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NEC Option X29: Nature and Climate

Embedding environmental outcomes
in infrastructure contracts



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Introduction

The infrastructure sector is increasingly recognising that reducing harm to the environment alone is no longer enough. The next phase of infrastructure delivery is about creating positive outcomes for nature, climate and society - moving from traditional sustainability approaches towards more regenerative models that restore natural systems, improve resilience and create long-term environmental, economic and social value. The evolution of NEC's Option X29 reflects this shift.

In June 2026, NEC Contracts is renaming Option X29 from Climate Change to **Nature and Climate**, and significantly expanding the supporting guidance. Carbon reduction remains central. But the updated clause now explicitly encompasses biodiversity, habitat connectivity, flood resilience, soil health, sustainable drainage and wider ecosystem outcomes - giving clients and contractors a single contractual mechanism to pursue both agendas together.

X29 should be understood not as a sustainability add-on, but as a commercial mechanism for delivering measurable environmental outcomes. Used well, it provides better pricing certainty, reduces regulatory and reputational risk, supports greater market

differentiation and improves long-term asset value - whilst strengthening alignment between ESG commitments and contract delivery. This whitepaper sets out what has changed, why it matters, and how procurement teams can use it effectively.



Why nature needed to be in the contract

Option X29 has been updated to reflect the importance of nature in addressing not only climate change requirements, but also the multiple ecosystem services people need to survive and thrive. Nature-positive development can enhance the resilience of our constructed environment and, in some cases, replace or reduce the need for engineered solutions, lowering carbon emissions whilst delivering wider benefits such as cooling, flood resilience, recreation, biodiversity enhancement, habitat connectivity, and improved air, soil and water quality.

For years, nature recovery and carbon reduction have been treated as separate workstreams. Carbon sits in procurement targets, energy strategies and net zero roadmaps. Nature tends to live in planning conditions, Environmental Impact Assessments and biodiversity net gain obligations. The problem is that the two are deeply interconnected - and treating them separately means missing the most efficient route to delivering both.

Nature-based solutions - wetland restoration, increased canopy cover, peatland management - sequester carbon as well as delivering flood attenuation, thermal regulation and biodiversity improvement. Prioritising these approaches over engineered solutions also reduces embodied carbon by lowering material demand. Investing in nature is frequently the most cost-effective way to hit a carbon target too.

Despite this, nature recovery has rarely been embedded in contracts in a structured, measurable way. Commitments made at planning stage don't always translate into contractual obligations. Performance isn't tracked. Outcomes aren't incentivised. X29 changes that.

The UK's Environmental Improvement Plan sets targets for air quality, water quality, waste reduction and nature restoration. The UK must reduce emissions by 78% by 2035 compared with 1990 levels. X29 provides a contractual route to deliver on both within the same framework.



What X29 actually does

While carbon remains a central driver and performance measure, the updated X29 guidance expands beyond carbon management to specifically include outcomes such as biodiversity enhancement, habitat connectivity, flood resilience, resource efficiency, soil reuse and wider environmental value. This gives clients and procurement teams a practical way to embed nature and climate objectives into tendering, supplier obligations and contract management.

Option X29 gives clients a mechanism to embed specific environmental requirements and performance targets directly into NEC contracts, with financial consequences attached. It works through two core components.

Nature and Climate Requirements

These set out what the contractor must deliver - specific, measurable environmental obligations agreed at contract formation. Contractors are required to develop a Nature and Climate Plan demonstrating how they intend to meet these requirements, and to issue early warnings when risks to delivery arise. Examples include embodied carbon reduction targets, biodiversity net gain percentages, sustainable drainage requirements, or habitat connectivity outcomes. Depending on project requirements, these may also include carbon sequestration and wider ecosystem service benefits.

The Performance Table

The optional Performance Table links achievement of environmental targets to payment. It can include bonuses for exceeding targets, deductions for underperformance, or both - combining elements previously found in separate NEC options X17 (low performance damages) and X20 (key performance

indicators). This places nature and climate performance on the same commercial footing as cost, time and quality - not a goodwill gesture, but a contractual commitment with financial weight behind it.

Targets can be set directly by the client, or in some cases offered by the bidder and aligned with funder requirements. Industry experience suggests environmental incentives set at 2-5% of contract value typically drive meaningful performance improvements.

One important legal consideration: where secondary Option X18 is also used, amounts payable under the Performance Table fall outside liability caps, meaning liability for Performance Table payments is unlimited. Legal and commercial review of X29 provisions is therefore essential during drafting and negotiating.

