GREYMOUTH GAS

20 July 2026

Andrew Walker
Principal Adviser
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Dear Andrew,

Re: Gas Governance draft rule changes – Submission 3: Renewable Gas

This submission should be read in conjunction with and subject to Greymouth's contemporaneous Submission 1 and 2. Greymouth comments on renewable gas matters raised in the consultation.

1. **Gas composition and energy conversion in networks with downstream renewable gas injection**

The central issue is the reliance on a weighted-average gas composition (GC) to convert volumes to energy and determine gas quality parameters across the network. Under the gas measurement and safety framework (including the Gas (Safety and Measurement) Regulations and NZS 5259), energy conversion must be accurate and representative of the gas actually delivered. Once renewable gas is injected into a network, gas composition may vary materially across the network at the same time, and a single averaged GC becomes a known source of systematic error, rather than a neutral simplification.

A back-of-the-envelope assessment suggests that, under some plausible injection configurations, allocation outcomes (in energy terms) could diverge materially between ICPs—potentially in the order of ±10%, depending on their exposure to different gas streams. While the precise magnitude will depend on network configuration, this illustrates that a single averaged GC can create clear "winners and losers" and outcomes that are difficult to reconcile with a regime intended to deliver accurate, ICP-representative energy allocation.

This issue is not confined to technical measurement. Gas composition is a direct input into D+1 and downstream reconciliation, and any inaccuracy or inconsistency in GC will flow through immediately into allocation outcomes. Without a clear and consistent framework for GC determination and submission, D+1 risks being based on "actual" inputs that are known to be systematically approximate or non-representative, undermining confidence in daily allocation and posing a policy question about whether initial, interim and final allocations for those ICPs should therefore be estimated.

A related issue is the status and evidential role of gas composition data itself. Under the proposed framework, GIC will effectively derive and publish a daily GC for use in downstream reconciliation where biomethane is injected within networks downstream of the gas gate. That GC is not simply a technical input—it becomes the de facto basis for commercial allocation

outcomes and may also be relied on to support representations about gas supplied, including claims regarding "renewable gas" usage. However, where GC is derived from averaging rather than directly measured at the point of supply, its ability to support physical or contractual claims is limited and uncertain. This creates a risk that allocation outcomes, physical supply, and commercial representations diverge, which may give rise to compliance risk where claims about the nature of gas supplied cannot be substantiated on a consistent evidential basis. Centrally determined GC should be transparent and auditable as a core input to allocation, and any injecting parties or ICPs with bespoke GCs should be required to provide timely, measured composition data so that allocation outputs—and any associated claims—can be substantiated.

More fundamentally, whether averaging is appropriate depends on how the network is physically configured. If gas is effectively homogenised (for example through conditioning or blending), averaging may be defensible. If it is not, it will misstate delivered energy. The proposal does not address this dependency, creating a clear "chicken-and-egg" problem—the Rules assume an averaging methodology, but the validity of that methodology depends on network design choices outside the Rules.

Greymouth was surprised to learn at the workshop that overseas experience does not appear to have been considered in detail. Comparable regimes demonstrate that zone-based weighted-average GC approaches are only workable where injected gas is brought into line with network conditions—typically through conditioning (including propanation).[1] This reinforces that weighted-average frameworks do not operate in isolation; they rely on the physical system being configured to support them.

The proposal also does not resolve the status and obligations of injecting parties (e.g. whether they are to be treated as gas producers or gas retailers), nor how GC is to be determined where multiple data sources exist. The Rules will need to accommodate different architectures. For example, if a consumer installs its own GC to remove energy conversion risk, that data will need to be provided daily to GIC and incorporated into other GC data sets so that by-difference calculations do not double count within energy conversion calculations. Without a clear framework, there is a risk of inconsistent data, misallocation of energy, and disputes. This risk is heightened in a D+1 environment, where timing, completeness, and consistency of GC data are critical to producing a single, reliable daily allocation outcome.

For these reasons, Greymouth considers that gas composition cannot be left primarily to a guideline. The Rules should, at a minimum, provide for (a) clear accountability for GC determination and submission, (b) a requirement that GC be representative of delivered gas, (c) a binding hierarchy where multiple GC sources exist, and (d) mandatory processes for creating, applying, and publishing any by-difference weighted average GC data sets in a manner consistent with NZS 5259 accuracy requirements.

Greymouth considers that the development of the regime would materially benefit from worked examples based on real project designs. In particular, any party with a project at FEED stage should be encouraged to provide a worked example during cross-submissions demonstrating how gas composition would be measured, validated, transmitted, and incorporated into allocation under realistic network conditions. Even so, the Rules may need to be drafted

[1] Wales & West Utilities – Biomethane Connection Guide (2025) – explains that a Grid Entry Unit will include "propanation" equipment to hit a daily CV target and that "biomethane is required to be enriched to ensure the gas meets the required CV as determined by the FWACV", since the injected gas's calorific value must closely match the LDZ average.

broadly (and potentially complexly) to accommodate multiple hypothetical architectures so they do not serve as a barrier to entry for other participants.

