National Grid - Carbon Compensation

Prepared independently by Sustainability First
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Scope of work: policy review to cover National Grid Electricity Transmission's (NGET) proposed carbon compensation actions, emerging opportunities, and alignment with government policy as well as commentary on the £44/tonne benchmark and its fit with NGET's aims to develop UK markets and invest in high-integrity projects with broader benefits.

This paper is prepared by Sustainability First as an independent briefing originally supplied to NGET to inform its work and response to Ofgem as part of the latest price review process.

The paper includes:

a. A rationale for applying a factor to NGET's funding that will consider rising prices in the domestic Voluntary Carbon Markets (VCM) over 2025-2030.
b. Arguments in support of investments into high quality carbon credits.

Summary

Available evidence indicates that the cost of domestic carbon offsetting has increased since NGET submitted its T3 business plan. A number of factors provide compelling evidence that these costs will further rise sharply over the next 5 years:

- Very significant shortfalls in delivery against the UK's 6th Carbon budget targets – leading to political pressure for more action, coupled with rising shadow Carbon prices required in the Treasury Green book.
- Extra competition for domestic offsets due to a flight from currently discredited international offsets and a tighter allocation of credits against the UK/EU ETS, coupled with growing stakeholder pressure for action.
- Forward prices/analysis for ETS and wider credits.
- PWC analysis suggesting a potentially massive increase in offset costs/prices between now and 2050.

In addition, we argue here and elsewhere that the co-benefits from nature-based approaches - which deliver an invaluable combination of carbon fixing, biodiversity, flood reduction etc, with proven customer support – and community/sub regional offsetting (which has been shown to reduce opposition to large scale new infrastructure, of which NGET have a massive amount) more than justify the somewhat higher unit cost in simply carbon terms relative to conventional offsetting.

Supporting detail below:

1) Sets out the position against the UK Carbon budget.
2) Identifies sources of growing stakeholder pressure.
3) Evidences the current widespread lack of confidence in international offsets.
4) Examines the position in the UK and EU ETS.
5) Summarises the requirements in the Green Book.
6) Summarises PWC analysis.
7) Sets out in some detail co-benefits of nature and community offsetting, and the consumer support, which in our judgement provides a cogent business case to expand this area of offsetting further despite higher unit costs.

1) 6th Carbon Budget

The UK's 6th Carbon Budget sets a statutory emissions cap of 965 $MtCO_2e$ over the period 2033–37, reflecting a 78% reduction from 1990 to 2035 (or c.63% from 2019). The latest evidence from the Climate Change Committee indicates that the pace of emissions reductions outside the energy supply sector falls well short of achieving this target. Reductions must accelerate from only approximately 8 $MtCO_2e$/year to around 19 $MtCO_2e$/year - **more than double the current rate**. Credible plans for emissions reductions exist for only 38% of proposed reductions; this mostly covers emissions savings from the projected roll-out of renewable electricity generation and EVs, as well as some progress in decarbonising the iron and steel sector in industry. This is likely to lead to pressure on corporates to increase their own reductions, including by domestic offsets.

This pressure may grow further since:

a) The government have ruled out phasing out gas boilers.
b) There seems no political will to tackle either agricultural emissions [x% of total] or (something the CCC argue is essential) meat eating.
c) Demand management – again something clearly flagged up as needed in equal measure to infrastructure by the CCC – is underfunded and some existing schemes (e.g. ECO) are facing growing criticism.

2) Stakeholder pressures on corporates

A number of factors are increasing the internal/shareholder/stakeholder pressure on UK corporates – particularly those which like NGET are publicly listed - to reduce their Carbon footprint. These pressures, which are highly likely to include demand for domestic offsetting - come from:

Investors: continuing (outside the US) focus on ESG; the mainstreaming of TCFD requirements; moves for much greater sophistication on scope 3 requirements, moves to distance the investor community from currently discredited international offsets; and the desire to avoid the threat if direct action and or small shareholder intervention at AGMs etc.

Supply chain: NGET's emissions are a key part of B2B electricity purchasers' scope 2/3 accounting. These purchasers are UK corporates etc and therefore firmly committed to Carbon reduction and many are now required to comply with TCFD requirements.

Current and potential employees: there is growing evidence that current employees (and indeed the union movement) are expecting their employers to display sustainable credentials. Skilled graduates/second job professionals in particular also see this as a pull factor.

NGOs as exemplified by NGET's stakeholder group, are strong supporters of decarbonisation, and may well turn their attention towards corporate emissions.

Customer and community groups: there is compelling evidence of willingness to pay for Carbon reduction and wider support for community offsets as part of planning permissions (see S7 below).

