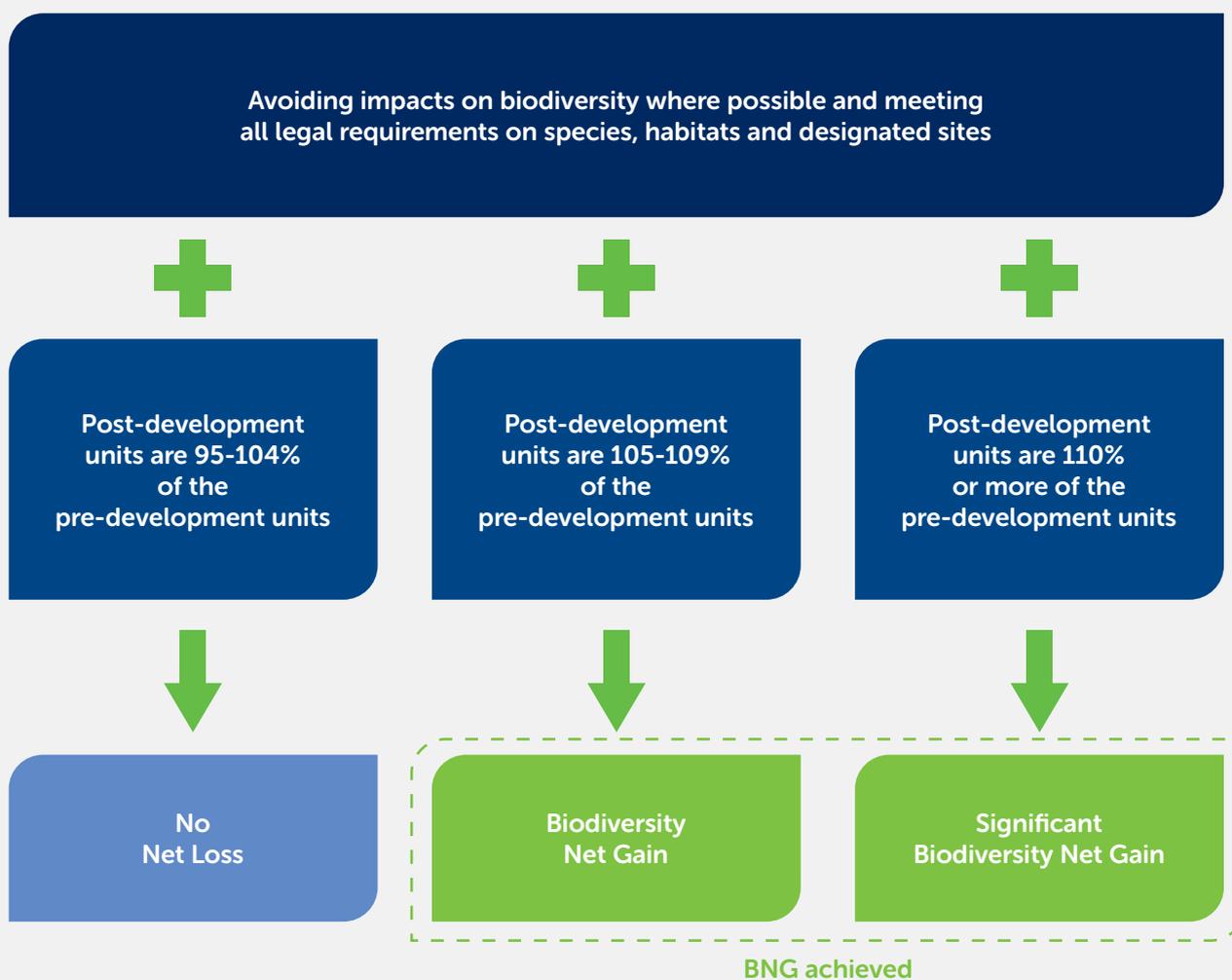
The net gain threshold

To account for errors in assessment, a site is deemed to have achieved a net gain if the number of Biodiversity units post-development are greater than 105% of the baseline value, and a significant net gain if it has achieved 110%¹⁴ (see Figure 8).

