



Embedding carbon management into

CONSTRUCTION CONTRACTS

Leading South African corporate and commercial law firm Cliffe Dekker Hofmeyr (CDH) explores how the FIDIC Carbon Management Guide can reshape construction contracts by embedding measurable sustainability obligations into procurement and project delivery.

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The integration of sustainability into construction procurement and contracting is increasingly imperative in South Africa, given its current carbon-intensive economy and evolving regulatory framework. The FIDIC Carbon Management Guide (CMG) and Carbon Emissions Management Guidance (CEMG), recently launched by the Fédération Internationale des Ingeneurs-Conseils (FIDIC) in December 2025, introduce a structured methodology for embedding greenhouse gas (GHG) emissions management into its engineering and construction contracts.

This article critically evaluates the relevance and applicability of the FIDIC carbon framework within the South African legal context, with specific reference to public procurement law, risk allocation principles and standard form construction contracts. It argues that while the FIDIC model aligns with South Africa's constitutional and statutory sustainability imperatives, its implementation raises complex legal and practical challenges requiring careful localisation.

South Africa's construction sector operates within a legal environment shaped by constitutional imperatives that guarantee the right to an environment that is not harmful to health or well-being. This environmental right, read with statutes such as the National Environmental Management Act, No 107 of 1998 (NEMA), creates a framework for sustainable development in infrastructure delivery.

Historically, construction and infrastructure contracts have traditionally prioritised time, cost and quality, with environmental considerations addressed primarily through regulatory compliance, almost as an afterthought, rather than contractual performance metrics. The FIDIC CMG seeks to challenge this paradigm by embedding carbon management directly into the contractual obligations, thereby transforming sustainability into a measurable and enforceable component.

CARBON AS A RESOURCE

A defining feature of the FIDIC CMG is the treatment of GHG emissions as a quantifiable project resource, requiring the same level of management as financial budgets. The FIDIC CMG focuses on oversight of GHG emissions across

the complete project lifecycle, including: integrating carbon considerations into project financing and governance; setting and managing the carbon emissions target at project level; integrating carbon performance across all phases of a project and in the multiple contracts required to deliver the project; managing the project-wide carbon balance sheet and carbon removal measures; and strategic decision-making on carbon trade-offs and optimisation. There are six core principles that the CMG places reliance on to manage its objectives with the aim to prevent its misuse. These principles are:

1. Evaluation criteria must include the carbon emissions budget proposed by tenderers;
2. All stakeholders must collaborate to improve the project's carbon balance sheet throughout the project's lifecycle;
3. It is crucial to promote measures that reduce GHG emissions rather than relying on removals or offsets;
4. Employers must establish a clear and unambiguous carbon emissions calculation methodology;
5. Employers are responsible for removing the project's GHG emissions and must not transfer that obligation to others; and
6. All stakeholders should promote the continuous transformation of the industry's supply chain towards decarbonisation.

In the South African context, this aligns with: The "polluter pays" principle, under NEMA, which provides that "The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment"¹; the carbon tax regime under the Carbon Tax Act No. 15 of 2019² – which aligns with the goals of NEMA; and the National Treasury's increasing emphasis on sustainable public procurement.³

By requiring the establishment of a carbon balance sheet and lifecycle emissions tracking, the FIDIC CMG framework advocates the introduction of a form of environmental cost accounting into its construction contracts, which may have significant implications for both pricing and risk allocation.

PROCUREMENT ALIGNMENT

Public procurement in South Africa is governed by section 217 of the Constitution, which requires procurement systems to be based on the following pillars: fairness, equality, transparency, competitiveness and cost-effectiveness.

The inclusion of carbon metrics, such as a carbon emissions budget, in tender evaluation raises the question of whether sustainability criteria are compatible with the requirement of cost-effectiveness. The FIDIC CMG explicitly supports the inclusion of a carbon budget as an evaluation criterion in the tender process, and against which actual carbon emissions can be compared, thereby expanding the concept of “value for money” beyond immediate financial cost.