3) International offsetting suffering fall in credibility

There is currently widespread public and business cynicism about use of conventional traded offsets - reasons include low understanding; distrust of green claims/green washing; concern distract from addressing direct emissions reduction; concerns about over-crediting double counting among others. Environmental groups e.g. Friends of the Earth say this kind of offset allow companies to appear to take climate action when, in reality, they are not cutting emissions.

A report published in June 2025 by Corporate Accountability critically examined the largest carbon offset projects in the VCM and concluded that the VCM still has structural flaws that could undermine global climate action, mislead investors and perpetuate climate injustice. Key findings included a widespread failure to deliver emissions reductions with Verra, the largest offset registry issuing 90% of 'problematic credits' (unlikely to deliver the promised climate benefits). Even highly rated projects showed evidence of fundamental failings, such as lack of additionality, permanence, or proper monitoring.

These findings are corroborated by a 2023 investigation by The Guardian, Die Zeit, and SourceMaterial into Verra. According to the investigation findings, the methodologies overstated deforestation risk to inflate credit volumes.

An international team of scientists and economists led by the University of Cambridge and VU Amsterdam in 2023 found that the majority of international carbon offset schemes are significantly overestimating the levels of deforestation they are preventing. The study found that millions of carbon credits are based on crude calculations that inflate the conservation successes of voluntary REDD+ projects.

This finding is reiterated by an Integrity Council for the Voluntary Carbon Market (ICVCM) expert, Lambert Schneider who contends that many projects earmarked for carbon credits would have happened anyway - failing the "additionality" test, which is crucial to offset integrity.

Carbon stored in forests is not permanent: it can be reversed by wildfires, disease, or logging. Credits are often issued for short-term storage. Additionally, logging or emissions may simply shift to a nearby area ("leakage"), rather than being avoided overall.

Many examples of greenwashing are out there. The example of Delta Air Lines facing a class action lawsuit in California over its claims of being "carbon neutral," based on buying suspect offset credits highlights the perils of this marketing approach to claims of neutrality.

Some projects have displaced local communities or failed to deliver promised benefits to indigenous groups e.g. in Cambodia as reported by Human Rights Watch.

4) UK and EU ETS

Although voluntary offsetting and the formal emissions trading system are separate, movements in the UK ETS may well impact on the cost of voluntary offsetting. For example, as ETS permits become rationed and more expensive, companies in the ETS may look outside it to meet their corporate commitments.

Evidence suggests that EU and UK ETS carbon prices may rise significantly over the short and medium terms:

- Trading Economics predicts that EU ETS carbon prices will rise from seventy-two euros per unit to seventy-eight euros in 12 months' time.
- UK ETS prices are currently over £50 per unit (and have been for c3 months), up more than 10 percent on 6 months earlier and indeed in 2024 as a whole.
- MNI estimate that the price will rise over the next few years as the surplus of credits becomes used up: they note that the surplus peaked in 2024 and 2025, depressing the price.
- EUA price forecasts indicate carbon prices could **double by 2026**, driven by tightening supply, regulatory shifts, and evolving emissions trading strategies.

Uk futures (up to 1 year) are currently trading at £51 per unit.

5) The Green Book

The Treasury Green book sets shadow Carbon prices for the current and future periods. It requires that project appraisal uses a rising profile of shadow Carbon prices – so rising from £265 a tonne in 2023 to £398 a tonne in 2050.

There is no one to one match from shadow carbon price to cost of voluntary offsetting, but it is reasonable to assume the same rising profile of prices.

6) PWC analysis

The cost of corporate carbon offsetting could double by the end of the decade and increase by a factor of thousands under a carbon capture scenario by 2050 as businesses race to meet Net Zero targets, according to PwC analysis.

The report from PwC estimates that in 2022, FTSE 350 companies publicly reported purchases of voluntary carbon offsets totalling £38 million. Based on current pricing models, PwC calculated that by 2030, this same volume of offsets would cost companies more than £135 million (a 256% increase). According to the report, prices are expected to continue to rise until 2050, when the cost of the same volume of offsets may peak at £365 million.

However, the report also identifies that 80% of the volume of offsets reported to have been purchased in 2022 were classed as avoidance offsets, derived from projects such as avoided deforestation. Importantly, there is growing momentum that only removal offsets (those generated from projects that extract and permanently store CO2) should be permitted – see above for evidence on declining confidence also in international credits.

In this scenario, where only removal offsets can be purchased, PwC has calculated that the same volume of voluntary offsets FTSE 350 companies purchased in 2022 for £38 million would cost £438 million by 2030 (a 1,051% increase). Prices are expected to peak in 2037, where the cost of current FTSE 350 purchases would rise to £2.6 billion.

7) The case for and cost of innovation – and for community/rural schemes: plus, customer support for this

In line with stakeholder feedback incl. Climate Committee, NGET has a policy only to use off-sets as a last resort. Given levels of business and public cynicism around off-sets it is especially important that any approach is transparent and delivers demonstrable impact and value for money.