Greymouth supports a flexible regime that enables renewable gas entry. However, flexibility cannot come at the expense of accuracy or market integrity. Gas composition is a core legal and system design issue, and the Rules must address both the obligation for accurate energy conversion and the conditions under which any averaging (or other) methodology can be relied upon.

2. Integrity and interpretability of allocation outcomes

Greymouth considers that, even if the technical issues with gas composition were resolved, the proposal does not establish a clear and workable framework for the integrity and interpretability of allocation outcomes where renewable gas is injected into networks.

A central concern is that the proposal introduces concepts—such as the netting of transmission receipts and the potential for negative delivery positions—that are not anchored in the existing Gas Transmission Code (GTC) framework. Under the GTC, Receipt Quantities and Delivery Quantities are determined independently from physical injections and offtakes, with any divergence reconciled through mismatch and balancing mechanisms. This structure preserves a clear relationship between physically delivered gas and allocated quantities.

By contrast, the proposal appears to move toward an approach in which delivery positions are adjusted or netted to reflect downstream injection. It is not clear that this preserves the underlying relationship between receipts, deliveries and mismatch, or whether it instead introduces an adjusted accounting construct that effectively decouples allocation outcomes from physical gas flows. In particular, the concept of negative delivery positions is difficult to reconcile with Delivery Quantity as gas taken at a Delivery Point, rather than a derived or netted value.

This raises uncertainty as to how participants are expected to understand and manage their positions. Under the current regime, imbalance reflects physical deviation and is managed transparently through balancing. Under the proposed approach, it is unclear whether imbalance continues to serve that function or instead reflects adjustments arising from allocation rules applied downstream. Absent clarity, there is a risk that the framework becomes internally inconsistent, with different parts of the system operating on different conceptual bases.

More fundamentally, the proposal raises concerns about the interpretation and use of allocation outcomes. The GTC and downstream reconciliation rules operate on the basis of fungible gas meeting NZS 5442 specifications, with allocation performed on an energy basis rather than by reference to source or title. Once gas enters the system, it is commingled and (absent a managed exception process for minor excursions) treated as specification-compliant, and there is no mechanism within the framework to attribute energy quantities to a particular source.

In that context, it is not evident how any allocation outcome—particularly one derived from netted or negative delivery quantities—could support claims regarding the nature or origin of gas supplied (for example, biomethane or “renewable gas” usage). The introduction of such constructs risks creating a pathway in which allocation outcomes diverge from supply while still being relied on to support representations about the gas sold or delivered. This creates a

material compliance and market integrity risk, as the underlying framework is not designed to substantiate such claims.

More broadly, Greymouth notes that renewable or attribute-based certification approaches seek to separate physical supply from environmental attributes. While such approaches may support investment signals, they do not alter the fact that gas within the system is commingled and allocated on an energy basis, with no ability to physically trace molecules to source. In that context, it is not clear how allocation outputs could provide a reliable evidential basis for renewable gas claims. At the point of energy consumption, biomethane is physically indistinguishable from natural gas and has a similar emissions profile, notwithstanding that it may mitigate emissions elsewhere. However, the extent of that mitigation is uncertain and may not be one-for-one, particularly in a supply-constrained environment where increased availability can drive increased consumption. This, combined with the fact that biomethane is rarely emissions-free on a lifecycle basis, further complicates the evidential basis for such claims, especially where allocation positions are derived from averaged or adjusted constructs.

Greymouth considers that, if renewable gas attributes are to be recognised, this is more appropriately addressed through a separate, coordinated process, rather than through modification of the allocation framework. While the current proposal does not explicitly extend into that territory, it appears to move in a direction that could support such outcomes, and which would warrant careful consideration before being progressed. Greymouth considers any such pathway would need to be approached with care and full consideration of the underlying scientific, evidential, and market design issues. However, those questions are distinct from, and should not distract from, the matter at hand—namely, ensuring that the allocation framework itself remains coherent, physically grounded, and capable of producing reliable and interpretable outcomes. Attempting to embed attribute-based concepts within allocation risks conflating the allocation of energy with the verification of gas attributes, to the detriment of both.

With that in mind, the proposal is difficult to assess in practice. The worked examples provided to date are high-level and do not clearly demonstrate how receipts, deliveries, mismatch, and any negative or netted positions interact within the GTC framework. In particular, there is no end-to-end example under the Rules and GTC showing a retailer's transmission position, the effect of downstream injection, and the resulting allocation and balancing outcomes over time. Without such examples, it is not possible to determine whether the proposed approach produces coherent or implementable outcomes.

Conclusion

The proposal remains underdeveloped relative to the level of regulatory intervention contemplated, and further progression would be premature until a coherent end-state design has been worked through, tested, and illustrated.

Given that Firstgas and Powerco have over recent years undertaken biomethane work, Greymouth considers those parties should now set out worked, experience-based Rule and GTC system solution sketches in cross-submissions so that industry and GIC can assess a concrete and implementable pathway, rather than continuing to test the issue through abstract constructs.

Yours sincerely

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