CONTRACTUAL STANDARDS

FIDIC contracts are widely used in South African infrastructure projects, particularly those involving international financing institutions. The CEMG introduces a standalone carbon clause and schedule of carbon emissions, preserving the integrity of existing contractual mechanisms. This is critical in the South African context, where amendments to standard forms often create interpretative disputes of contractual clauses, in a legal environment where the courts emphasise certainty and clarity in contractual obligations. While FIDIC is influential, domestic projects frequently utilise the NEC suite of contracts (particularly NEC3/NEC4, which has its own climate change provisions in the form of the secondary Option X29 Climate Change clause), the JBCC Principal Building Agreement and the GCC. The FIDIC carbon framework could be used as a guide in drafting amendments to those contracts, which do not contain climate change provisions, to provide for the goal of reducing GHG emissions.

RISK ALLOCATION

South African courts generally uphold contractual risk allocation unless contrary to public policy. The FIDIC framework maintains its hallmark principle of balanced risk allocation, even when introducing carbon obligations. Under the CEM model, the employer retains lifecycle carbon responsibility, including removal obligations and the contractor is liable for execution-related emissions within its control. This allocation is consistent with South African law principles that risk should lie with the party best able to control it. The carbon emissions budget functions as a contractual performance threshold, analogous to target cost mechanisms and performance guarantees. The introduction of carbon emissions incentives (bonuses) and carbon emissions damages (penalties) creates a hybrid regime combining liquidated damages and gainshare mechanisms, which South African law generally recognises.

CLAIMS AND DISPUTES

The FIDIC framework integrates carbon considerations into variations, claims and extensions of time (EOT). Where emissions exceed the carbon emissions budget due to

employer-risk events, the budget is adjusted, preserving contractual fairness.

In South Africa, this raises novel dispute scenarios such as, but not limited to: disputes over GHG measurement methodologies; expert evidence on carbon quantification; and interpretation of causation in emissions overruns.

IMPLEMENTATION CHALLENGES

Many public sector employers may lack technical expertise in carbon accounting and the resources to prepare detailed schedules of carbon emissions. The FIDIC form of contract, in its philosophy, emphasises the importance of high-quality tender documentation for successful implementation.

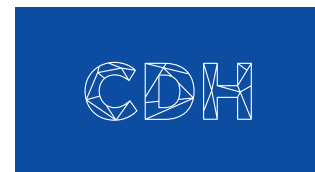
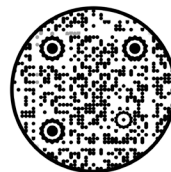
Contractors in South Africa may face challenges in that there may be limited access to emissions data, supply chain constraints and increased compliance costs. This may impact competitiveness and pricing, particularly for smaller contractors. South Africa’s environmental and procurement regimes are not yet fully harmonised with carbon-based contracting,⁴ creating the possibility of uncertainty in compliance standards and potential duplication between regulatory and contractual obligations.

LEGAL IMPLICATIONS

The adoption of the FIDIC carbon framework in South Africa could accelerate the integration of climate policy into private law instruments, influence the evolution of standard form construction contracts and support South Africa’s commitments under the Paris Agreement. Fundamentally, it signals a shift towards performance-based sustainability obligations, where environmental outcomes are contractually enforceable rather than merely regulatory.

The FIDIC Carbon Management Guide represents a significant innovation in construction contracting, with strong potential applicability in South Africa. Its emphasis on measurable carbon performance, balanced risk allocation, and integration with existing contractual mechanisms aligns with both legal doctrine and policy objectives.

However, its successful adoption will depend on careful alignment with South African procurement law, development of technical and institutional capacity and thoughtful adaptation to local contracting practices. If effectively implemented, the FIDIC framework could play a pivotal role in transitioning South Africa’s construction industry towards a low-carbon, contractually accountable future. www.cliffedekkerhofmeyr.com +



References

1. Section 2(4)(p) of NEMA.
2. Assented into South African law on 23 May 2019, by the President.
3. National Treasury Strategic Plan: 2025 – 2030.
4. Advancing Green Public Procurement in South Africa, Sharmila Erizaputri & Ronja Bechauf - International Institute for Sustainable Development (IISD REPORT), February 2025.