

Title: Biodiversity net gain for nationally significant infrastructure projects IA No: RPC Reference No: RPC-DEFRA-5136(2) ¹ Lead department or agency: Department for the Environment and Rural Affairs Other departments or agencies:	Impact Assessment (IA)
	Date: 19/03/26
	Stage: Final
	Source of intervention: Domestic
	Type of measure: Policy statement
	Contact for enquires: sm-defra.netgain@defra.gov.uk
RPC Opinion: Fit for purpose	

Summary: Intervention and Options

Cost of preferred (or more likely) option (in 2025 prices, 2026 present value)			
Total net present social value	Business net present value	Net cost to business per year	Business impact target status
£3585.3m	-£585.0m	£30.7m	
<p>What is the problem under consideration? Why is government action or intervention necessary?</p> <p>The problem under consideration is how best to internalise the impacts on biodiversity of Nationally Significant Infrastructure Projects (NSIPs). NSIPs are major infrastructure developments that include proposals for power plants, large renewable energy projects, new airports and airport extensions, ports, and major road projects. BNG is mandatory for development under the Town & Country Planning Act (TCPA), however, due to delays, NSIPs, which have the potential to cause significant biodiversity degradation have not yet been brought in line with this approach as was intended when BNG was legislated for in the Environment Act 2021. The voluntary approach which has evolved in the absence of a mandatory regime does not fully meet the policy objective outlined below and several market failures lead to lower levels of biodiversity than is socially optimal. The foremost are negative externalities associated with habitat loss and the public good aspect of biodiversity. This analysis looks at extending the mandatory BNG policy to NSIPs to maintain consistency of approach and deliver wider social benefits from net gain.</p>			
<p>What are the policy objectives of the action or intervention and the intended effects?</p> <p>The primary aim is to secure a measurable improvement in habitat for biodiversity whilst streamlining development processes. The objectives that have guided policy development to date are that net gain: (1) delivers habitat creation and/or enhancement, supporting delivery of our ambitious Environment Act targets; (2) is simple, streamlined, and certain for developers, easy to understand and will not prevent, delay or reduce development; and (3) is of clear benefit to people and local communities.</p> <p>The policy applies to England only.</p>			

¹ RPC opinion was given on a previous version of this IA. RPC have not re-validated this version of the IA as the broad policy remains the same. This new version has been updated to reflect final policy details and up-to date evidence.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 1: Do nothing.

The net gain policy is not extended to NSIPs and encouragement to deliver it is removed leading to a loss of most or all BNG delivery by NSIPs. This in turn leads to a loss of eco system services to the local population.

Option 2: Do not set a legal requirement (counterfactual).

Continue to update National Policy Statements to encourage voluntary BNG. Develop guidance to support delivery of best practice for NSIPs without mandating requirements. NSIPs remain unable to access the off-site market.

Option 3: Preferred approach: Issue a Biodiversity gain statement to apply a mandatory biodiversity net gain policy to NSIPs.

This will provide regulatory certainty, ensure streamlined BNG regime that is tailored to the NSIP context, gives developers access to the off-site market and delivers consistent and measurable improvements to nature.

Key sub options considered through the consultation process on how the mandatory requirements will apply:

3a) Apply BNG to all habitats within the Order limits

3b) Exempt certain sectors or NSIP types from all mandatory requirements

3c) Preferred approach – apply BNG consistently to all sectors:

- on negatively impacted habitats within the Order limits and habitats used towards BNG
- and adjust requirements on temporarily impacted land.

Will the policy be reviewed? If applicable, set a review date:

Is this measurement likely to impact on international trade and investment?	No			
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (million tonnes CO ₂ equivalent)	Traded N/A		Non traded N/A	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits, and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: _____ Date: _____

Summary: Analysis & Evidence

Policy Option 3

Description: FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate:
2025	2025	30	2895.8	4405.9	3710.8

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.1	1	25.7	489.3
High	0.2	1	53.6	1020.5
Best Estimate	0.2	1	36.5	695.0

Description and scale of key monetised costs by ‘main affected groups’

Familiarisation costs (transition):

- There will be a one-off familiarisation cost to NSIP developers. Due to the small number of firms developing NSIPs, this is expected to be a relatively low cost of approximately £0.2m over the appraisal period.

Cost of delivering biodiversity units (developers) (ongoing):

- Developers will face a cost of delivering biodiversity units to offset the loss created by their developments plus an additional 10%. Estimated annual average cost: 36.5m

Other key non-monetised costs by ‘main affected groups’

Planning Inspectorate

- There may be additional costs to the Planning Inspectorate. However, they already have a requirement to assess the need for ecological mitigation and as such the marginal cost of adopting the policy should be minimal.

Natural England

- There may be some additional costs to the operation of the BNG register as additional allocations have to be recorded. The register was set up with this in mind so these costs should be minimal.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0		245.9	3916.3
High	0		307.4	4895.3
Best Estimate	0		276.7	4405.8

Description and scale of key monetised benefits by ‘main affected groups’

Monetised benefits are based on a willingness to pay study for valuing the benefits of species recovery in England. The main affected group is households in England, who benefit from improved biodiversity and species recovery outcomes delivered through mandatory Biodiversity Net Gain (BNG) for NSIPs. These benefits represent non-market welfare gains, including existence, bequest, and amenity values associated with habitat creation and restoration.

Other key non-monetised benefits by 'main affected groups'

General public and local communities:

- Avoided loss of biodiversity on NSIP sites (around 800-1,000 hectares of land developed into NSIPs each year) and delivery of at least 10% net gain is expected to improve ecosystem services such as flood management, carbon sequestration, air and water quality, recreation and amenity.
- National evidence for comparable habitat creation and restoration (including wider habitat targets) indicates large positive net present values and benefit cost ratios typically in the range of about 3:1 to 8:1, suggesting substantial long-term welfare gains.

Developers:

- More consistent, predictable BNG regime for NSIPs, including clearer expectations (10% target), standard templates and guidance, and single framework across LPAs.
- Reduced negotiation costs and delay risk could result in financial savings while additional revenue opportunities could be created where developers already deliver net gain above 10% and sell surplus biodiversity units into the market.

Key assumptions/sensitivities/risk	Discount rate (%)	3.5
Assumptions		
<ul style="list-style-type: none"> - Developers are rational, cost-minimising and follow the mitigation and spatial hierarchies. - Cost model assumes a per-unit cost hierarchy where on-site is cheaper than off-site which is cheaper than statutory credits. - Costs of purchasing additional land specifically to deliver net gain are excluded, on the basis that: there is no robust evidence on how often developers would do this, the policy design (SRM) encourages on-site or nearby delivery making off-site a more costly approach, large infrastructure is not expected to irreplaceably consume all developable land. - Extending the biodiversity gain site register to NSIPs is assumed to not create material additional public sector operating costs above the TCPA BNG regime. - Additional process costs to developers are assumed to be small and largely to formalise existing practice, as: NSIP developers already undertake ecological surveys, reports and implement mitigation and monitoring, long-term monitoring of significant on-site gains is integrated into wider site management and off-site is embedded in unit prices. - Additional administrative costs for public bodies are assumed to be small and not separately monetised. 		
Risks		
<ul style="list-style-type: none"> - Perverse incentives for landowners from potentially reduced windfall gains from selling higher-biodiversity land for development, creating an incentive to degrade or neglect habitats to increase development value. This is mitigated by provisions to apply an earlier habitat baseline where intentional degradation is suspected. - Reliance on historic NSIP data over past 10 years assumes future NSIPs are broadly similar in size, scope, sector and habitat condition, with some adjustment made. If future NSIPs differ materially from this historic pattern, actual impacts may diverge from the central estimates. - Delays between development and habitat creation materially affect net present value, as ecological benefits are pushed further into the future. This is mitigated through requirements for detailed outline gain plans at application stage, and by using the biodiversity gain site register to provide transparent, public records that enable scrutiny. 		

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 30.7	Benefits: 0	Net: -30.7	

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Evidence Base

Problem under consideration and rationale for intervention

This Impact Assessment appraises the costs and benefits of extending the biodiversity net gain policy to Nationally Significant Infrastructure Projects (NSIPs). Biodiversity net gain aims to address the contribution some development makes to the sustained decline in biodiversity that England has experienced over recent decades (and indeed longer). Specifically, approximately 800-1000 hectares per year are developed into NSIPs in England per year¹.

The broader policy of biodiversity net gain has been assessed in detail in the Biodiversity net gain and local nature recovery strategies Impact assessment published in 2019.² This new assessment focuses on the decision to explicitly apply this policy to NSIPs and assesses whether it results in a net welfare increase for society.

The rationale for intervening is broadly similar to the 2019 net gain assessment - in the absence of further intervention biodiversity will continue to be undervalued through development by the market and the government. This is due to a number of market failures.

Public goods – goods and services that are non-rivalrous and non-excludable are subject to under-provision by the market alone.

Natural habitats are a major component of our natural capital; with the biodiversity they support underpinning the delivery of many ecosystem services³. Many ecosystem services are non-excludable (i.e. you cannot prevent someone else enjoying the mental health benefits of viewing nature out of their window) and non-rivalrous (i.e. the benefit you derive from seeing the nature in a green space does not affect the benefit derived by someone else), and are not usually directly rewarded financially by the market (for example, if you created one hectare of habitat, the market rate you are likely to be paid is unlikely to include the full economic value, which would include the environmental benefits). The current lack of coordination (between authorities, responsible bodies and agents such as developers) and few incentives to deliver recovery/improvements to nature leads to significant under provision (or no provision) by the market. Habitat creation is likely to be underprovided (and losses undervalued) by NSIPs developers, as demonstrated by the inconsistent adoption of net gain approaches across projects for the last ten years.

Externalities (negative) – there are wider negative impacts on others which are not considered by the individual making the decision, leading to over provision. The habitat loss due to development represents a negative externality.

Land use change through infrastructure development imposes a range of positive and negative environmental externalities (for example, habitat provision/loss, remediation which brings benefits to public health⁴/pollution which harms health) with consequent social and economic impacts. These impacts are not fully internalised in development decisions, leading to a tendency towards habitat loss and other environmental damage. This is demonstrated by historical trends in biodiversity and habitat loss outlined earlier.

¹ Based on data gather from development consent order and Ordnance survey mapping, discussed in more detail under the methodology section

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839610/net-gain-ia.pdf

³ <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>. See Chapter 4 on biodiversity in the context of ecosystem services

⁴ [Singer-2022-Environmental-Remediation.pdf \(thepublicpurpose.com\)](https://www.thepublicpurpose.com/Singer-2022-Environmental-Remediation.pdf)

Habitat creation and biodiversity deliver ecosystem services (e.g. carbon sequestration, water quality, flood regulation) that both mitigate negative externalities and deliver positive externalities⁵. While the delivery of net gain has financial costs (such as onsite habitat creation) and potential financial benefits (for example, through sale or rent value), the non-financial benefits (i.e. ecosystem services) are not fully internalised in development decisions as they do not accrue to the developer, leading to under provision. The adoption of net gain policies by some developers, industry bodies and planning authorities shows some recognition of the environment in development decisions, but the adoption is inconsistent and not widespread enough for it to be fully internalised without financially disadvantaging the projects that do so.

Equity – inequalities exist that have not been addressed by the market. Equity refers to differential impacts on individuals across a range of socioeconomic and demographic characteristics.

Unequal access to nature and greenspace most affects those who live in the most deprived areas of England⁶. This extends to access where people live as well as visit. This is demonstrated by the variations in net gain approaches across the planning system, which leads to inconsistent provision of onsite (and local) creation of nature and green spaces through developments. This further exacerbates inequality of access to nature. Failure to deliver a net gain policy for NSIPs means that residents closer to the NSIP development will be disproportionately negatively affected by the potential loss of habitat.

These market failures mean that biodiversity is declining and therefore not in a steady state of equilibrium. Failure to successfully intervene will mean losses of biodiversity will be more severe in the future and would entail continued movement away from what is socially desirable or optimal.

Main affected groups

The main stakeholders affected by the proposed policy are the English public who live and work around NSIPs and developers of NSIPs. Historically, NSIPs were primarily road and rail, power stations, energy transmission, ports and waste management projects. These were delivered both by the private and public sectors. Going forward, the preponderance of energy schemes, specifically solar and the onshore elements of offshore wind projects is increasing. The proposed policy will mean these sectors have to pay the full economic costs of development by compensating for the reduction in biodiversity caused by their development. Whilst it is expected that much of the land-related costs would be passed onto the land value in the medium-/long-term, some of the cost will be borne by developers and/or passed on to their consumers. For publicly funded NSIPs, some of the costs will be borne by the Treasury and taxpayers.

Description of options considered

Option 1: Do nothing. The net gain policy is not extended to NSIPs and encouragement to deliver it is removed leading to a loss of most or all BNG delivery by NSIPs.

Option 2: Do not set a legal requirement. Continue to update National Policy Statements to encourage voluntary BNG.

Option 3 Preferred approach: Issue a Biodiversity gain statement to apply a mandatory biodiversity net gain policy to NSIPs.

⁵ [UK NEA](#)

⁶ [25 Year Environment Plan - GOV.UK](#)

Key sub options considered through consultation process on how the mandatory requirements will apply:

3a) apply BNG to all habitats within the Order limits

3b) exempt certain sectors or NSIP types from all mandatory requirements

3c) preferred approach - Apply BNG consistently to all sectors:

- on negatively impacted habitats within the Order limits and habitats used towards BNG
- and adjust requirements on temporarily impacted land.

The policy applies to England only.

Option 1: Do nothing

With this option, the mandatory net gain policy is not extended to NSIPs and this is communicated to industry to create certainty. Sections of National Policy Statements that encourage BNG stop being added and are removed from those that already include them. There would be prolonged uncertainty in the consenting process during the extended period required to remove existing BNG sections from NPS's, as these cannot be updated quickly.