Projects that provide tangible, visible community benefit can build trust incl. by building community ownership; creating jobs; improving public health; enhancing biodiversity.

Integrated carbon offset projects with social value are considered best practice and can support Ofgem in delivering its growth and consumer duties as well as supporting customers in vulnerable situations. There is also the potential for innovation in this space e.g. linking fuel poverty and carbon-off set schemes. For example:

- Gold Standard - mandates that every offset project contributes to at least 3 UN Sustainable Development Goals (SDGs)—such as poverty reduction, health, gender equality, or clean water. aFGAtbNJEFaPYCGU_GoldStandardStrategy2025-2030.pdf (p.7)
- Climate Change Committee recommends - Voluntary Carbon Markets and Offsetting - Climate Change Committee (2022) (R2) *"Continue efforts to protect and raise the integrity of carbon credit projects, in the UK and globally, and to ensure voluntary carbon markets are resulting in lower overall global emissions and positive wider impacts."*
- Woodland Carbon Code guidance (June 2025) emphasises biodiversity, public access, local employment, and community engagement as co-benefits. This code supports "stacking" of environmental and social benefits alongside carbon sequestration. *"Projects should be socially responsible and, where possible, offer benefits to local communities and other interested forest users or stakeholders."*
- Natural England is reportedly working with Defra to shape biodiversity net gain and carbon co-benefit frameworks. Current priorities include aligning climate, nature, and

social benefit goals—e.g. via green jobs and access to green spaces in carbon offset projects.

In short, high-quality offsets can support projects with community, biodiversity, or health benefits. This aligns with protecting consumer interests and maximising social and environmental value. It is consistent with 'Mission based government' and is an example of whole systems thinking in practice.

Robust monitoring, reporting, and verification ensures consumer money is spent effectively through credible offsets, which can support wider public policy goals at a local and national level and also build trust and support in the energy transition.

Measuring social value

There are different ways in which social value can be defined and measured. We provide some examples below:

- **Social Value** can be defined as: *'achieving community benefits. Social value is defined through the Public Services (Social Value) Act (2013), whereby it' requires all public sector organisations and their suppliers to look at the financial costs of a contract to consider how the services they commission and procure can improve economic, social and environmental well-being of an area'*. While Ofgem is not directly procuring an offsetting service, it arguably has some kind of responsibility to at least not hinder NGET from following good practice.

- **UK Green Building Council** has integrated social value metrics into low-carbon design and offsetting strategy and highlights doing so as best practice. UKGBC-–-Carbon-Offsetting-Pricing-Report-Update-2024.pdf
    - "This report shares examples of impactful strategies for offsetting and internal carbon pricing and demonstrates that responsible offsetting can be used, not just to compensate residual emissions, but also to promote social equity, restore ecosystems, and drive positive change within, and beyond, value chains."
    - "Social Value in offsetting refers to the extent to which the projects respond to the interests or needs of individuals and wider society, often referred to as co-benefits. This can include increased access to nature, wellbeing and job creation."
    - "For example, while accredited offsets may not be available for retrofitting schools in the local area at present, this investment can still lead to emissions reductions and enhance the economic, social, and environmental wellbeing of local residents. Similarly, projects focused on significant biodiversity value can offer complementary carbon removal potential, further aligning with the fund's objectives."

- **Social Value Portal** works with local authorities and private developers to quantify social impact—including in green procurement and offsetting programs.

- **Local Government** uses the following which could be adapted **-** based on the National TOMS Guidance (2019), the framework has been designed around five principal themes, 18 Outcomes and 35 Measures:

Themes, Outcomes and Measurements of the National TOMS Guidance:

Themes	Outcomes	Measurements
• **Jobs:** Promote Local Skills and Employment	• More local people in employment. • More opportunities for disadvantaged people. • Improved skills for local people • Improved employability of young people.	There are many suggested measures with associated definitions. For further information, please see the following document.
• **Growth:** Supporting Growth of Responsible Regional Business	• More opportunities for SMEs and VCSEs. • Improving staff wellbeing. • A workforce and culture that reflect the diversity of the local community. • Ethical procurement is promoted. • Social Value embedded in the supply chain.	
• **Social**: Healthier, Safer and more Resilient Communities	• Crime is reduced. • Creating a healthier community. • Vulnerable people are helped to live independently. • More working with the Community.	
• **Environment:** Protecting and Improving Our Environment	• Climate impacts are reduced. • Air pollution is reduced. • Better places to live. • Sustainable Procurement is promoted.	
• **Innovation:** Promoting Social Innovation	• TBD – the TOMS Framework is an evolving and iterative framework.	

Source: National TOMs Framework 2019 for social value measurement.

See also: Ecosystem Marketplace: State of the Voluntary Carbon Market 2025