This supports clearer allocation of responsibilities, better performance management and more transparent pricing. It also allows environmental commitments to be managed in the same disciplined way as cost, time and quality.

What's new in the updated guidance

The clause itself has always been capable of driving multiple environmental outcomes. What has changed is the guidance, which has been significantly expanded to give procurement teams far clearer direction on how to use it.

The Nature and Climate Hierarchy

A central feature of the revised guidance is the introduction of a nature-first hierarchy. This encourages project teams to consider nature-based solutions and nature-positive infrastructure before progressing to hybrid or engineered solutions. Carbon

management remains embedded throughout the hierarchy, ensuring that whole-life carbon reduction opportunities continue to be identified and optimised regardless of the solution selected. This creates a more integrated decision-making framework that recognises the relationship between nature recovery, climate resilience and long-term value creation.

The Nature and Climate Hierarchy provides a structured framework for identifying these opportunities whilst ensuring carbon optimisation principles are applied throughout the decision-making process.

Expanded performance measures

The updated Performance Table now includes a broader suite of nature and climate measures alongside carbon management. Worked examples and practical guidance are provided for:

- Biodiversity net gain and habitat connectivity.
- Carbon sequestration and whole-life carbon reduction.
- Drought resilience and flood attenuation.
- Sustainable urban drainage systems (SuDS).
- Canopy cover and urban heat island mitigation.
- Soil health, resource efficiency and material reuse.
- Social value outcomes, including local employment and skills.

Context-specific application

The guidance recognises that what good looks like varies significantly by project type and location. Urban contexts present opportunities including improvements in air quality and reduced flooding through green walls and roofs, SuDS, trees and pocket parks, as well as health and wellbeing benefits from active transport and engagement with nature. Rural and landscape-

scale projects might focus on floodplain reconnection, water and nutrient management, or peatland and habitat restoration. Circular economy principles are also increasingly integrated into X29 implementation, moving beyond waste minimisation to embrace resource recovery and regenerative approaches.

The commercial case

For procurement teams and clients, the argument for X29 is not just environmental. It is commercial. Increasingly, organisations are recognising that nature, climate resilience and environmental performance are not separate objectives, but drivers of long-term asset value, operational performance and risk reduction.

Nature-based solutions frequently outperform conventional engineered infrastructure on cost-benefit analysis over full asset life. Their value is delivered through multiple channels: avoided damages from flooding and overheating, improved water quality, energy savings through thermal attenuation, carbon sequestration, better health and wellbeing outcomes for communities, and adaptability to changing conditions. Increasingly, a single nature-positive intervention delivers what previously required separate programmes of work.

The ONS estimates the total asset value of UK nature at around £1.8 trillion - equivalent to 72% of GDP in 2022 - with ecosystem services valued at approximately £41 billion per year. The UK's low carbon and renewable energy economy had a direct turnover of an estimated £67.5 billion in 2023, up 68% in current prices from 2015.

The direction of travel in procurement, planning and finance is clear: environmental performance is becoming a baseline expectation, not a differentiator. The Green Finance Institute's Good for Nature and Good for Business case studies demonstrate how

nature-positive investment delivers measurable financial returns alongside environmental outcomes - and how the infrastructure sector is increasingly expected to demonstrate the same.

By embedding environmental requirements into contracts - with clear measurement rules, reporting obligations and financial incentives - X29 reduces uncertainty about compliance costs, supports accurate pricing and gives both parties a framework for managing performance in the same disciplined way as any other commercial outcome.

The business case extends to risk management. Proactive nature and climate management reduces exposure to regulatory penalties, planning delays, environmental liabilities and reputational damage. For organisations with ESG commitments to meet, X29 provides a direct line between contractual delivery and reported outcomes. As environmental performance becomes increasingly important to clients, demonstrated capability through X29 creates genuine competitive advantage - such as financial institutions increasingly factoring environmental performance into lending decisions.

Making it work in practice

The NEC Guidance Notes emphasise that careful consideration must be given to Nature and Climate Requirements to ensure they are achievable and don't place undue risk on contractors. Unrealistic targets may lead to bidders refusing to tender or including substantial risk allowances - neither of which serves the client's interests.