This option would have the worst environmental impacts. NSIP development is expected to increase with the government's target of consenting 150 Development Consent Orders (DCOs) by the end of this Parliament as part of its growth mission. Voluntary BNG efforts could reduce to zero although it is assumed other statutory mitigation requirements would remain in place. 800 to 1000 hectares of development would see no overall gain in biodiversity. This option would have a negative impact on government's ability to meet its biodiversity targets, in particular to halt the decline in biodiversity by 2030.

This option would also cause confusion and reputational risk. Developers who have already invested in BNG planning or publicly committed to delivering BNG on their projects may criticise this policy reversal, having already incurred unnecessary costs in anticipation of mandatory requirements.

Stakeholders more broadly such as eNGOs and local authorities would also react negatively to this option, given the repeated commitments government has made over a number of years to introduce BNG to NSIP development and who are keen to see positive impacts from development.

Removing all BNG requirement from NSIPs moves away from creating a level playing field with TCPA development, which remains subject to mandatory BNG, despite often having a smaller environmental impact than NSIPs. Allowing major infrastructure projects to bypass BNG would appear inconsistent and unfair, which risks undermining the integrity of BNG policy. This also creates a loophole for infrastructure types which are commonly consented through both routes (e.g. solar), where applicants may deliberately seek to use the NSIP classification to avoid BNG obligations.

This option also risks judicial review given that responses to the consultation on implementing BNG for NSIPs (May 2025) were supportive.

Although this option would reduce costs for some developers where their development would incur additional costs as a result of BNG, this would not be the case for all development, as existing environment mitigations for some developments are sufficient to deliver BNG. It would also undermine the efforts and cost incurred by developers who have built BNG into their applications in anticipation of a mandatory requirement.

This option would also undermine confidence and investment into the off-site market that has been established for TCPA development which was expecting a boost from the introduction of mandatory BNG for NSIPs.

Legal risks around this option would also need to be explored, with the potential for the clauses in the Environment Act needing to be repealed.

Option 2: Do not set a legal requirement

This option would involve:

- confirming that mandatory BNG will not be rolled out to NSIPs
- continuing to update National Policy Statements to encourage voluntary delivery of BNG
- developing supplementary guidance to provide clarity on how BNG can be delivered proportionately in an NSIP context and to and support best practice.

This option allows flexibility for NSIP applicants in how they deliver BNG, with the option to align with guidance in order to demonstrate best practice and to opt out of certain aspects where desirable. This may reduce any costs risks that BNG could pose to a development and may reduce costs for developers where they decide not to follow guidance. In adopting their own approaches, consistent mitigation of habitat loss is reduced. The commitment to BNG and environmental ambition currently being demonstrated by developers in anticipation of a mandatory regime seems likely to decline.

As with Option 1, there would be confusion for developers and criticism from eNGOs and local authorities. The option of a voluntary regime for NSIPs was criticised during passage of the Environment Bill leading to the primary legislation being put in place to enable mandatory BNG in 2021. Since then, governments have made repeated commitments to introduce BNG to NSIPs. As with the previous option, repealing the legislation may also need to be explored.

Keeping NSIPs in a voluntary regime leaves an uneven playing field with TCPA development which would remain subject to mandatory BNG and instead holds the largest developments that have the largest impact on nature to a lower standard. This option would also risk judicial review given that responses to the consultation on implementing BNG for NSIPs (May 2025) asked if any sectors should remain in a voluntary regime and this was not supported.

In a voluntary regime, NSIPs would not be able to access registered offsite units or statutory biodiversity credits without changes to the legislation. By further encouraging NSIPs to deliver BNG voluntarily but without giving them this access, NSIPs would be disadvantaged in attempting to deliver all of their BNG onsite or having to develop partnerships with offsite providers to purchase units that aren't registered. This would reduce transparency and increase risk of double counting off-site units, which could undermine the integrity of the market. It would also undermine confidence and investment into the off-site market established for TCPA development, which anticipated growth from the introduction of mandatory BNG for NSIPs.

Option 3: Preferred approach: Issue a Biodiversity gain statement to apply a mandatory biodiversity net gain policy to NSIPs

This approach is preferred because:

- It delivers consistent and measurable improvements to nature.
- It will provide regulatory certainty which is critical for investors and developers to enable delivery of infrastructure and economic growth
- It enables the creation of a streamlined BNG regime that is tailored to the NSIP context, and gives developers access to the off-site market

The key components of this mandatory approach were confirmed in the response to the 2022/2023 consultation. These include the same 10% gain requirement, calculated using the statutory biodiversity metric and use of the existing biodiversity gain site register and statutory biodiversity credits.

Sub-options of preferred approach

a) Apply BNG to all habitats within the Order limits⁷

The consultation proposed that a 10% BNG requirement would be required on all habitats within the Order limits as this is the only clearly defined boundary consistently included in development consent orders. By linking the BNG requirement to this boundary, there would be simplicity and certainty in the requirements avoiding any negotiations on this point during the consenting process. This boundary is the closest approximation to the red line boundary that BNG is required on for development under TCPA.

60% of respondents supported applying BNG to the entire Order limits. However, a large majority of developers did not support it. Consultation feedback highlighted substantial concerns about proportionality and costs, particularly for NSIPs with extensive linear cable or pipeline routes. However, the benefits of certainty in the consenting process were deemed to be outweighed by the costs.

b) Exempt certain sectors or NSIP types from all mandatory requirements

The consultation proposed a consistent application of requirements across all NSIP types, in line with the BNG consultation response in February 2022 to provide consistency and a level playing field. However, the consultation asked a question about whether any NSIP types or circumstances should have different requirements or remain in a voluntary regime.

The majority of respondents did not think any NSIP types should remain in a voluntary regime. The reasons cited were:

- consistency in policy and across regimes to reduce confusion
- all NSIPs should account for their biodiversity impacts which are often higher due to the size and locations in which they are needed,
- to further encourage investment in nature

Instead, there was support for flexibility to be built into the overall regime and for sector specific guidance. A small number advocated for different requirements or exemptions for linear, marine and intertidal projects, or for projects that provide significant environmental or social benefits.

For simplicity, fairness and consistency, the mandatory requirement should therefore apply to all NSIP types and sectors. Concerns about how BNG would impact developments, mostly applied to temporary land use. The preferred approach below (option C) sets out adjustments to how this applies to this land for all development.

The deliverability of BNG on intertidal habitat was raised by stakeholders with developments impacting these habitats. The consultation response sets out that Defra will consider taking steps to encourage the growth of the off-site intertidal market to provide that option of mitigation and help reduce costs. It also confirmed that all flexibilities that apply to development on intertidal habitat under the TCPA regime will also be applied to NSIPs.

The statutory metric allows deviation from the trading rules, or the use of the 'habitat created in advance' function, in exceptional ecological circumstances (rule 4 of the metric user guide). NSIP applicants may rely on rule 4 to justify such deviations, and Defra will consider updating the guide to ensure that these provisions encompass all potential ecological scenarios where flexibility may be required.

c) Preferred approach - apply BNG consistently to all sectors

Government is committed to supporting the delivery of major infrastructure projects that are critical for economic growth and achieving net zero. Applying BNG to the whole order limit can be disproportionate. BNG will therefore not be required on the whole order limits. Therefore, we

⁷ Order limits are the geographic limits of the powers the NSIP applicant is seeking through the development consent order. The order limits are typically identified by a continuous red line on plans provided with the application.

propose that BNG apply on a bespoke BNG boundary for NSIPs. This boundary includes habitats within the order limits that are:

- negatively impacted by the development (both temporary and permanent impacts)
- used to contribute towards BNG.

This approach reflects stakeholder suggestions for a more targeted method and maintains incentives for applicants to minimise construction impacts, as unimpacted areas are excluded from the baseline by default. Applicants may choose to include unimpacted habitats within the Order limits in their baseline, for example to simplify their baseline calculation and reporting, or to demonstrate a more ambitious approach, however they are not required to do so. This approach strikes the balance between requiring ambitious biodiversity outcomes for impacted areas and ensuring requirements and cost impacts are proportionate.

The preferred approach also includes adjustments to how BNG applies to temporarily impacted habitats. Firstly, all reinstatement of existing habitats (replacing a temporary loss of habitat with the same habitat type and condition) is considered non-significant and does not need to be secured. These habitats therefore do not require the long term BNG maintenance requirements reducing costs for developers and avoiding the issue of returning the land to its previous owner and use.

The BNG metric user guide will be amended to reflect that NSIPs typically have longer timescales for temporary impacts than TCPA development.⁸ There is an existing rule that allows habitats which are temporarily impacted and then restored to their previous habitat and condition within 2 years to be counted as retained – for NSIPs, this will be extended to 5 years for habitats of low and very low distinctiveness. This incentivises developers to use the least ecologically valuable habitats for temporary impacts.

10% BNG is still required on temporarily used land, as it has been impacted by the development. But as per existing BNG requirements, these can be delivered anywhere on-site or off-site or through statutory biodiversity credits as a last resort.

Policy objective

The primary aims of the policy regarding NSIPs are broadly similar to the overarching biodiversity net gain policy set out in the 2019 IA⁹. Particularly key to the policy of extending BNG to NSIPs is the need for consistency, clarity, and simplicity. Ensuring NSIPs are covered creates a consistent process for all developers and avoids confusion between different developments.

The objectives that have guided policy development to date are that net gain:

- delivers habitat creation, meeting government’s ambition to leave the environment in a better state than it inherited it for the next generation.
- is simple, streamlined, and certain for developers. It is easy to understand and will not prevent, delay, or reduce the delivery of major infrastructure.
- is of clear benefit to people and local communities.

Successfully extending the policy to NSIPs will subject NSIP developers to the same framework as other developers and require them to internalise a fuller range of costs and benefits into their decision making and thereby create habitats that add value to society¹⁰. Crucially the policy leaves

⁸ NSIPs are large UK infrastructure schemes—such as major energy, transport, or water projects—deemed of national importance and therefore approved through a centralised Development Consent Order process under the Planning Act 2008, rather than local planning authorities. They are often more complex and take more time to plan and construct than regular development projects.

⁹ [Net gain impact assessment](#)

¹⁰ [UK natural capital - Office for National Statistics](#). The latest (release date 30th January 2018) partial asset value of UK natural capital is estimated to be £761 billion in 2015.

the method of delivery up to the market thereby utilising free market incentives and innovation to deliver the outcome in the most efficient way.

Summary and preferred option 3 with description of implementation plan

Government amended the Environment Bill in July 2021 to apply a biodiversity net gain approach for NSIPs (in line with option 3 in the previous section). The amendment requires the relevant Secretary of State to set the requirement by creating biodiversity gain (policy) statements which set out the full detail of the approach. Statements may act as standalone policy documents (as “separate biodiversity gain statements”) and would be integrated into National Policy Statements for individual project types as and when reviews occur.

The 2022 biodiversity net gain consultation covered some of the high-level questions about how the requirement should be applied to NSIPs. Because biodiversity net gain was being applied to both regimes with the same objectives, it was broadly assumed that the process and policy applied for NSIPs would be consistent with that proposed for development consented under the Town and Country Planning Act. The 2022 consultation on key policy questions, as well as further engagement with industry, PINS, and statutory consultees informed the development of a second consultation on the detailed implementation of BNG for NSIPs, which ran from May to July 2025. This asked questions on the detailed wording of a ‘model’ biodiversity gain statement that could be applied to all NSIP types and sectors, as well as some broader policy questions.

The key broader policy questions focused on:

- the area of habitats that BNG should be applied to (the Order limits or a smaller boundary).
- whether a bespoke policy was required for land used temporarily, acknowledging that this land is often returned to its previous landowner making it challenging to secure gains for 30 years on this land.
- whether any sectors needed a variation on requirements or should remain in a voluntary regime.

A government response confirming the chosen approach has been published alongside this IA in April 2026. The government response confirms a new go-live date of 2 November 2026 to give developers sufficient time to prepare. This analysis was carried out before the decision to delay go-live, so was based on the assumption of go-live in May 2026.

Statutory Instruments and final biodiversity gain statements will be laid before Parliament and published in May 2026. Supplementary guidance will also be published in the run up to the implementation date.

Monetised and non-monetised costs and benefits of each option (including administrative burden)

Option 1

On the basis that Option 1 runs counter to the repeated commitments by governments since the Environment Act was passed in 2021 to create a mandatory regime, and that it illogically gives the largest development with the greatest impacts on the environment no requirement to mitigate these when TCPA development is required to deliver BNG, the analysis does not consider option 1 in detail. Option 1 does not improve the internalisation of the wider costs of development (e.g. habitat loss) and does nothing to deliver improvements to nature or address current market failures. Hence any weaker objective than what is set out under option 3 (i.e. a mandatory approach to delivering net gain) would be insufficient in meeting the policy objective.

Option 2

The intention of National Policy Statements (NPSs) is to make clear Government policy on the need for new NSIPs. NPSs give the regulatory body, applicants and those affected by development proposals, greater clarity about what forms of development are, or are not, in line with Government policy. Thus, by including/encouraging biodiversity net gain within this statement, making these changes imposes a cost to government, such as staff costs in assessing and making changes or operational costs in terms of consulting on changes. There will be a further familiarisation cost to NSIP developers in understanding how the National Policy Statement and supplementary guidance affects their proposed development.

