

# Technical Screening Criteria (TSC) for Energy Infrastructure

Why "Renewable" No Longer Means "Aligned"

## CITE THIS PUBLICATION

Yeoman, D. (2025). Technical Screening Criteria (TSC) for Energy Infrastructure  
*Principal Thesis Analyst Note, AN-2025-T24-S1-V1.0*

## DIGITAL OBJECT IDENTIFIER

<https://doi.org/10.66868/TEBCY7-N>

• DAVID YEOMAN • EU TAXONOMY • CLIMATE MITIGATION • FINANCE • ANALYST NOTE - OPEN ACCESS

## CORE INSIGHTS

**The 100g CO<sub>2</sub>e/kWh "Hard Deck" :** "Renewable" status no longer guarantees regulatory alignment; capital viability now hinges on verifying lifecycle emissions below this absolute threshold.

**Mandatory OpEx Conversion :** For gaseous fuel assets, methane leak detection (LDAR) has shifted from a voluntary best practice to a non-negotiable, auditable operational expense.

**Green Bond Eligibility :** Investors must enforce a Full Value Chain LCA framework to segregate "transitional" assets (gas/nuclear) and safeguard against zero-alignment penalties during third-party verification.

The regulatory architecture of the EU Taxonomy establishes an immediate, non-negotiable threshold for energy infrastructure: technical specifications determine financial viability.

### The Quantitative Threshold: GHG Intensity Limits

For new energy generation activities subject to the cross-cutting GHG threshold – notably hydropower, geothermal, and bioenergy under the Climate Delegated Act, and abated fossil gas under the CCDA – alignment of CapEx hinges on meeting the absolute limit of 100g CO<sub>2</sub>e/kWh. Solar PV and onshore/offshore wind qualify on technology-based criteria and are exempt from the life-cycle calculation, but the cross-cutting threshold remains the benchmark wherever project-specific assessment is required. The conventional flaw in executive review is the confusion of "renewable" with "aligned". A project is only compliant if its quantified life-cycle GHG emissions are verifiably below this stringent threshold, calculated in accordance with the Product Environmental Footprint method (Commission Recommendation 2013/179/EU) or applicable ISO standards (notably ISO 14067).

### Operational Rigour and Transitional Asset Segregation

Furthermore, compliance depends on sustained operational performance. For energy generation using renewable gaseous fuels under the CDA (Activity 4.8, biogas and biomethane) and for fossil gas activities under the CCDA (Activities 4.29–4.31), the TSC mandates that measurement equipment for physical emissions – specifically methane leakage – must be installed, and a Leak Detection and Repair (LDAR) program introduced. This requirement converts the LDAR program from a voluntary best practice into an OpEx necessity. The technical requirements for measurement dictate that the frequency and reporting structure of the LDAR program must be auditable, often referencing industrial standards for verification.

This quantitative rigour is compounded by the inclusion of transitional energy assets under the Complementary Climate Delegated Act (CCDA, Regulation (EU) 2022/1214). Gas and nuclear are correctly classified as Transitional Activities under Article 10(2) of the Taxonomy Regulation (Regulation (EU) 2020/852), with specific activities and conditions listed in Annex I of the CCDA. They are not merely "high-risk"; they are subject to stringent, time-bound caps and specific

fuel-displacement requirements. The CCDA requires financial market participants (FMPs) to conduct granular data segregation and provide mandatory disclosures distinct from "pure green" (CDA) assets.

The strategic imperative: the only way to safeguard capital allocation against the zero-alignment penalty is to implement a Full Value Chain Lifecycle Assessment (LCA) Integration Framework. This framework must mandate the capture of project-specific data necessary for quantitative GHG calculation, ensuring that all technical documentation can withstand mandatory independent third-party verification if the asset is to be linked to an EU Green Bond.

The question for every capital allocator reviewing energy infrastructure exposure is not whether the regulatory threshold applies – it is whether their current verification framework can prove it does not.



*The compliance gap identified here is structural, not procedural. The verification architecture required to close it—and the Green Bond Firewall framework that makes capital allocation defensible under the third-party audit—is developed in full across the following publications.*

**TB-2025-T24-S1-V1.0 is available at €95**

Data Collection and Management for Taxonomy Reporting on Energy Assets

**THS-2025-T24-S1-V1.0 is available at €595**

The Green Bond Firewall: Technical Verification Protocols for Taxonomy Alignment

*Available at [PrincipalThesis.tech](https://PrincipalThesis.tech)*