We recognise other thresholds are being considered as part of Defra's consultation on mandating BNG in England.¹⁵ However we believe targeting at least a 105% improvement to achieve net gain is appropriate at this stage for a variety of reasons:

- Government agencies in Scotland have not formed a view on an appropriate threshold for Scotland
- In the north of Scotland habitats can take a long time to restore, which will potentially make delivery of BNG more challenging than in other parts of the country
- Stretching the net gain threshold may start to drive behaviours that achieve a unit score but do not consider wider environmental and social value.

Figure 8 Achieving a net gain



¹⁴ BREEAM (2018), GN36 BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2
¹⁵ Defra (2019), The Biodiversity Metric 2.0 – Calculation Tool – Beta Test

Habitat Bank

Where habitat enhancement or creation is happening above significant net gain (110%) for any given site the additional habitat creation and enhancement activities will be recorded as a potential habitat bank. In these cases, the additional areas of habitat that are created or enhanced could then be used as compensation for other development impacts.

Irreplaceable habitats and designated sites

We are aware that the current guidance¹⁶ states that the Defra Biodiversity Metric 2.0 should not be used on 'irreplaceable habitats' or 'statutory designated sites'. For irreplaceable habitats, this is because it is considered that the habitat cannot be recreated elsewhere in a reasonable timescale. In Scotland this predominantly relates to ancient woodland and active peatland.

As identified earlier, there are also many areas of degraded peatland in Scotland which have limited biodiversity value. We will treat peat habitats with moderate or above condition as 'irreplaceable' for the purposes of our BNG calculation. Statutory designated sites include Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.

As can be seen on **Figure 9** and **10**, a large proportion of our licence area is occupied by at least one of these designations and/or irreplaceable habitats (48%). A significant number of our projects will therefore not be able to avoid these areas completely. This means that in practice, we may not be able to formally claim a net gain for each project in its entirety.

We will therefore carry out the quantified BNG assessment for all qualifying habitats on our projects and separately through a more qualitative approach, consider non-qualifying habitats ensuring the mitigation hierarchy (avoid, minimise, compensate) is rigorously followed.

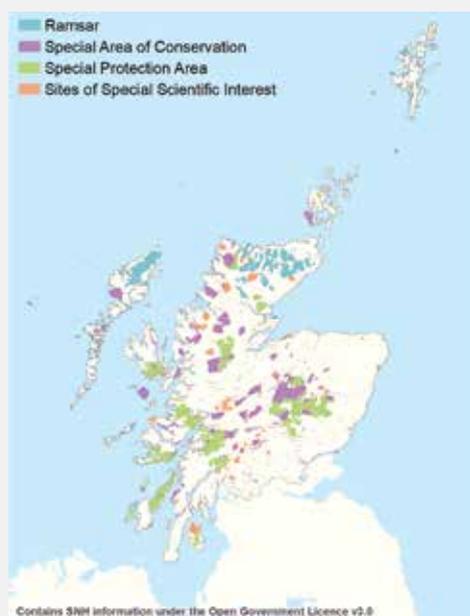


Figure 9 Designated sites within our Transmission licence area

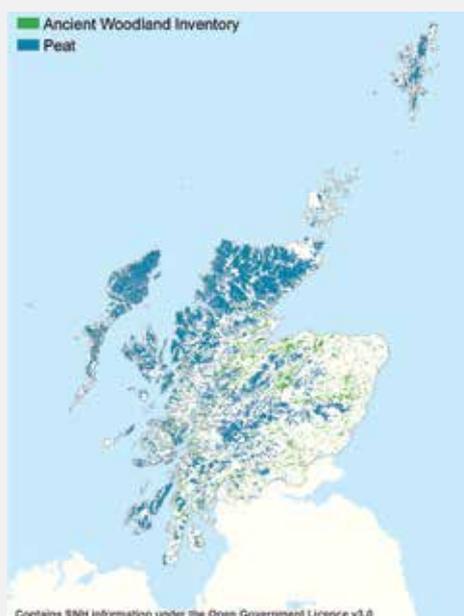


Figure 10 Potentially irreplaceable habitats within our Transmission licence area