On the basis that Option 2 was criticised in parliament during the passage of the Environment Bill, and is counter to repeated commitments by governments since the Environment Act was passed in 2021, the analysis does not consider option 2 in detail. Option 2 does not improve the internalisation of the wider costs of development (e.g. habitat loss) and therefore, there is unlikely to be long term voluntary delivery of biodiversity net gain due to insufficient incentives for developers to deliver solutions that benefit society once the expectation of a mandatory regime is lost. Thus, the voluntary approach does not go far enough to deliver improvements to nature or address current market failures. Hence any weaker objective than what is set out under option 3 (i.e. a mandatory approach to delivering net gain) could be insufficient in meeting the policy objective. In the absence of mandatory net gain, we would expect NSIP developers to continue to deliver some voluntary net gain, but not up to the 10% threshold. We consider current voluntary biodiversity mitigation to be the adequate counterfactual for Option 3 (preferred option).

Option 3 (preferred option)

Counterfactual

The analysis uses NSIP projects consented between 2011 and 2021 as the baseline because this period reflects behaviour before significant policy signalling of mandatory BNG. In recent years, developers have increasingly anticipated mandatory requirements and voluntarily incorporated more biodiversity measures into their designs. If we used very recent projects as the baseline, the comparison would understate the incremental effect of introducing a mandatory regime because those projects already include actions aligned with future policy.

By focusing on 2011–2021, we capture a period where:

- Policy expectations were weaker – BNG was not yet legislated, so incentives were minimal.
- Observed delivery was low – Only ~9.7% of projects achieved net gain, indicating the voluntary approach was not widespread.
- Behaviour change was limited – Developers were not yet adjusting designs to meet anticipated mandatory standards.

This provides a more realistic counterfactual for estimating additional costs and benefits of mandatory BNG, as it isolates the effect of the new requirement rather than conflating it with voluntary early adoption.

Transition costs

Familiarisation costs (developers)

Developers (in both the public and private sector) will need their employees (a mix of ecological consultants, planners, and landscapes architects) to familiarise themselves with the policy and how to apply it. As BNG for TCPA has already been in force since February 2024, many developers, consultants and planners will already be familiar with many of the aspects of BNG.

There are specificities to the application of BNG to NSIPs though that they will also need to familiarise themselves with.

There were 204 distinct organisations that submitted a DCO application since DCOs were introduced.¹¹ Specifically focussing on these organisations, assuming they need 1 day to train up two employees each¹² (for example, an environmental assessment coordinator and ecology lead) and an average salary for relevant job roles of £46,341, this gives a one-off familiarisation cost in 2025/26 of just under £88,150¹³. Both assumptions are uncertain, it could reasonably take longer to train people or more people could need to be trained. Doubling the amount of time required for training from one to two days increases costs to £176,300.

We assume that wider industry familiarisation, for example within ecological consultancy firms, is applicable in Option 2 as well as option 3 as they will need to familiarise themselves with the guidance requirements. Indeed, familiarisation may be more expensive for Option 2 as less standardised proprietary approaches to BNG proliferate. Therefore, the costs associated with this are not additional to the baseline.

Ongoing costs

1. Methodology and inputs

The analysis uses a 30-year appraisal period. A 30-year appraisal period is deemed appropriate because it aligns with the statutory minimum duration for BNG habitat delivery. Benefits of the measure ramp up over time and the 30-year appraisal period captures the timeframe over which most ecological benefits realistically materialise. In contrast, a 10-year period would miss significant long-term benefits, while 60 years introduces avoidable uncertainty around the permanence of habitats. To account for the variance in benefits over the different time periods values for 10 and 30 years have been provided below in the sensitivity analysis.

The analysis adheres to Green Book guidance¹⁴ on appraisal in government, for instance when choosing a 3.5% discount rate.

Defra sought to collect data for 82 NSIPs in England, for which consent had been granted between 2011 and 2021.¹⁵ The assessment of each NSIP for the purpose of this analysis requires that the NSIP project had begun construction. Defra were constrained in accessing land plans, faced difficulties in establishing whether projects were granted/built/halted and had technical difficulties in drawing the boundaries of available land plans. As a result, a sample of 31 available project plans were reviewed.¹⁶ Defra and Ordnance Survey digitised and overlaid publicly

¹¹ Based on data gathered from [PINS](#).

¹² The UK Green Building Counsel offers a half day masterclass course, extra half day added for course reading

¹³ Calculation based on an equal mix (32 of each across the 96) of ecological consultants (salary £52,065, Source: CIEEM State of the Profession Survey 2025), Planners (salary £35,846, Source: ASHE 2025 planning officer (quoted by CIEEM)) and Landscape architect (salary £51,112, source: ASHE 2025 architect (quoted by CIEEM)). 22% uplift for non-salary costs is then added.

¹⁴ [The Green Book - GOV.UK](#)

¹⁵ Defra and Ordnance Survey digitised and overlaid publicly available project plans onto an OS master-map (OSMM) layer in QGIS (open source software package). Where projects had completed construction, pre and post-construction OSMM land cover datasets were compared

¹⁶ Where projects were still under construction, the areas of different habitats were compared pre-and-post development for completed projects to infer the approximate loss of soft habitat for incomplete projects (at 69%). The total habitat loss (in area) is converted into units using the biodiversity metric to calculate the total compensatory units that need to hypothetically be delivered.

available project plans onto an OS master-map (OSMM) layer in QGIS. Where projects had completed construction, pre- and post-construction OSMM land cover datasets were compared.

The scale of biodiversity and habitat loss caused by those developments was assessed by comparing the pre- and post-development extent of habitats and converting the total habitat loss in area into biodiversity units. NSIPs already mitigate and compensate for environmental impacts, both voluntarily and in order to comply with other regulations. A lot of the mitigation and compensation already taking place can count towards BNG.¹⁷ As such, comparing the pre- and post-development extent of habitats accounts for the mitigation and compensation already occurring absent mandatory BNG during that period.

The analysis presented below has been informed by looking at historical NSIP projects. The analysis uses historic data for NSIPs that have been granted consent over the 10-year period and extrapolates this to provide a view on the scale and direction of impacts but does not reflect the pipeline of all new NSIPs that may commence the thirty-year appraisal period. As such, all the costs and benefits analysis rely on the crucial assumption that future NSIP developments over the appraisal period are reflective of previous NSIP developments (in terms of size, scope, sectoral breakdowns, and habitat condition pre-development).

The sample contains 12 energy NSIPs (39%), 12 highway NSIPs (39%), 4 rail NSIPs (13%), 2 port NSIPs (6%) and 1 waste NSIP (3%).¹⁸ The population contained 53% energy NSIPs, 31% highway NSIPs, 10% rail NSIPs, 3% port NSIPs and 3% waste NSIPs.

Meanwhile, the current NSIP pipeline¹⁹ (projects examined between 2022 and November 2025) contains 25 energy NSIPs (61%), 8 highway NSIPs (19%), 1 rail NSIP (2.5%), 1 water NSIP (2.5%), 2 airport NSIPs (5%), 2 port NSIPs (5%), 2 other pipeline NSIPs (5%).

The sample lacks airport, other-pipeline and water NSIPs. The current pipeline for energy NSIPs also contains a significant amount of solar NSIPs (11). The heterogeneity of projects means that any generalisation needs to be treated with caution.

Table 1: Evidence and assumptions used in the analysis

<u>Costings assumptions and variables</u>	<u>Description</u>
NSIP characteristics over time	It uses historic data for NSIPs that have received permission over the assessment period and extrapolates this to provide a view on the scale and direction of impacts and does not reflect the pipeline of new NSIPs that may commence in the appraisal period. Average future NSIPs are assumed to be similar to the appraised NSIPs.
% of biodiversity delivered on-site	90% (75% in the sensitivity) ²⁰
% of biodiversity delivered off-site	10% (25% in the sensitivity) ²¹
% of units delivered as credits	0%

¹⁷ [What you can count towards a development's biodiversity net gain - GOV.UK](#)

¹⁸ These are broad sector categories. Sub-sectors within those broad categories are likely to exhibit more similarities within the sub-sector than across the sector. For instance, within the energy category, nuclear projects are likely to be very different from solar projects which are all different from energy transmission projects. However, the low number of available data points make it difficult to break down sectors further because it would likely result in sampling bias.

¹⁹ Based on examinations starting between 1 July 2022 and 15 November 2025.

²⁰ See section 7.

²¹ We have done sensitivity analysis for a scenario where this is 25%.

Baseline projects achieving net gain in the sample	9.7%- Projects already meeting the requirement are factored into the figures used in the assessment of costs to ensure they are assessed against an accurate do-nothing baseline.
Approach to mitigation	It is assumed that developers will choose the cheapest way of acceptable mitigation.
Number of units delivered on-site per hectare	4-6 (5 best estimate) ²²

2. Habitat creation and restoration cost estimates

Table 2: Habitat creation and restoration estimates

<u>Creation and restoration cost estimates</u>	<u>Source</u>
All costs are over a 30-year period.	
Median creation cost £11,734/ha (2023) Median restoration cost £7,728/ha (2023)	Hawkins, I., Addison, P., Malhi, Y. Smith, A., Whitney, M. and zu Ermgassen. S. (2023)
BNG cost on-site: £10,393/ha (2018) BNG cost off-site: £21,893/ha (2018)	Vivid Economics (2018)
Nominal habitat creation and management cost: £50,722/ha (2020)	WSP

The cost of delivering on-site habitat is a key variable in this analysis. Of the sources above, the highest estimate and the estimate deemed most appropriate for this analysis is WSP’s estimate of £50,722 per hectare. It is derived from WSP’s financial and economic appraisal of major infrastructure projects. In 2025 prices, that equates to £61,347 per hectare.

This analysis of costs captured a “variety of biodiversity intervention methods, including habitat enhancement and creation, as well as monitoring, reporting and maintenance”, for a wide range of habitat types which were considered to reflect the habitats impacted by the case study schemes of the paper, which also broadly reflect the habitat types of the sample projects analysed in this assessment. The source study removed land purchase/rental costs and this analysis does not re-include such costs as on-site habitat creation and restoration occurs on land purchase for the main purpose of the NSIP. The cost estimates were then inflated using the GDP deflator from Office for Budget Responsibility (OBR) forecasts to account for expected inflation over time by the source study, thereby assuming that the cost of habitat intervention is linked with inflation. A mean was taken of the adjusted cost data (with some outliers removed from this average) for each year over a 30-year period from the opening year for each scheme considered in the study.

This source study is deemed appropriate. The source study was created by a consultancy commissioned by Defra, DfT and Natural England to specifically examine the effect of BNG on for major infrastructure projects and compiled several reputable sources for habitat intervention costs such as from Accounting for National Nature Reserves, county council and contractor estimates and removed outliers which were deemed to compromise the analysis.

This cost estimate was also subject to sensitivity analysis.

²² The wider range of BUs per hectare is between 2.5 and over 12. Those figures are for very specific types of habitats under specific conditions. On average, we estimate the number to be in the 4-6 range.

The cost estimates that follow should be interpreted as estimates of mitigation as the policy would be introduced without having taken account of wider adjustments to development and mitigation strategies that can reduce BNG burdens. As BNG becomes a regular feature of planning and development, it is likely that participants will seek to reduce mitigation costs, either by avoiding environmental impacts or by reducing the cost of compensatory biodiversity units. The policy was set up as a market mechanism in order to encourage these interactions through straightforward cost incentives.

3. Number of units delivered on-site per hectare

We assume that NSIPs will maximise the delivery of biodiversity units that can be achieved with the estimated £61,347 cost per hectare of habitat intervention. Using the Biodiversity Metric Calculator²³, and using relevant inputs for habitats likely to be delivered, the estimated £61,347 cost per hectare should deliver between 4 and 6 units (5 best estimate) per hectare on average. The metric combines habitat distinctiveness, time to target condition, habitat creation and restoration difficulty risk and habitat condition, as well as other multipliers described to calculate the biodiversity unit output in a given land area. Changes in any of these multipliers individually change this number but we think that our estimate represents a reasonable average. Delay to starting of habitat intervention is assessed and accounted for below, as is strategic significance and spatial risk.

4. Cost of on-site units

Using the onsite mitigation cost estimate per hectare above, as well as the estimates for BUs created per hectare, the cost of delivering on-site units is estimated to be between £10,225 and £15,337 (£12,269 best estimate) depending on the number of biodiversity units delivered per hectare.

It should be noted that unlike other BU costs (off-site market), this estimate does not include a component reflecting the cost of land or a profit margin as these are not required for on-site mitigation and compensation after completion of an NSIP. This explains the difference between on-site mitigation costs and off-site unit costs in the next section.

Furthermore, the above represents a generic area habitat biodiversity unit, there is likely to be significant variation between types of BUs.

5. Cost of off-site units

Market analysis by Eftec in 2020 estimated the price for off-site units within the same local planning authority (LPA) to be £20,000 in 2020 prices and in neighbouring LPAs £25,000 (accounting already for the spatial multiplier).²⁴ In 2025 prices, those estimates rise to £24,190 and £30,237.

In 2024, internal analysis from Natural England drew data from 3 online marketplaces, the Future Homes Hub (FHH), the Environmental Trading Platform (ETP) and Gaia Marketplace and found that the average unit price on those platforms is £30,036.²⁵ Similarly, other evidence suggested that the listed price is around £30k on average.²⁶ Since then, prices, especially those of the most traded units, have fallen.

²³ [Statutory biodiversity metric tools and guides - GOV.UK](#)

²⁴ [Biodiversity Net Gain: Market Analysis Study - NR0181](#)

²⁵ This is the price for area units.

²⁶ Carbon Pulse. Available at: [UK biodiversity net gain marketplace lists 25,000 units at £30k average](#)

Table 3 compares the “BNG Pricing Report”²⁷ from 2024 with the one from 2025:

Biodiversity Unit Type	Oct-24	Oct-25	difference
Other Neutral Grassland	£ 26,950	£ 25,558	-5.2%
Heathland and Scrub	£ 30,500	£ 29,198	-4.3%
Lowland Meadow	£ 39,300	£ 35,476	-9.7%
Mixed Deciduous Woodland	£ 55,813	£ 42,691	-23.5%
Traditional Orchards	£ 40,800	£ 36,125	-11.5%

These habitats represent over 70% of the BNG market, with other neutral grassland alone accounting for almost half (44%) of the units traded.²⁸ This suggests to us that a more sensible estimate for the average price of biodiversity units is £27,500-£28,500²⁹. We expect this trend to continue as the BNG market becomes more liquid.