76%

of construction professionals agree the industry takes environmental concerns seriously (NEC Contracts, Smarter, Greener, Together, 2025)

82%

of organisations using collaborative NEC approaches see greater innovation (NEC Contracts, Smarter, Greener, Together, 2025)

67%

of public sector respondents have set targets on carbon impact and water usage during construction (NEC Contracts, Smarter, Greener, Together, 2025)

Good practice requires good baseline data. Clients need to understand the environmental starting point before setting targets - what biodiversity exists on site, what the current carbon baseline is, what the drainage conditions are. Early supplier engagement is also valuable: the market often has insight into what is achievable and at what cost that clients don't yet have.

Targets need to be specific, measurable, time-bound and proportionate to the scale of the project. The updated guidance includes worked examples to help teams calibrate their ambition appropriately, whether focusing on carbon reduction for major infrastructure, biodiversity enhancement, or nutrient reduction of runoff for developments in sensitive ecological areas.

X29 works best as a collaborative tool. The clause explicitly requires contractors to work with other Nature and Climate Partners and issue early warnings when risks to delivery emerge - consistent with NEC's broader approach to proactive project management. Collaborative approaches consistently deliver results: **83%** improved quality, **82%** greater innovation and **81%** higher efficiency

The three most commonly cited barriers to adoption are cost of implementation (44%), lack of in-house expertise (30%) and limited time or resources (27%). Training is identified as the primary barrier to wider adoption, particularly as project teams increasingly need to integrate carbon management, nature recovery and resilience objectives within a single delivery framework. NEC has established a working group specifically to develop and disseminate best practice examples of nature and climate requirements and performance targets, giving teams access to practical precedents rather than starting from scratch.

Policy alignment and strategic context

X29 is well positioned within the UK's evolving policy landscape. The clause aligns directly with the UK Government's push to ensure projects meet net zero targets as promoted through the Construction Playbook. As policy continues to evolve, there is increasing recognition that nature recovery, resilience and environmental improvement should sit alongside carbon reduction as core considerations within infrastructure procurement and delivery.

Local authorities are increasingly requiring environmental performance standards in planning approvals and procurement processes. X29 provides a proven framework for implementing these requirements whilst maintaining project delivery certainty. Professional institutions are recognising nature and climate competency as essential for infrastructure professionals, and

training programmes are increasingly integrating environmental performance contracting alongside traditional project management skills.

X29 is particularly well suited to:

- Public sector clients with net zero commitments and biodiversity net gain obligations, where X29 provides a contractual mechanism for delivering policy requirements within procurement frameworks.
- Infrastructure clients in water, transport, energy and the built environment where environmental performance is subject to regulatory scrutiny and stakeholder expectations.
- Private sector developers where environmental performance is tied to planning conditions, ESG reporting or funder requirements.
- Projects above £5 million, where the cost of establishing baseline data and reporting arrangements is most easily justified.

For contractors and consultants, X29 represents an opportunity as much as a requirement. Organisations that build genuine capability in nature and climate performance - robust environmental baseline assessment, nature-based design expertise, transparent carbon measurement - are better placed to win work, deliver to higher standards and differentiate in a market where these capabilities are increasingly expected.



Conclusion

The evolution of X29 from Climate Change to Nature and Climate represents an important milestone in the development of environmental contracting. By explicitly embedding nature alongside climate within procurement, contracts and project delivery, X29 provides a practical framework for delivering nature-positive, regenerative and resilient infrastructure outcomes whilst aligning commercial incentives with environmental objectives.

X29 provides a single contractual mechanism capable of driving progress on both climate and nature - embedding measurable commitments, creating commercial incentives and establishing the reporting and management framework to track delivery. As the UK continues its journey towards net zero, nature recovery and a regenerative economy, X29 will

play an increasingly important role in ensuring the infrastructure sector contributes positively to these goals whilst delivering economic and social value.

The success of X29 ultimately depends on addressing the key barriers: implementation costs, in-house expertise and training. With appropriate support and the practical precedents being developed through NEC's working group, X29 provides the framework for delivering infrastructure that meets the environmental challenges of the 21st century whilst creating lasting value for all stakeholders.

For clients, the case is clear: nature and climate requirements belong in the contract, not just in the planning statement. X29 provides the means to put them there.

About NEC Contracts

NEC Contracts is an end-to-end portfolio of plain-language contracts for works, services and supply, published by Thomas Telford Ltd, the commercial arm of the Institution of Civil Engineers. Its collaborative, risk-managed model has been adopted and recommended by governments and industry worldwide.

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