Wider biodiversity and social value

Using a metric to quantify biodiversity units based on habitat type is a 'proxy' for understanding the wider biodiversity value of a site. Whilst this is fundamental to our approach on BNG we also recognise that our developments have the potential to affect protected (or priority) species, wider ecosystem services or people (either directly or indirectly). We are also aware that habitats which intrinsically take time to recover, or to create, score poorly in the Defra Biodiversity Metric 2.0 which may dissuade efforts to enhance or restore such habitats.

We will therefore ensure that our BNG metric is used in combination with wider environmental and social considerations when informing optioneering, detailed design and delivery. This may mean that the best 'overall' sustainable outcome does not provide the highest net gain calculation in all situations. Where this is the case, the rationale behind this will be captured in our reporting.

We are also aware of other policy drivers that provide both opportunities and challenges to delivering BNG. For example, the Scottish Government's Policy on Control of Woodland Removal¹⁷ promotes that when woodland is removed in association with development, developers will generally be expected to provide compensatory planting.

On sites with commercial woodland this could drive the direct replacement of less diverse habitats or high density planting, rather than promoting higher value habitats or restoring valuable peatland habitats on which commercial plantations had historically been planted.

In these situations, we will seek to work with Government agencies and policy makers to ensure the best overall environmental outcomes are delivered when implementing such policies.

¹⁷ Forestry Commission Scotland (2009), The Scottish Government's Policy on Control of Woodland Removal

Reporting on Biodiversity

Transparent reporting on our progress towards BNG is important to allow our stakeholders to understand our wider environmental and sustainability performance. To do this we propose to report progress towards our published targets annually as part of our integrated business reporting.

A challenge with reporting on BNG is that, by their nature, our projects can take many years to consent and construct. It can also take many years to enhance or create habitats meaning that the target condition may not be reached for several years post development, restricting the ability to confirm a 'delivered' net gain in the short term. As a result, **table 2** identifies our proposed BNG reporting categories.

Table 2 BNG metric reporting

	Reporting detail	Commentary
Combined portfolio reporting	Overall BNG percentage designed into project portfolio	Pre-construction (at time of consent application)
Project reporting	Percentage of projects designed to achieve No Net Loss	Pre-construction (at time of consent application)
	Percentage of projects designed to achieve Net Gain	Pre-construction (at time of consent application)
	Percentage of projects with management plans to deliver No Net Loss	Post construction
	Percentage of projects with management plans to deliver Net Gain	Post construction
	Percentage of projects that have achieved target condition (No Net loss/Net Gain)	Post construction

Note: The above quantitative reporting is only in relation to qualifying project habitats and does not include irreplaceable habitats, those within designated sites or marine habitats. Reporting on non-qualifying habitats will be included in the wider report on a qualitative basis. Net gain reporting will include 'Biodiversity Net Gain' and 'Significant Biodiversity Net Gain'.

In addition to reporting on the 'overall' BNG combined across our portfolio of projects during each reporting year, we will also provide a project level breakdown to transparently detail how this overall figure has been calculated. We recognise that long term adaptive monitoring of successful establishment is critical to ensure the integrity of the process. Where subsequent year's monitoring identifies sites that have not been established as expected, these will be identified and adaptive management will be put in place to deliver the management plan objectives.

Next steps on Biodiversity



With our biodiversity net gain approach established following extensive stakeholder feedback, our next steps are to update our internal procedures to embed the principles and commitments into our business decisions and project level activities.