Furthermore, these prices are listed prices. It is likely that the final transaction price is subject to further negotiations between the seller and the purchaser of the unit and should therefore be somewhat lower on average than the average listed price.

The final transaction price is however not always the effective cost of mitigation per BU required. See below for discussion on the spatial risk multiplier (SRM), temporal multiplier and strategic significance multiplier.

We have estimated the effective cost of offsite mitigation as follows:

- Low estimate (£25,558) = Compensation with the most common offsite unit type (Other Neutral Grassland). See below (page 21) for an explanation of why this is appropriate in this context.
- Central estimate (£28,500) = Upper end of the likely average BU price on the market.
- High estimate (£37,905) = central estimate (28,500) * 1.33 adjacent LPA/NCA SRM multiplier.³⁰

It is also important to note that the BNG market is over-supplied in 2025. Only between 4% and 5% of the BUs on the BNG register allocated.³¹ Also, third-party platform data suggests that there is further supply available not yet registered. In such a context, NSIPs would have significant monopsony power in their National Character Area BNG markets and should be able to negotiate down the listed prices. This effect is magnified because the main requirements for off-site units from NSIPs are likely to be for achieving 10% net gain rather than no net loss (NNL). See below for more detail.

Monopsony Power

Oversupply in the BNG market coupled with the relative size of NSIPs compared to TCPA development means that NSIPs should have considerable monopsony power in local BNG markets. This means that where they access the offsite market, NSIPs should be able to negotiate favourable prices for biodiversity units compared to the prices that are currently listed on third-party platforms. We cannot say what the size of this discount could be, but this means that effective offsite mitigation costs are lower than what this analysis uses. This means that the cost estimates in this analysis could be over-estimates of the real costs of BNG.

²⁷ [Biodiversity Units UK — Signup for The BNG Pricing Report](#)

²⁸ [Early outcomes of England’s new biodiversity offset market](#)

²⁹ This is based on the £30k Carbon Pusle figure from 2024 with a 5% discount to reflect the price reduction we have observed between 2024 and 2025.

³⁰ LPA = local planning Authority, NCA = National Character Area, SRM = Spatial Risk Multiplier.

³¹ As of November 2025.

6. Cost analysis

a. Sample analysis

NSIPs in the sample require an average of 195 compensatory BUs. As discussed above, some of the environmental mitigation happening already is accounted for in this figure. Based on the cost of mitigation assumptions set out in section 4 and 5, and an on-site/off-site split of 90%/10%, we estimate that, for the NSIPs in the sample, achieving BNG costs between £2.29m and £3.43m (£2.71m best estimate) per NSIP on average. Note that these costs represent the average cost per NSIP in the sample and do not represent any future NSIP. Future NSIPs vary significantly in scale and cost and the BNG costs will equally vary significantly.

During the period the sample was taken (2011-2021), 82 NSIPs (hereafter: the population) were started (or 7.45 per annum). As such, the average annual cost of BNG for NSIPs over that period is estimated at £17.1 - £25.5m (£20.2m best estimate).

b. Public/private split

Public and private NSIPs differ in BUs required. Private NSIPs in the sample require on average 238 units (accounting for off-site mitigation multiplier), while public NSIPs require 142.³² Based on this, we estimate that BNG mitigation for private NSIPs cost between £2.80m and £4.19 (£3.30m best estimate), while mitigation costs between £1.67m and £2.50m (£1.97m) for public NSIPs.

The sample included 17 private NSIPs and 14 Public NSIPs (55% private). The population contained 53 private NSIPs and 29 public ones (65% private).

As such, adjusting for the difference in private vs public NSIPs between the sample and the population, the costs of BNG for NSIPs break down as such:

Table 4: Annual total cost of BNG for NSIPs, public/private split, based on sample

	Low	Medium	High
Private Cost of NSIPs (£m)	13.6	16.0	20.3
Public Cost of NSIPs (£m)	4.4	5.1	6.5
Total Cost (£m)	18.0	22.1	26.8

In this scenario, there would be 4.85 private NSIPs per year and 2.60 public NSIPs.

c. Projection

The current NSIP pipeline as reported by the Planning Inspectorate shows that since mid-2022, 42 projects have been examined.³³ Some of these projects are already being built while the others are the most likely projects to be started in the immediate future. Over three and a half years, that means that almost 12 NSIPs were examined per annum. This is an increase over the ~8 NSIPs during the sampling period.

The analysis uses a range of 10-14 NSIPs per annum, with 12 projects the medium estimate. Table 5 is based on this assumption.

³² In the sample, private NSIPs have a higher land take than public NSIPs.

³³ Planning Inspectorate – Find a national Infrastructure Project. Available at: [Welcome to Find a National Infrastructure Project](#)

Table 5: Annual cost of BNG for NSIPs, public/private split, based on current pipeline

	Low	Medium	High
Private Cost of NSIPs (£m)	18.2	25.8	38.1
Public Cost of NSIPs (£m)	5.8	8.3	12.2
Total Cost (£m)	24.0	34.1	50.3

Note that this table both varies the costs of mitigation and the annual number of NSIPs at the same time.

The list also shows an increase in the share of privately funded NSIPs (80%) in the future compared to the sampling period (65%), likely as the result of a higher number of energy NSIPs. Adjusting for that gives Table 5:

Table 6: Annual cost of BNG for NSIPs, public/private split, based on current pipeline, adjusting for increase in private

	Low	Medium	High
Private Cost of NSIPs (£m)	22.4	31.8	46.9
Public Cost of NSIPs (£m)	3.3	4.7	7.0
Total Cost (£m)	25.7	36.5	53.9

The sample size is too small to similarly adjust for the changes prevalence of NSIP sectors.

7. On-site/Off-site Mitigation Split

There is currently uncertainty around the share of BNG delivered on-site versus off-site. Previously, Defra estimated that for overall BNG, 75% of mitigation happens on-site and 25% happens off-site.³⁴ Evidence from TCPA³⁵ development suggests that more mitigation happens on-site.³⁶ We think that NSIPs, due to their size and due to the cost advantage of on-site mitigation will also do a lot of on-site mitigation (90%).

Although this figure varies between developments, the central analysis assumes that on average 90% of mitigation happens on-site. For comparison, assuming that only 75% of mitigation happens on-site and 25% happens off-site increases the costs of BNG mitigation by around 20%.

Table 7: Annual cost of BNG for NSIPs, based on 75% Onsite/25% Offsite Split

	Low	Medium	High
Private Cost of NSIPs (£m)	26.9	38.2	56.3
Public Cost of NSIPs (£m)	4.0	5.6	8.4
Total Cost (£m)	30.9	43.8	64.7

On the other hand, if no mitigation happens off-site at all, then the costs of BNG mitigation are around 13.5% lower than in the main case.

³⁴Biodiversity net gain and local nature recovery strategies Impact Assessment. Available at: [Net gain impact assessment \(publishing.service.gov.uk\)](#)

³⁵ BNG became mandatory for most large developments under the Town and Country Planning Act (TCPA) 1990 from 12 February 2024, and then for smaller developments from 2 April 2024.

³⁶ Exploring the ecological outcomes of mandatory biodiversity net gain using evidence from early-adopter jurisdictions in England. Available at: [The Society for Conservation Biology \(wiley.com\)](#)

Table 8: Annual cost of BNG for NSIPs, based on 100% Onsite/0% Offsite Split

	Low	Medium	High
Private Cost of NSIPs (£m)	19.4	27.5	40.6
Public Cost of NSIPs (£m)	2.9	4.1	6.1
Total Cost (£m)	22.3	31.6	46.7

8. Offsite BNG and No net loss

Evidence from the consultation and discussions with stakeholders have suggested that NSIPs broadly already achieve no net loss in biodiversity as measured by the BNG metric due to adherence to existing regulations and incentives. That means that in effect the additional costs of mandatory BNG for NSIPs will be the additional mitigation required to go from no net loss (or 0% BNG) to at least 10% BNG.

The evidence obtained through ordnance survey mapping shows the total change in use of land of an NSIP to which we added the requirement to get to 10% net gain. The analysis therefore also picks up some costs of mitigation that are not strictly due to the new requirements of mandatory BNG for NSIPs but that would have happened regardless. Despite that, this method means that the analysis is valid for those projects that did not already achieve no net loss.

Under BNG there are fewer restrictions on the type of biodiversity unit that can be used to achieve the 10% net gain compared to the units needed to compensate for lost habitat.³⁷ As such, projects can more easily reduce the costs of mitigation either offsite or onsite by choosing to do the most cost-effective mitigation possible. For instance, it is likely that they would choose to buy “Other Neutral Grassland” units where possible as they are already cheaper than other units before negotiation. This also increases their market power due to having a higher elasticity of demand, which should allow them to secure BUs at more favourable prices.

9. Accounting for the spatial risk multiplier (SRM)

Under BNG for TCPA, the spatial risk multiplier applies to compensatory habitat delivered off-site and outside the Local Planning Authority or National Character Area³⁸ in which the development took place. Where the compensation happens in a neighbouring LPA or NCA, a 0.75 multiplier applies to the habitat delivered, meaning that 33% more habitat needs to be delivered. Where the compensation happens anywhere else, a 0.5 multiplier applies requiring 100% more habitat delivered.

The impact of the spatial risk multiplier on the analysis presented here depends most heavily on the proportion of on-site and off-site habitat delivered, with a higher on-site proportion resulting in lower impact of the SRM.

The reason this multiplier exists is to incentivise compensation close to the site of impact.

For NSIPs, we propose to widen the area considered local to permit NSIPs that cross boundaries (whether LNRS or NCA) to consider all habitat mitigation to be local in any of the LNRSs or NCAs the NSIP touches regardless of where exactly the impacted habitat is.

These proposals streamline metric calculations, enable NSIPs to make strategic decisions about on-site mitigation, making it unambiguously easier to deliver BNG compensation, reducing costs.

³⁷ See the “Trading Rules” in the Statutory Biodiversity Metric User Guide. Available at: [Statutory biodiversity metric tools and guides - GOV.UK](#)

³⁸ [Natural England - National Character Area Profiles - National Character Area Profiles](#)

10. Accounting for strategic significance

The strategic significance multiplier occurs where compensatory habitat is delivered within an area formally identified in a Local Nature Recovery Strategy. In that case, the habitat delivered incurs a 1.15 multiplier to its unit score.

There is an incentive for NSIPs to seek to compensate within areas of strategic significance if possible. This is more likely for off-site compensation where there is more flexibility about the location of compensation, but can also happen for on-site mitigation. Everything else being equal, any on-site mitigation happening in those areas would reduce the cost of mitigation.

11. Accounting for delay to starting of habitat mitigation

NSIPs, due to their size, are likely to seek to deliver significant amounts of habitat mitigation on-site after completion of construction. However, their size also results in longer construction times and a longer gap between clearance of a habitat and on-site replacement compared to TCPA development. Similarly to the temporal risk multiplier, the delay to starting condition adjustment accounts for the time gap between the clearance of habitat and the adequate replacement of the habitat. Essentially, it accounts for the loss in biodiversity benefits in the interim. The adjustment is based on the Green Book discount rate of 3.5% annually.³⁹

The delay to starting adjustment is added to the time to target condition of the various habitat types used for mitigation.

Table 9: Time to target multiplier, on-site cost increase

Year	Time to Target Multiplier	Percentage increase
0	1.000	0%
1	0.965	3.6%
2	0.931	7.4%
3	0.899	11.2%
4	0.867	15.3%
5	0.837	19.5%
10	0.700	43%
15	0.586	70%
20	0.490	104%
30	0.343	191%

Thus, if a habitat has a time to target condition of 10 years, and the time between habitat clearance and replacement is 5 years, then a multiplier of 0.586 is applied to the BU outcome score of the habitat used for mitigation as opposed to a multiplier of 0.700. This can also be seen in an increase in cost per BU needed for compensation of 19.5%.

The biodiversity metric accounts directly for the time to target condition of different habitat types and is accounted for in the unit per hectare estimation above.

This means that there could be a longer gap between habitat clearance and the start of onsite habitat creation and compensation.

For indication, a 2-year gap between clearance of habitat and start of habitat intervention incurs a 0.931 multiplier or 7.4% cost difference per BU. For example, the on-site mitigation cost might rise from £12,269 per BU (see section 4) to £13,207 per BU. This increase only impacts on-site

³⁹ [The Green Book - GOV.UK](#)

mitigation costs, as off-site mitigation can be bought immediately (or even in advance), avoiding this increase (or even reversing it).

12. Creating habitat in advance

Habitats can be created or enhanced in advance of habitat clearance on-site, for example, when habitat banking is used. The 'creation in advance' function of the temporal risk multiplier in the metric accounts for this by reducing the time to target condition by the number of years that the habitat is created or enhanced in advance of habitat clearance on-site. In such a case, the temporal multiplier increases the number of biodiversity units generated by a given intervention.

13. Temporary impacts to habitat

Responses to the consultation highlighted that for some NSIPs the application of BNG to temporarily impacted land can lead to issues.

Infrastructure projects often lease land for access to the construction site or to be used for storage during construction. After completion of the project, the leased land is returned to the previous owner in its previous state. That makes it impossible to deliver habitat compensation on that third-party owned land as habitats cannot easily be secured for thirty years without the owner's consent.

The BNG metric already allows land temporarily impacted and returned to previous condition within two years to be counted as retained/unimpacted.

As NSIPs have longer construction periods than TCPA development, two years is often insufficient time between habitat clearance and completion of construction to permit reinstatement of habitat and return temporarily impacted land to its previous use.

Therefore, we propose, for NSIPs, to extend the period from two to five years for habitats that are classed as 'low' or 'very low' distinctiveness in the BNG metric. This would capture most agricultural land and modified grassland temporarily impacted, reducing the overall BNG liability of NSIPs.

Quantification of the overall cost savings this change represents is infeasible and disproportionate. The extent that individual NSIPs acquire land temporarily for construction varies a lot.

14. Applying BNG to the Order Limit or a smaller BNG boundary

Some respondents to the consultation argued that applying BNG requirements to the entire Order Limits can significantly inflate compliance costs and introduces inefficiencies in project delivery.

Unlike the red line boundaries for TCPA development, Order limits define the maximum area of land that can be used for the development and associated works to allow design flexibility, meaning they can encompass areas that will not be impacted by construction. When these areas are included in the biodiversity baseline, the calculated obligation for a 10% net gain is based on a possibly artificially high starting value.

This can result in disproportionate costs relative to the actual environmental impact, often requiring excessive BNG costs. If the BNG baseline were tied strictly to impacted land, there is a risk that developers could be incentivised to choose more intrusive construction methods that reduce the area or value of habitat inside the BNG boundary, thereby lowering their BNG

obligation. Applying BNG to a discrete, impact-aligned boundary therefore needs to be designed carefully to avoid such unintended incentives.

We therefore propose that BNG will apply to a bespoke BNG boundary within the Order limits that comprises habitats that are:

- negatively impacted by the development (both temporary and permanent impacts)
- used to contribute towards BNG (some developers may choose to include unimpacted habitats within the Order limits in their baseline to deliver on-site BNG, or to simplify their baseline calculation and reporting, or to demonstrate a more ambitious approach, however they are not required to do so).

This approach aligns obligations with real impacts, including permanent and temporary land take, while excluding land retained solely for design flexibility. This reduces compliance costs, improves cost predictability, and ensures that resources are directed toward genuine biodiversity improvements rather than compensating for hypothetical losses. From an economic perspective, adopting a smaller BNG boundary ensures proportionality, mitigates financial risk for nationally significant infrastructure projects, and supports efficient allocation of capital toward outcomes that deliver measurable environmental benefits.

This is especially impactful in cases where projects already achieve no net loss (see under section 8), as the 10% net gain requirement represents the entirety of BNG costs. It is also of particular concern for energy transmission schemes with long linear elements, as the width of the order limit is often up to 200 metres compared to an actual construction area of 30 to 70 metres.

15. Administrative burdens

The administrative impacts of making BNG mandatory for NSIPs are expected to be small and largely formalise existing practice. NSIP applicants already undertake ecological baseline surveys, produce Environmental Statements and implement mitigation/monitoring. The mandatory regime adds structure (gain plans, securing, reporting) rather than creating wholly new processes.

For developers (public and private):

Pre-application & Examination: Prepare and submit an outline Biodiversity Gain Plan alongside the DCO application. This builds on existing ecology documentation and uses standard templates, so incremental time/cost is limited.

Off-site delivery administration: Where off-site units are used, applicants (or off-site providers) register the biodiversity gain site and allocate units to the NSIP on the BNG register. Current fees are £639 (registration) and £45 (allocation) per site.

For significant on-site gains, developers must secure the habitat for 30 years and monitor/report in line with the approved Habitat Management & Monitoring Plan (HMMP). Reporting is proportionate to habitat type/scale and typically integrated into wider site management.

For off-site gains, monitoring/reporting sits with the landowner; developers' admin is limited to upfront verification and allocation on the register.

For public bodies:

Planning Inspectorate (PINS): Minor incremental effort to review BNG elements within the existing DCO examination. PINS already considers ecological mitigation under the voluntary regime and is undertaking staff training on BNG; the marginal cost per case is small.

Local Planning Authorities (LPAs):

- Post-consent: Review/approve updated Biodiversity Gain Plans, discharge requirements relating to BNG, and enforce where necessary—functions LPAs already perform for NSIPs (e.g., for landscaping/ecology plans).
- Cost recovery: LPAs typically recover costs via Planning Performance Agreements (PPAs) and are supported by central new burdens funding for BNG implementation; Defra/PAS guidance and training further reduce burden.

Natural England (NE): Operating the BNG register and credits sales service for NSIPs alongside TCPA development is within the system's design; incremental operating costs are minimal.

16. Evolution of costs

The National Infrastructure Commission (NIC) estimates that “the nationally significant infrastructure project investment pipeline is in the tens of billions of pounds per year across transport, energy and water networks.”⁴⁰

Equally, they predict that the proportion of investment in economic infrastructure over the coming decades consented through the planning system for NSIPs will increase. They say that this “could equate to up to £30 billion of investment per year in the late 2020s and 2030s.”⁴¹ Above, we estimated annual cost of meeting mandatory BNG obligations is estimated to be between £25.7m and £53.9m (£36.5m best estimate). If the NIC is correct and the future pipeline will have more, and larger NSIPs coming through, then the costs of BNG would also be higher than the annual average estimated here.

It is worth noting though that it is expected that some of the increases in costs to feed through to land values of land affected. BNG makes development on biodiverse land more expensive. Developers will adjust to that by preferring to avoid habitats where possible reducing the demand for such land. This lowers the land value uplift that occurs when land is developed of the affected plots. This effect will take some time to feed through as NSIPs buy land in advance and most NSIPs that will be completed in the initial few years after BNG for NSIPs become mandatory will already have purchased the land needed. It does mean though that the costs of BNG on NSIP developers should reduce somewhat over time as land values adjust.

17. Assumptions

The analysis assumes that developers choose the cheapest way to deliver net gain. To achieve net gain in a way that is consistent with the mitigation hierarchy and reflecting the ‘spatial hierarchy’ preference for local enhancements, developers should follow these steps in order:

1. aim to avoid or reduce biodiversity impacts through site selection and layout enhance and restore biodiversity on-site
2. create or enhance off-site habitats, either on their own land offsite or by purchasing biodiversity units on the market

⁴⁰ NIC – Infrastructure Progress Review 2024. Available at: [NIC-IPR-2024-Final.pdf](#)

⁴¹ Ibid.

3. as a last resort to prevent undue delays, purchase statutory biodiversity credits from the Government where they can demonstrate that they are unable to achieve biodiversity net gain through the available on-site and off-site options.

This mitigation hierarchy is also reflected in the structure of the assumed costs in this assessment, as it is currently modelled such that the cost of onsite delivery per unit is cheaper than the cost of offsite delivery and government credits (in units).

In terms of offsite delivery of units, developers could choose to deliver net gain themselves on other pieces of land which they own, buy replacement land to then deliver net gain themselves, pay a farmer/landowner to deliver the net gain obligation on their behalf through purchasing offsite units in the market, or purchase statutory biodiversity credits. The cost of purchasing replacement land to deliver net gain themselves (e.g. if infrastructure has irreplaceably consumed existing land onsite and so developers need more offsite land) is not incorporated into the analysis for a few reasons:

- Firstly, there is no reliable evidence to suggest the number of developers who would choose to do this as it is highly location dependent and thus any attempt to estimate this would be grossly unreliable.
- Secondly, the design of biodiversity net gain itself encourages onsite delivery or as close to onsite as possible, as incentivised by the biodiversity metric's spatial risk multiplier (which reduces the biodiversity value of habitats delivered further away from the development meaning more units need to be delivered). As a result, the inherent design of the policy means developers purchasing land to deliver net gain is unlikely, unless they are able to find land close to the original development site. This also has additional search and transaction costs. Thus, if developers follow the mitigation hierarchy and are rational, they will always choose the least costly way to deliver net gain - buying land is a significant upfront capital cost that developers could alternatively use to pay a farmer/landowner to deliver net gain on their behalf. Defra expect that developers would prefer to deliver further gains within the existing project boundary, on other land in their estate, or through the purchase of market off-site biodiversity gains without resorting to additional compulsory acquisition of land.
- Thirdly, incorporating land values is difficult and unreliable. MHCLG Land Value Estimates⁴² do not represent the value of land when any potential uplift resulting from their use in facilitating the delivery of a project has been taken into account and additionally these values are not to be used as an indicator of market price. It is therefore considered that the capital cost of the acquisition of land may be considerably greater than agricultural land values. Also, the analysis of costs in this assessment looks at each of the 31 projects individually and so the land values for plots near each of these projects may not accurately reflect land values for plots near future NSIPs (meaning the analysis of costs would not reflect future projects).
- Furthermore, it is not expected that infrastructure would irreplaceably consume existing land for development, as spatial analysis has demonstrated that the level of habitat loss would be 69% for large scale infrastructure projects, not 100%.

As such, the costs of purchasing additional land to deliver net gain is not incorporated into the figures for both the assumed cost of onsite and offsite delivery.

Biodiversity gain site register (Public sector)

The BNG register provides a central database for biodiversity units. This database already operates for BNG for TCPA and it is not expected that adding NSIPs will affect the operating costs

⁴² [Land value estimates for policy appraisal 2019 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414242/land-value-estimates-for-policy-appraisal-2019.pdf)

to government. Therefore, it is assessed that there are no additional costs associated with the register above the baseline.

Submission, registration, and monitoring costs (to developers)

Submission

When biodiversity net gain is made mandatory for NSIPs, there may be additional burdens during the application process, when developers submit plans to the Planning Inspectorate (also known as PINS). PINS is the government agency that manages the NSIP consenting process.

During the pre-application stage, developers will need to prepare an outline biodiversity gain plan to submit alongside their application for development consent. Although this may represent an additional burden, the additional cost of submission to developers is negligible. Developers already consider ecological impacts and opportunities, including through producing environmental statements assessing the key environmental impacts of development and potential mitigations. The majority of applicants already produce BNG reports as part of their DCO application to demonstrate how they will achieve BNG under the voluntary regime.

Registration

If applicants choose to deliver any BNG through off-site gains, there will be an application fee associated with registering and allocating the off-site gains to the development. The current cost to register a biodiversity gain site is £639 (registration fee) and the cost to allocate biodiversity units to the development is £45 (allocation fee). The registration and allocation fees may be paid by either the landowner (offsite provider) or the developer.

Monitoring

Monitoring and reporting obligations for developers only apply where they will deliver BNG using any significant on-site gains. For off-site biodiversity gains, the responsibility for monitoring and reporting rests with the landowner managing the biodiversity gain site. The developer makes a payment to secure these off-site units, which includes the costs of long-term management and monitoring. These costs are already accounted for under direct costs to developers.

For significant on-site biodiversity gains, the developer is responsible for ensuring monitoring and reporting obligations are fulfilled in line with the approved biodiversity gain plan and habitat management and monitoring plan (HMMP). Significant on-site gains must be maintained for at least 30 years from the initial habitat creation or enhancement works. The policy does not prescribe exact monitoring and reporting frequency over this period – it's flexible to allow a proportionate reporting depending on the type and scale of habitat works. While this introduces some ongoing costs for developers, these are expected to be proportionate and relatively small compared to overall project maintenance costs. NSIPs typically operate for decades, so biodiversity monitoring becomes part of wider site management rather than a standalone burden. The option to use standardised HMMP templates will minimise complexity and reduce costs.

Overall, all administrative costs to developers (Developers already undertake detailed ecological baseline surveys, produce Environmental Statements, and implement mitigation and monitoring measures as part of existing NSIP consenting requirements. Most applicants already prepare BNG reports under the current voluntary regime. The new obligations primarily formalise and extend these practices, introducing a 30-year monitoring period for significant on-site gains and standardised reporting templates. The marginal cost associated with the register or monitoring are therefore difficult to isolate from their existing costs.

Administrative time costs (public sector)

Although there may be additional marginal costs for the Planning Inspectorate to review the BNG element of applications once BNG is mandatory, we understand that PINS have already begun to incorporate BNG advice as well as some training and development costs for staff into their regulatory model under the voluntary BNG regime. The net gain element within the process is already one check amongst many and is therefore difficult to quantify or assess what is likely to be a quite small marginal additional cost once BNG is mandatory. The mandatory approach will formalise the process and improve consistency in applicant reporting on BNG, potentially streamlining the process for PINS. Thus, the additional cost cannot be separated from their business-as-usual activities and is not monetised.

The degree to which these costs for PINS may vary depends on factors including:

- Time: the first few cases of assessing NSIPs may be more difficult or likely to lead to challenge from developers until the precedent around BNG is well established. This is to be expected with the implementation of a new regulatory process in any industry.
- Project type: there may be additional complexity in the examination process depending on the location or scale of project. This is not a significant new burden for PINS given the complexity faced in assessing current NSIP applications

Local Planning Authorities (LPAs) will have a role in approving updated biodiversity gain plans post-consent and discharging related requirements. They also have powers to enforce the terms of the DCO, including any BNG-related requirements. This introduces some administrative cost, but several factors mitigate the impact:

- LPAs already engage in NSIP processes to discharge and enforce requirements post-consent, typically including those relating to ecology, landscaping, and voluntary BNG.
- LPAs can recover costs through Planning Performance Agreements (PPAs) with applicants, and government intends to provide statutory backing for LPAs to charge for full cost recovery.
- LPAs have received new burdens funding since 2021/22 to implement BNG under the TCPA regime, and the latest round (2025/26) can support preparation for NSIPs.
- Defra, in partnership with the Planning Advisory Service, will also provide training and guidance to build capacity and ensure LPAs are equipped to manage BNG requirements.

Given these measures, the additional administrative cost for LPAs is expected to be small and negligible given the existing role of local authorities in the NSIP consenting process, and in BNG for TCPA developments. Costs will be largely absorbed within existing funding and cost recovery mechanisms.