As biodiversity net gain principles and methodologies are still evolving globally, within the UK and specifically in Scotland, we will continue to review our approach based on our own and other's experience and contribute to the development of best practice. In doing so we will seek to build our existing relationships with industry BNG leaders, government and policy makers.

If you would like be involved in future development of our approach to BNG or feel that we can share our experiences to date with other forums and sectors please contact:

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Appendix A – Stakeholder input into the approach

Table 3 summarises stakeholder input into key issues and identifies how these have been incorporated into our final approach.

Table 3 Stakeholder response overview

Issue raised	Incorporation into approach
Importance of early engagement with local experts, stakeholders, the supply chain and developing partnerships.	A new section on working with stakeholders has been added on page 5. This provides further information on the importance of building relationships at all stages of the project lifecycle, the value of stakeholder input in identifying local priorities, the role our supply chain plays in implementation and the importance of building lasting relationships with policy makers.
The mitigation hierarchy should feature more strongly throughout the approach.	Emphasis on the importance of the mitigation hierarchy has been provided on page 3, with a figure includes to show the key principles.
Consideration should be given to increasing the net gain BNG threshold from 105% to 110% of baseline following findings from the recent Defra consultation 2019.	We recognise the findings of the recent Defra publication suggesting 110% but we have some reservations on applying this in Scotland. Stakeholders views on adopting a 110% net gain threshold was not conclusive. We will therefore maintain our target of at least 105% net gain for our projects but have included a detailed explanation for this on page 13.
BNG is only one part of what needs to be delivered on site and the final design should seek multiple benefits.	The is fully embedded in our options selection process and we have provided clarity on the importance of considering the wider environmental and social benefits, on page 15. We have specifically stated that the best overall environmental option may not necessarily be the highest overall BNG score.
Careful consideration should be paid to where a project can claim an overall net gain as best practices states net gain cannot be achieved on irreplaceable habitats and designated sites.	We have included a section outlining our approach to irreplaceable habitats and designated sites on page 14. We have also clearly stated net gain calculations are only carried out for qualifying habitats in the sections on how we calculate BNG (page 12) and reporting (page 16).
We should provide greater detail on the amendments we are making to the Defra Biodiversity Metric 2.0.	More detail and a figure explaining any amendments has been included on page 12.
Our approach to marine biodiversity should be clarified as the document only appears to relate to land.	We are aware that Defra plan to release an update to their metric for intertidal habitats shortly. We will review this and where appropriate update our approach. Assessment beyond the intertidal area is less well developed and we propose to support work in this area, monitor developments and consider their applicability to our works. We have clarified our approach on page 4.
It will be important to ensure that clear monitoring, management requirements, timeframes and triggers for adaptive management are identified to ensure that it is used appropriately.	We will prepare management plans for the operational phase of the site. These will identify the longer term management requirements, frequency of monitoring and the stage at which we stop monitoring. Whilst some stakeholders were of the view that we should monitor and manage sites for a minimum of 30 years whether or not they have achieved target condition, we agree with other stakeholders that our resource should be targeted on securing additional gains elsewhere if we had reached target condition before 30 years. Details of the principles that we will follow have been included on page 7 and 8.
It was recommended that SSEN report on the number of projects undergoing BNG assessment, the number of BNG projects in construction and the number being managed following construction as well as the area and Biodiversity Unit outcomes.	We have updated our reporting proposals (page 16) to reflect the provision of greater detail on projects designed to achieve no-net loss/net gain, and those with agreed management plans in place. This will help to ensure priority is given to achieving the management plan objectives, not just an agreed BNG score.
A specific question was raised on whether we will use a 'static' or 'dynamic' baseline on which to judge net gain calculations.	We have looked into this with biodiversity experts and believe that the current consensus in the UK is that a static baseline is appropriate, and we will use this in our calculations. However, we are aware that a dynamic baseline may be more reflective of the contribution that the project is making to biodiversity value over time. We will monitor this issue as further research and case studies develop.



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