In most cases, the relevant LPA will review and approve updated biodiversity gain plans. However, in some cases, where projects span multiple LPAs or require central coordination, this role could fall to the Secretary of State (SoS) - for example, the SoS for Energy Security and Net Zero for energy NSIPs. In these cases, costs will be absorbed by the relevant department's consenting team. These teams already review DCO applications and advise the SoS to support decision making, and are often involved in discharging requirements post-cost too. This role on BNG will therefore fit within existing processes, so it is difficult to separate costs from their business-as-usual activities.

Defra intend to produce guidance to support both LPAs and consenting teams in reviewing and approving updated biodiversity gain plans post-consent, to ensure a consistent and proportionate approach.

18. Monetised benefits

The benefits of the proposed measure can be assessed using the methodology of “Valuing the Benefits of Species Recovery in England”⁴³ commissioned by Defra and undertaken by Eftec. The study applied a stated preference methodology to estimate the economic value of species recovery actions in terms of households willingness to pay (WTP) for improved species recovery outcomes. The main appraisal of the study is intended to be used for large scale species recovery targets above 50k and up to 1000k hectares, but it also provides transferable values for smaller scale projects.

The study gives values of £0.07 in 2022 prices (£0.08029 in 2025 prices) per household per annum for 100 hectares of a one step change in wild species presence for semi-natural grassland. The values for other habitat types range from £0.05 (mixed deciduous woodland) to £0.87 (lowland fens). Considering we expect the median habitat created by BNG to be Other Neutral Grassland, the value of £0.07 seems most appropriate.

BNG for NSIPs mitigates damage to 800 – 1000 hectares of land per annum. The benefits accumulate over time as the habitats created in previous years continue to exist and provide benefits.

There are 24.7 million households in England⁴⁴.

Results

Scenario 1: 800 ha/year

Year 1: cumulative area = 800 ha; annual benefit ~£15.8 million.

Year 30: cumulative area = 24,000 ha; annual benefit ~£476.1 million.

Present Value (NPV, 30 yrs @ 3.5%): **£3.79 billion**

Scenario 2: 1000 ha/year

• Year 1: cumulative area = 1,000 ha; annual benefit ≈ £19.8 million.

• Year 30: cumulative area = 30,000 ha; annual benefit ≈ £595.4 million.

• Present Value (NPV, 30 yrs @ 3.5%): **£4.74 billion**

Interpretation

Under the cumulative stock assumption, mandatory BNG for NSIPs delivering 800–1000 hectares per year yields substantial welfare benefits to households in England valued at approximately £3.8–£4.7 billion NPV in 2025 prices. These values reflect direct welfare benefits from improved biodiversity and species presence (existence, bequest, amenity), consistent with the Environment Act objectives. They exclude wider regulating service benefits (e.g., carbon, flood regulation), which would likely increase total benefits if quantified separately.

19. Caveats and sensitivities

- Habitat mix: We have used other neutral grassland as the median habitat. The WTP can be refined using habitat-specific values where the NSIP portfolio is known (e.g., fens, rivers, meadows); doing so would re-weight benefits across habitats.

⁴³ [Valuing the Benefits of Species Recovery in England - BE01124](#)

⁴⁴ [Families and households in the UK - Office for National Statistics](#)

- Diminishing marginal WTP: At very large national scales, marginal willingness to pay can decline (Effect's national modelling uses a logarithmic adjustment). At the NSIP scale, the linear transferable value is appropriate.
- Scope of valuation: The values capture cultural services (use and non-use) and should not be combined with other cultural-service valuations that risk double counting; regulating services can be added.
- Timing of benefits: Benefits accrue as habitats are created or restored; delayed delivery would reduce NPV.

Willingness to Pay (WTP) studies have important limitations that should be considered in policy appraisal. Because they rely on hypothetical scenarios, responses can suffer from hypothetical bias (people state what they would pay, not what they actually pay) and strategic bias (deliberately misreporting to influence outcomes). Results are highly sensitive to survey design, framing, and respondents' understanding of complex environmental goods, which may lead to uninformed choices. WTP estimates can also exhibit scope insensitivity, where values do not scale proportionally with the size of the environmental change, and part-whole effects, risking overestimation when summing across components. Transferring values across contexts or time introduces uncertainty, and care must be taken to avoid double counting when combining WTP with other cultural service valuations.

The WTP benefits assessment is uncertain, reflecting a national based approach to the analysis for a policy that will have spatially specific impacts. Policy ambitions targeting biodiversity inherently have a spatial element in practice as activities must focus on specific habitats. Therefore, the actual realised benefits will be highly dependent on where the specific activities occur and the estimated flow of benefits from different habitat types on each development site.

There are two overarching benefits of implementing BNG for NSIPs:

1. Avoided loss of habitat/biodiversity

- 800 to 1000 hectares per year are likely to be developed into NSIPs, which represents the average yearly habitat loss. Under the counterfactual where BNG is not mandatorily applied to NSIPs, a lot of this will be mitigated through other environmental actions undertaken as well as voluntary net gain. There are however residual habitat and cumulative biodiversity unit losses that remain unmitigated. There are however residual habitat and cumulative biodiversity unit losses that remain unmitigated.
- Failure to intervene would lead to cumulative losses in nature, which can create significant damage to the environment and wider society. Rapid declines in biodiversity are negative externalities that will not be addressed by the market, which does not fully account for the value of biodiversity to society

2. 10% additional biodiversity

Biodiversity is fundamental to the ecosystem functioning and processes that underpin ecosystem service provision (i.e. the benefits that the natural environments provide for people, either directly or indirectly.)

Improvements to biodiversity (via increased habitat delivery) can bring benefits as follows:

- Provisioning services – products obtained from ecosystems, e.g. energy, both renewable and non-renewable sources; wild animals; minerals; wild plants; timber; navigation – use of waterways for transportation; agricultural production and caught fish; water.
- Regulating services – benefits obtained from the regulating of ecosystem processes, e.g. carbon sequestration; wastewater cleaning; air pollution removed by vegetation; mediation of smell, noise and pollution removed by water; flood, erosion and landslide protection; temperature regulation; water flow control and water condition regulation.

- Cultural services – non-material benefits individuals obtain from ecosystems, e.g. recreation or aesthetic benefits.

Some of these benefits of the delivery of net gain from NSIPs specifically can be roughly illustrated, for example through an uplift in house prices. "Amenity" loosely refers to a bundle of cultural services that arise to people from being close to natural assets, including aesthetic and visual benefits, tranquillity, and recreational opportunities and people placing additional value to homes based on this. This is likely to be a benefit because of the growing body of empirical evidence which supports that proximity to green spaces and nature has benefits for health and health-related behaviour, individuals reporting a higher sense of connectivity and benefitting from other cultural services⁴⁵. This method was used in the 2019 net gain impact assessment to calculate the benefits that small developments bring to improve biodiversity locally, through the increase in house prices.

Increased biodiversity will also likely deliver a host of wider ecosystem services and co-benefits that are either intangible or hard to directly link to the policy intervention (e.g. carbon sequestration, water quality, air quality, pollination) that both mitigate negative externalities and deliver positive externalities. For example, biodiversity contributes to flood management where the additional habitat soaks up rainwater instead of channelling it directly into sewers and rivers. There are several benefits not explicitly captured due to the lack of available and robust evidence to support quantifying additional benefits from increased biodiversity including mental health, volunteering, education, noise reduction, water supply and pollination⁴⁶.

It is difficult to quantify some of the benefits noted above due to the following reasons:

- Returns to scale
 - It may be inappropriate to use the methodology used for small developments in the 2019 net gain IA in this assessment because larger sites may generate less benefits than smaller ones due to decreasing site-specific benefits with scale. For example, tripling the number of trees in one location on a large development site may not triple the biodiversity as purely from an amenity perspective, individuals would place less value from each additional tree planted. It is more likely that spreading these trees out more equally across the site brings larger benefits
 - Larger developments tend to be in more secluded areas where there are fewer residents nearby. The fewer people that reside near a development, the lower the benefits because fewer people enjoy the visual and audio benefits from nature recovery
- General impacts
 - The nature of the large developments (NSIPs that have the potential to destroy large areas of habitat) may inherently reduce the value of benefit flows- especially amenity. Amenity value may refer to visual benefits from development etc. However, for large infrastructure projects specifically such as nuclear power stations, there may in fact be a dis-amenity due to significant levels of noise or visual imposition etc. relative to small scale housing developments delivered under the Town and Country Planning Act.
 - Defra tried to establish the empirical and econometric relationship between the number of biodiversity units delivered by NSIPs that are needed to deliver a certain amount of carbon sequestration or water quality improvements. The difficulty in establishing this direct valuation approach means this method of quantifying benefits wasn't taken forward.

For comparison, benefits for similar interventions were assessed as:

⁴⁵ [Millennium Ecosystem Assessment. 2005. Ecosystems and human well-being: Biodiversity synthesis. World Resources Institute, Washington, D.C](#)

⁴⁶ ICF and Eftec, March 2021. Costs and Benefits of England's Biodiversity Ambition Final Report

- The present value estimate of benefits (from carbon sequestration, physical health and creation) of Defra's wider habitats targets is £9,971m⁴⁷ in 2025 prices (where present values are calculated over a 78-year time period)⁴⁸. The impact assessment that includes appraisal of the target to "restore or create in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels", estimates a BCR of 3.7.⁴⁹
- Although this cannot specifically be attributed to the benefits of the application of BNG to NSIPs, this provides perspective on the scale of the co-benefits that can be achieved from meeting wider biodiversity targets and thus the importance/justification of investing in biodiversity restoration and net gain.
- The benefits of many natural capital investments often demonstrate good value for money and high benefit cost-ratios (BCRs). Evidence from the National Capital Committee⁵⁰ demonstrates high return investment opportunities in woodland planting, peatland restoration, wetland restoration and addressing air quality and greenspaces. BCRs typically vary between 3 to 1 and 8 to 1, and are based on partial valuations of benefits. For example, restoration of 140,000 ha of peatland would deliver net benefits of over £500 million over 40 years in carbon values alone; benefit-cost ratios of around 4:1 have been estimated for investment in wetland creation, upland peatland restoration and intertidal habitat creation⁵¹
- There is wider evidence that nature restoration projects have positive BCRs and present value for money. The Natural Capital Committee (NCC) states that the benefits of natural capital investment exceed the total costs⁵². Their indicative BCRs for natural capital investment projects are 5 for woodland, 4 for biodiversity, between 2 and 3 for saltmarsh restoration, and 9 for inland wetlands restoration. In addition, Efec, on behalf of the NCC, found that "a reasonable overall conclusion is that several of the overall natural capital restoration investment cases appear to stand up well to some average public sector benchmarks (e.g. 4:1 and 5:1 for the roads programme)."⁵³
- The 25 YEP⁵⁴ presents BCRs of between 0.5 and 7.0 for upland peat restoration projects and 4.0 for projects that restore an eroding bog (excluding biodiversity benefits), whereas the Dasgupta Review mentions a BCR of 8.9 for the restoration of the Exmoor Mires.⁵⁵ Avoiding impact on habitat can therefore be expected to offer benefits of a similar scale, if not higher. Dasgupta makes it clear that prevention is strictly preferable to compensation, as such the benefits of BNG for NSIPs could be higher. This principle is also reflected in the mitigation hierarchy that BNG reinforces.
- These benefits can also be illustrated on a more micro project-level. For example, a 2018 evaluation study of one of the projects examined (which already achieved net gain voluntarily) found that its purpose-built area of brownfield habitat helped to support a

⁴⁷ The proposed suite of legally-binding biodiversity targets in the biodiversity Environment Act target IA includes a primary target to halt the decline in species abundance by 2030 and includes other secondary targets such as:

- Wider habitats: To create or restore in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels, or an average of 25,000 hectares per year
- Species abundance: To increase species abundance by at least 10% by 2042, compared to 2030 levels
- Species extinction: To have an improvement in the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels

⁴⁸ [Biodiversity terrestrial targets Impact Assessment.pdf \(defra.gov.uk\)](#)

⁴⁹ [The Environmental Targets \(Biodiversity\) \(England\) Regulations 2022](#)

⁵⁰ [Natural Capital Committee's third state of natural capital report - GOV.UK](#). See executive summary, sections 4.1 (Box 4.1 gives an example of prioritising woodland creation) and 5.1 (Box 5.6 provides benefit cost ratios for various categories of capital investment alongside natural capital investment.)

⁵¹ [Natural Capital Committee's third state of natural capital report - GOV.UK](#)

⁵² [Natural Capital Committee's third state of natural capital report - GOV.UK](#), page 47, Box 5.6.

⁵³ The Economic Case for Investment in Natural Capital in England (2015) Available at:

<https://www.cbd.int/financial/values/uk-naturalinvestments-2015.pdf>

⁵⁴ [25 Year Environment Plan - GOV.UK](#), Annex 1.

⁵⁵ [The Economics of Biodiversity: The Dasgupta Review \(publishing.service.gov.uk\) The Economics of Biodiversity: The Dasgupta Review](#), (p.345).

community of insects and other invertebrates of ‘national interest’⁵⁶ thereby delivering ecosystem benefits.

Overall, biodiversity net gain doesn’t mandate how exactly a developer should deliver biodiversity improvements and thus, the range of options available to a developer to improve biodiversity means any specific benefits assessment on ecosystem services is likely to be unreliable and is thus not quantified. The geographic spread of NSIPs means there will be significant variation regionally in how a developer may deliver net gain (e.g. different sites contain different habitat types for which there are different associated costs and benefits). The benefits that have been illustrated above should be treated as indicative of scale rather than the actual benefits that can be attributed to the policy intervention, due to a high level of uncertainty and gaps in the evidence base. Thus, these benefits should provide some level of indication that this project will deliver a positive net present value over the appraisal period due to amenity value/recreation and environmental co-benefits, but the uncertainties mean that these does not form part of the main cost-benefit analysis. As a result, the benefits are non-monetised.

Benefits to developers (not monetised)

Developers will benefit from certainty and a level playing field, resulting from a standardised approach to delivering biodiversity net gain across LPAs. The streamlining of the process could potentially result in savings for developers. For example, because the NSIP development must go through preliminary meetings during which the public or local residents can attend and provide input, the delivery of biodiversity net gain may make the development more appealing or palatable to residents, meaning a quicker process to approval. A survey found that developers rate the overall complexity and associated costs of dealing with varying approaches to planning across different LPAs as the most significant cause of extra cost in the planning process.⁵⁷ This is in addition to excessive and unpredictable delays.

These benefits were also highlighted in some responses to the consultation on BNG for NSIPs launched in May 2025. Some stakeholders reported that clear, locally relevant BNG proposals can improve public understanding and support for major schemes, particularly where applicants explain on-/off-site choices. Respondents also highlighted that consistent national expectations (e.g. a clear 10% target), standard templates, and worked examples can reduce uncertainty, avoid negotiation delays, and smooth Examination by providing regulatory clarity and a common evidence base. Several consultees observed that front-loading BNG design and engagement with communities and LPAs can save time and cost, supporting timely consenting and delivery. However, while consultation responses have supported this idea, there is no quantified evidence to robustly monetise these benefits.

NSIP developers who achieve more than 10% net gain can trade the excess in the market as units. This rewards developers who are cost-effective at creating habitat to be able to sell (excess) habitat to the offset market and boosts the wider benefits of the policy in establishing a private market. The benefits accrued from the sale of excess units in the offsite market may be different for private and public sector developers.

Summary of option 3

30-year appraisal period

In 2025 prices, 2025 present value	Value
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⁵⁶ [Wildlife Mitigation – TILBURY2](#)

⁵⁷ [Media releases | FMB, Federation of Master Builders](#)

Total costs per year	£36.5m
Total costs over 30 years (discounted)	£695.0m
Total benefits over 30 years (discounted)	£4405.8m
Benefit to cost ratio	6.34

Sensitivity

Sensitivity to the appraisal period:

10-year appraisal period

In 2025 prices, 2025 present value	Value
Total costs per year	£36.5m
Total costs over 10 years (discounted)	£314.4m
Total benefits over 10 years (discounted)	£801.5m
Benefit to cost ratio	2.55

60-year appraisal period

In 2025 prices, 2025 present value	Value
Total costs per year	£36.5m
Total costs over 30 years (discounted)	£957.5m
Total benefits over 30 years (discounted)	£9966.4m
Benefit to cost ratio	10.41

Considering the benefits increase cumulatively year on year, while the costs stay fixed, it is unsurprising that the BCR decreases using a 10-year appraisal period, while it increases using a 60-year appraisal period. Nevertheless, the policy represents value for money even using the shortest appraisal period.

Furthermore, throughout we conducted sensitivity analysis on the inputs to understand the impact of the assumptions made.

Table 10: Assumptions tested for sensitivity analysis

Sensitivity Scenario	Assumption/Variable Tested	Impact on Costs
On-site vs Off-site Split	Central: 90% on-site / 10% off-site; Sensitivity: 75% / 25%	Costs increase by ~20% if 75% on-site and 25% offsite; decrease by ~13.5% if 100% onsite
Off-site Unit Price Variation	Low: £25,558; Central: £28,500; High: £37,905 (includes SRM multiplier)	Higher offsite share or SRM multiplier significantly increases costs
Delay to Start of Habitat Mitigation	0–30 years delay; multiplier from 1.000 to 0.343	2-year delay adds ~7.4% cost
Annual Number of NSIPs	Historic: ~8 per year; Pipeline: 10–14 per year	Annual total cost rises from £18m – 26.8m (historic) to £24m – 50.3m (pipeline)

Private vs Public NSIP Share	Historic: 65% private; Future: 80% private	Adjusted annual cost: £25.7m (low) to £53.9m (high)
Spatial Risk Multiplier (SRM)	Compensation outside LPA/NCA: 0.75 or 0.5 multiplier	Off-site costs increase by 33% (adjacent) or 100% (national)
On-site BU Delivery Range	£61,347 per hectare; 4–6 units per hectare (best estimate: 5)	Cost per BU varies £10,225–£15,337
Market Price Trends for Off-site Units	Listed prices falling 4–23% between 2024–2025 ⁵⁸	Central estimate for offsite costs adjusted to £27,500–£28,500

The table above shows that some key uncertainties including the cost and balance of onsite/offsite delivery, the annual number of NSIPs, the pipeline and other variables.

The cost of onsite delivery is a significant factor influencing the cost of delivery and is assumed centrally as £61,347 per hectare. The cost of onsite delivery will vary significantly depending on a developer's aptitude to deliver habitat restoration on site, location and most importantly, the actual type of habitat being restored. Thus, a case study approach looking at costs from specific previous onsite delivery on a small sample of previous infrastructure projects is not ideal because of considerable variation in the difference in habitats being delivered.

In the sensitivity analysis, we varied the number of BUs per hectare. This gives a range for the type of habitat mitigated (based on the distinctiveness of the habitat).

Whilst the benefits are not quantified, it is important to highlight the importance of the lag in benefits realisation. Biodiversity takes time to develop and for people to enjoy the visual/audio benefits delivered by nature. The earlier these benefits are realised, the greater the benefits over the appraisal period.

This analysis demonstrates that the policy is likely to have a positive NPV even if a number of the key assumptions happen to vary. The more developers engage with the incentives of the policy by building biodiversity into their onsite plans the more cost effective it will be for them and the more benefits it will deliver for society as a whole. It also demonstrates how the policy gives developers routes to minimise their costs.

Table 11: Uncertainties and likely effect on costs

Factor	Effect on Costs
Used WSP cost estimates for onsite – could use the alternatives that are lower	Decrease
Applying BNG to entire Order Limits	Increase
Limiting BNG to impacted habitats and BNG enhanced habitats	Decrease
Counting reinstatement of temporary land as non-significant	Decrease
Extending 'retained' rule for temporary impacts to 5 years	Decrease
Higher share of off-site delivery (e.g., 25%)	Increase
All or more (than 90%) mitigation on-site	Decrease
Use of statutory biodiversity credits	Increase
Widening definition of 'local' for NSIPs	Decrease
Locating gains in strategic significance areas (LNRS)	Decrease

⁵⁸ Depending on unit type.

Delay between habitat clearance and mitigation start	Increase
Creating/enhancing habitat in advance	Decrease
Rising BNG market prices	Increase
Falling BNG market prices	Decrease
Oversupplied market and monopsony power	Decrease
NSIP developer selling surplus units	Decrease
Selecting cheaper unit types for achieving 10% net gain (above NNL)	Decrease
Accounting more for habitat mitigation happening for other reasons	Decrease
Lower on-site BU yield per hectare	Increase
Higher on-site BU yield per hectare	Decrease
More NSIPs per year in pipeline	Increase
Higher share of private NSIPs	Increase
Familiarisation/training costs	Increase – but of little impact
Register fees (off-site registration/allocation)	Increase – but small

Risks

Key risks include:

Perverse incentives for landowners – Landowners are currently able to sell agricultural land at well above its agricultural value when it is apparent the land will be used for development. The biodiversity net gain policy puts downward pressure on this capital windfall as the land will be less valuable to developers if it has higher biodiversity. At an extreme this could lead to ‘trashing’ of land as is sometimes reported in current practice. A more general approach of landowners may be to neglect biodiversity and thereby increase its development value. The Environment Act contains provisions to disincentivise this for development under the TCPA and for NSIPs (by specifying that an earlier baseline should be used where recent degradation has occurred). This mechanism to remove the incentive to clear habitats in advance of ecological assessments has been included in the biodiversity gain statement text for NSIPs under the proposed mandatory approach, and will be supported by additional guidance. It makes provision in the biodiversity gain statement for an earlier habitat value to be applied as the baseline where the value of habitats has been degraded intentionally.

A number of assumptions have been made in this assessment. One of the major assumptions is that the analysis uses historic data for NSIPs that have received permission over a 10 year period and extrapolates this to provide a view on the scale and direction of impacts. For the central analysis we assume that future NSIP developments over the appraisal period are broadly reflective of previous NSIP developments (in terms of size, scope, sector and habitat condition), though we adjusted for the difference in the number of private and public sector projects coming forward.

Time lag for habitat creation has a major impact on NPV. It is key that habitat delivery isn’t delayed and is done at the same time as development. This is mitigated by requirements for developers to have outline biodiversity plans within their application and for the proposed use of offsite gains to be included along with a schedule to securing these. Furthermore, the register of biodiversity units will hold publicly available records allowing independent scrutiny of delivery.

Conclusion

Due to the nature of costs and benefits involved it has been much easier to monetise all the relevant costs whilst all benefits are too intangible to assess the direct impacts of. As a result,

there is an imbalance between the quantified costs of the policy and the unquantified benefits. Nonetheless, the policy is expected to deliver value-for-money.

Failure to intervene would lead to significant cumulative losses in nature, which can create significant damage to the environment and wider society. Biodiversity is fundamental to the ecosystem functioning and processes that underpin ecosystem service provision, there are co-benefits in terms of carbon sequestration and air quality which are large in magnitude from delivering net gain and there may be some benefits from land value uplift associated with greater amenities (as illustrated in the benefits) depending on the type of infrastructure project. Thus, the overall benefits delivered from biodiversity net gain for NSIPs is likely to outweigh the total social cost of delivering net gain for NSIPs, though has not been quantified in this assessment.

Impact on small and micro businesses

Whilst the policy as it applies to NSIPs does not contain an exemption for small and micro business it is very unlikely to negatively affect them.

Assessing the size of developers is difficult due to larger firms creating limited liability subsidiaries specifically to deliver a given NSIP. These often have fewer than 50 employees but are often joint ventures of much larger companies and have correspondingly large turnover. Therefore, they wouldn't meet a standard definition of small or micro business. In the list of 82 NSIPs that were assessed, 50 were distinct private sector companies. Of these 50; 23 had more than 50 employees in their own right; 23 were subsidiaries or joint ventures of companies with more than 50 employees or turnover above £2 million; 1 had less than 50 employees but a turnover in the region of £2m; 1 project was later cancelled and not taken forward by a developer and 2 were micro businesses. The forward-looking pipeline currently has no small or micro businesses delivering NSIPs in it. In the future this might change.

More generally, the impact is unlikely to be disproportionate on small and micro businesses. Keeping all other factors fixed, the larger the area of development, the greater the cost of implementing biodiversity net gain. It is likely that small/micro business are not as well-resourced as larger developers and so may apply for development consent for smaller NSIP projects, where fewer biodiversity units will be required to deliver net gain. The nature of NSIPs will mean they are often delivered by larger, well-resourced businesses and so the proportion of the market for delivering NSIPs that can be attributed to small/micro businesses is very small. Although familiarisation costs may be deemed as fixed costs (in which case familiarisation would make up a larger proportion of overall costs for small/micro business relative to medium/large businesses), it is unlikely that small/micro business would apply to develop an NSIP without prior development experience and so may be familiar with BNG due to its interaction with TCPA. This means costs of this nature will not disproportionately or adversely impact small/micro business.

It is important to note that although BNG would be mandatory for NSIPs, delivery of an NSIP is optional because businesses will choose to apply to deliver the NSIP. This means that businesses who apply for development consent for NSIPs would self-assess their ability to deliver BNG before committing to a project, assuming they are rational. The ability to voluntarily opt-in to deliver an NSIP therefore acts as the mitigation of BNG imposing a disproportionate regulatory impact on smaller developers, who would assess the costs/benefits of their business decision to participate.

For these reasons, we deem any mitigations specifically for small and micro businesses to be unnecessary.

Only NSIP applications that are submitted after go-live will have to deliver BNG, so clear timelines on the implementation of the policy mitigates the likelihood of businesses facing any unplanned costs.

The policy may positively impact some smaller businesses by creating a market for biodiversity units. For example, small-scale rural farmers may be able to implement biodiversity measures on their land and make a profit by selling the corresponding units to developers.

Wider impacts

This section looks at the impacts on innovation, competition and any distributional impacts.

Innovation

The policy of biodiversity net gain places an onus on those developing land to incorporate biodiversity into their plans. It is hoped that this will lead to innovation in the development sector as NSIP developers compete to deliver net gain in the most effective and efficient way.

Should developers be unable to deliver entirely on-site, they will be able to purchase biodiversity units in the off-site market. If a developer is able to exceed the statutory requirements for biodiversity net gain on a given development site, and any relevant targets for biodiversity net gain or green infrastructure required by local planning policy, they are allowed to use or sell the excess biodiversity units as off-site gains for another development. Thus, this may encourage more innovation as developers try to create a surplus number of biodiversity units on site in order to trade these in the market at a profit or reduce future BNG liabilities. This is also likely to generate more competition in the market.

Furthermore, the government will provide a backstop of statutory biodiversity credits that can be used by developers to meet their BNG obligations. The proceeds are invested in habitat creation projects according to local and national conservation and natural capital priorities. BNG backstop credits are intentionally uncompetitive with the biodiversity unit market, as Defra aims to minimise the use of statutory biodiversity credits and only sell them as a last resort.

Competition

Mandating biodiversity net gain with the option to offset creates demand for habitats to be created by third parties to meet demand of biodiversity units by developers. This provides a new alternate revenue stream for land managers and other suppliers of units if they wish to participate. Biodiversity banks, farmers, landowners, other developers and others who are cost-effective at creating habitat are able to sell (excess) BNG units at a profit. This provides an incentive to innovate to be able to sell units in the market (subject to the price of offsite units adequately compensating the supplier for 30 years of maintenance).

Distributional impact

Net gain for NSIPs is likely to have a distributional impact. As a result of having to deliver mandatory biodiversity net gain, developer costs will increase. Developers are likely price takers in the market and so the additional cost will be borne between developers, landowners or possibly passed through to end consumers. Although land values increase if a site is suitable for development (so called "hope value"), if these sites are naturally biodiverse, this reduces the desirability of such sites. If developers cannot get a reduced price from landowners, then the development will not go ahead and therefore over time, developers are likely to pass the cost of delivering net gain on to the landowners they purchase the development land from. This will reduce the amount of windfall profit a landowner receives when a previously undeveloped site gains planning permission. This value will instead go to the beneficiaries of the natural capital asset created by the net gain policy. This value will be spread across those who live nearby as analysed in the benefits section above. This could include the landowner if they live in the locality.

NSIPs are geographically dispersed across England and Wales, although the policy of mandatory biodiversity net gain will apply only to projects in England, and as such only projects in England

were analysed. Residents close to an NSIP in England will enjoy the benefits of increased amenity value as most of net gain is delivered onsite and residents further away (including in other parts of the UK) may possibly derive some amenity value from the delivery of offsite units and also some non-monetised wider natural capital benefits associated with improved biodiversity.

Second-order impacts of wider BNG policy

Because BNG requires a 30-year commitment to protecting land, this long-term commitment means that the price of offsite units must adequately compensate the supplier for 30 years of maintenance. Land managers such as farmers would also need to make a rational decision about whether to apportion some part of their land for BNG and in return sacrifice income from the production and sales of food for an extended period of time. The impact on food production is likely to be minimal as it makes economic sense for the least productive land to be used first to deliver biodiversity units. Also, the overall amount of land used for BNG mitigation is very small compared to overall land in England.

BNG could also affect the financial value of land for both onsite and offsite developments.

With regards to onsite delivery, sites with high levels of biodiversity before development will attract a higher BNG requirement and so it may be less desirable and not necessarily command as high a price as they did previously, because the cost of delivering net gain would be greater. The likely net impact is that highly biodiverse land will be worth less to developers and land with little biodiversity might maintain its value or see less of a reduction. Internalising this cost is positive because it increases demand for low value agri-land thus prioritising fixing up less biodiverse sites. This reduction in the value of land with development permission due to biodiversity net gain will be very small relative to the windfall profit derived from the land gaining planning permission.

Trade & Investment assessment

The extension of mandatory Biodiversity Net Gain (BNG) to Nationally Significant Infrastructure Projects (NSIPs) is not expected to generate significant trade or investment impacts.

BNG introduces a uniform requirement for all NSIP developers to deliver at least 10% biodiversity net gain. This obligation applies equally to domestic and foreign firms, with no origin-based discrimination. RPC case history guidance indicates that T&I impacts arise where proposals alter market access, create discriminatory conditions of competition, or impose product-related standards affecting traded goods.⁵⁹ This measure does none of these things.

The policy does not introduce tariffs, quotas, border measures, or conformity assessment requirements. It also does not restrict procurement or access to supply chains, and therefore has no identifiable trade impacts. Case history examples (Designation of third tranche of marine conservation zones)⁶⁰ show that environmental or conservation-related regulations typically do not have trade effects where they do not regulate traded products or border processes.

Compliance costs associated with BNG (e.g., habitat creation or off-site unit purchase) apply uniformly across all investors and are proportionate relative to overall NSIP capital costs. The RPC guidance highlights that investment impacts are only relevant where foreign firms are affected differently; this is not the case here, and no barriers to foreign direct investment are created.

Conclusion:

In line with RPC expectations for a proportionate assessment, the measure does not create material trade or investment impacts, and a short T&I justification is appropriate.

⁵⁹ [RPC Case Histories - Trade Assessments Sept 25.pdf](#)

⁶⁰ Ibid. Page 5

Competition screening assessment

Under the CMA's Competition Impact Assessment guidelines, policymakers must assess whether a regulatory measure risks limiting the number or range of suppliers, constraining their ability or incentives to compete, restricting consumer choice, or dampening innovation. In the case of mandatory Biodiversity Net Gain (BNG) for Nationally Significant Infrastructure Projects (NSIPs), none of these risks arise. Although NSIPs might potentially have monopsony power in local areas buying biodiversity units, the answer to all questions in the CMA's competition checklist⁶¹ is No.

1. Limiting the number or range of suppliers – No

BNG does not create exclusive rights or market entry restrictions. The CMA checklist highlights such mechanisms as potential risks, but BNG simply requires developers to deliver biodiversity outcomes and does not prevent any ecological consultancies, habitat contractors, landowners, or biodiversity unit suppliers from operating in the market.

2. Limiting the ability of suppliers to compete – No

The policy does not control prices or require quality characteristics of ecological services. It does not restrict sales in any way. Instead, suppliers retain full flexibility in how they structure their services and contracts.

3. Limiting incentives to compete – No

Nothing in BNG requires information-sharing, encourages coordination, or exempts firms from competition law—key risks identified in the CMA guidance. Suppliers continue to compete on cost, expertise, delivery models, and innovation.

4. Reducing consumers' ability to engage or choose – No

BNG does not limit developers' ability to select between ecological service providers or off-site unit suppliers. The CMA notes that restrictions on consumer choice can harm competition, but BNG imposes none.

5. Affecting suppliers' ability or incentive to introduce new technologies/business models – No

BNG is outcome-based and does not constrain ecological monitoring tools, habitat delivery methods, or market models.

Conclusion:

All five questions are answered 'No', an in-depth competition assessment is not required.

Monitoring and evaluation

Project-level monitoring of biodiversity gains is built into the design of the proposed mandatory BNG regime. As set out above, the proposed approach required significant on-site gains and all off-site gains to be secured for at least 30 years. Developers or landowners are responsible for ensuring monitoring and reporting obligations are fulfilled as set out in the habitat management and monitoring plan or the legal agreement. This can be enforced by the relevant local planning authority (for significant on-site gains or off-site gains secured through a s106 agreement) or responsible body (for off-site gains secured through conservation covenants).

BNG for NSIPs will also be monitored and evaluated at the policy level. Natural England and Defra have developed a framework for evaluation and monitoring of biodiversity net gain.⁶² The evaluation framework provides a plan for evaluating the extent to which mandatory BNG is:

- implemented successfully (process evaluation);
- achieving its intended outcomes (impact evaluation); and
- proving a cost-effective means of delivering biodiversity gain (value for money evaluation).

⁶¹ [Competition assessment: guidelines for policymakers - GOV.UK](#)

⁶² [Biodiversity Net Gain: Policy Evaluation Plan for 2023/2025 - NECR502](#)

The framework was developed using an iterative process which included a comprehensive literature reviews and stakeholder engagement. It was overseen by BNG Evaluation Steering Group (members included: NE, Defra policy and evaluation, and DLUHC (now MHCLG)).

A process evaluation and initial impact evaluation have been completed for BNG for TCPA development. Work is ongoing to continue evaluating the impact of the policy, and future work is planned to assess Value for Money. BNG for NSIPs can be incorporated into this existing evaluation framework, to assess the overall impact of the BNG policy. Natural England are currently carrying out the baselining phase of the monitoring and evaluation program for NSIPs, to gather evidence on how BNG is being delivered under the existing voluntary regime.

As set out in the recent consultation response, Defra intends to maintain a clear and stable BNG regime for NSIPs while allowing for evidence-based improvements in future where needed. The results of this monitoring and evaluation will be fed into this policy evaluation over time, and will help inform future decisions to the need to revise the BNG policy, guidance, supporting tools or processes.

Annex A: Derivation of key assumptions

Proportion of onsite versus offsite delivery

Developers have a choice of whether to deliver units onsite or pay for them to be delivered offsite. The costs of both onsite and offsite units are uncertain⁶³ as the market for biodiversity is still developing and depends heavily on space available and relative land values.

There is currently uncertainty around the share of BNG delivered on-site versus off-site. Previously, Defra estimated that for overall BNG, 75% of mitigation happens on-site and 25% happens off-site.⁶⁴ Evidence from TCPA⁶⁵ development suggests that more mitigation happens on-site.⁶⁶ We think that NSIPs, due to their size and due to the cost advantage of on-site mitigation will also do a lot of on-site mitigation (90%).

Although this figure varies between developments, the central analysis assumes that on average 90% of mitigation happens on-site. For comparison, assuming that only 75% of mitigation happens on-site and 25% happens off-site increases the costs of BNG mitigation by around 20%.

Cost of onsite delivery

The cost of delivering onsite habitat is a key variable in this impact assessment and is estimated to be £61,347 per hectare. The cost used in the assessment is derived from WSP's financial and economic appraisal of major infrastructure projects.⁶⁷

This analysis of costs captured a “variety of biodiversity intervention methods, including habitat enhancement and creation, as well as monitoring, reporting and maintenance”, for a wide range of habitat types which were considered to reflect the habitats impacted by the case study schemes of the paper, which also broadly reflect the habitat types of the sample projects analysed in this assessment. The source study removed land purchase/rental costs and this analysis does not re-include such costs (with reasons set out in page 13 of this assessment). The cost estimates were then inflated using the GDP deflator from Office for Budget Responsibility (OBR) forecasts to account for expected inflation over time by the source study, thereby assuming that the cost of habitat intervention is linked with inflation. A mean was taken of the adjusted cost data (with some outliers removed from this average) for each year over a 30-year period from the opening year for each scheme considered in the study.

This source study is deemed appropriate. The source study was created by a consultancy commissioned by Defra, DfT and Natural England to specifically examine the effect of BNG on for major infrastructure projects and compiled several reputable sources for habitat intervention costs such as from Accounting for National Nature Reserves⁶⁸, county council and contractor estimates and removed outliers which were deemed to compromise the analysis.

⁶³ See sensitivity analysis for further analysis and discussion

⁶⁴ Biodiversity net gain and local nature recovery strategies Impact Assessment. Available at: [Net gain impact assessment \(publishing.service.gov.uk\)](#)

⁶⁵ BNG became mandatory for most large developments under the Town and Country Planning Act (TCPA) 1990 from 12 February 2024, and then for smaller developments from 2 April 2024.

⁶⁶ Exploring the ecological outcomes of mandatory biodiversity net gain using evidence from early-adopter jurisdictions in England. Available at: [The Society for Conservation Biology \(wiley.com\)](#)

⁶⁷ [Defra, UK - Science Search](#) - see pages 162 and 163 for further detail

⁶⁸ Natural England (2019). Accounting for National Nature Reserves: A natural capital account of the National Nature Reserves managed by Natural England. Natural England Research Report, Number 078

Annex B: Further evidence on level of net gain and permanence

Two key policy components we tested at an earlier consultation concerned the level of net gain and permanence of habitat offsets. This annex sets out additional evidence and considerations for both policy components.

Level of net gain required

Two primary factors were considered in selecting a suitable level of net gain:

- the capability of the policy to deliver genuine gains for nature (and thereby give confidence of enhancement to communities in receipt of development) and any consequent social and economic benefits.
- the capability of the development sector (and others) to meet the requirement without significantly affecting development rates or inhibiting sustainable economic growth

Sources of uncertainty in the delivery of compensation-based conservation policy include scientific sources, such as measurement error and narrow scope of measurements, and communicative sources such as under-specificity (because the metrics are highly simplified relative to the depth of ecological information that would be necessary for net gain in the strictest sense). Further process uncertainties include the risk of habitat degradation before application submission (i.e. baseline alteration), allowances for imperfect enforcement, the risk of insolvency of offset providers and/or developers, the risk of systematic undervaluation of habitats and wider (indirect) pressures of development on general biodiversity from light, sound, predation by pets and recreational use.

The time lags in between development and compensatory habitat reaching equivalent biodiversity are also significant. It can take centuries for some types of compensation habitats to acquire ecological communities that are equivalent to lost habitats across different measures of biodiversity. This is not applicable to all compensation projects (it would likely be accelerated where part of the existing ecology is retained nearby to the compensation site) and is not practical in the design of compensation habitat within desirable development timeframes. Therefore, a more achievable multiplier is included in the biodiversity metric that relates to the creation timeframe of the habitat itself. The permanence of offsets (i.e. the expectation that not all compensation habitat will exist as long as the development it is compensating for, further discussed in the next section) represents another factor by which overall gains might be undermined in the medium to long term.

Compensation habitat creation undertaken through schemes around the world have been delivered with reported success rates (where success is defined as fully ecologically functioning habitats) that range from 0% (of created wetland was functionally successful under a policy in California) to 74% (of offsets achieving no net loss under wetland banking in other parts of the US) in long-term established offsetting schemes, such as wetland banking in the US which has been established for decades (depending on the state). Other studies have found lower success rates of between 6 and 20%. It is therefore considered desirable, despite expectations that this policy will achieve higher success rates than those commonly reported in the literature (due to improving habitat creation understanding, risk multipliers in the metric and lessons from past experiences), to set a more ambitious requirement for net gain to increase the likelihood that development schemes will deliver net enhancement in aggregate, or at least prevent loss of biodiversity.

Setting a higher level also means that gains could be achieved with an imperfect level of scrutiny and monitoring of individual sites (and the costs that such extensive monitoring and enforcement would incur). The evidence on past habitat compensation success rates in the literature, and

practical limitations on the intensity of monitoring and enforcement, suggest that a target rate above a nominal 1% gain would likely be appropriate to avoid net loss in biodiversity in practice.

In summary, there are a number of factors that make halting biodiversity loss through development an unlikely prospect with any level of gain which is close to 0% (e.g. 1%).

The 10% gain provides a small margin of gain to account for various delivery risks of actual nature improvements on the ground.