



**TECHNICAL CIRCULAR No. 867 of 7<sup>th</sup> March 2025**

To	All Surveyors/Auditors. All flags
Title	<b>Air Pollution and Energy Efficiency</b>
Reference	LCA Guidelines

**AIR POLLUTION AND ENERGY EFFICIENCY**

Measurement and verification of Tank-to-Wake emissions of methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and other GHGs.

The Committee considered the development of a framework for the measurement and verification of Tank-to-Wake emissions of methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and other GHGs.

Discussion was focused inter alia on the framework to be developed, the instruments to be addressed and the expected timeline for completion of this framework.

Regarding the framework to be implemented, several views expressed that all possible certification options, such as test cycle approach, continuous monitoring and engine load distribution, should be considered, that potential incorporation of CH<sub>4</sub> in the NO<sub>x</sub> Technical Code 2008 (NTC 2008) would require significant changes and that it would be of value to incorporate the test procedures developed under ISO for CH<sub>4</sub> and N<sub>2</sub>O.

With respect to the instruments to be addressed, there were divergent views between further expanding the NTC 2008 to include CH<sub>4</sub> and N<sub>2</sub>O or developing a similar design framework, which can initially be in the form of standalone and possibly interim guidelines on CH<sub>4</sub> and N<sub>2</sub>O measurement to gain experience.

Many delegations expressed the urgent need to develop the framework for measurement and verification of CH<sub>4</sub> and N<sub>2</sub>O considering the upcoming development and adoption of mid-term measures and that it should be done in parallel with the development of the LCA Guidelines.

In this regard, the Committee agreed on continuing work on this matter intersessionally, by a Correspondence Group with the following Terms of Reference (ToRs): • Consider the development of a framework for the measurement and verification of actual Tank-to-Wake methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) emission factors and C<sub>slip</sub> value for energy converters taking into account inter

**CONARINA Head Office**

6505 Blue Lagoon Dr. Suite 455

Miami, FL., 33126

Tel: 1 (786) 558 5288,

Fax: 1 (786) 325 0200,

[joel@conarinagroup.com](mailto:joel@conarinagroup.com)



alia, standardization required regarding a test cycle approach, onboard monitoring, engine load distribution and associated measurement equipment technology and procedures.

- In support of the LCA Guidelines, development of a methodological framework for associated certification issues.
- Identification of relevant gaps in existing instruments and proposed recommendations for the development of necessary regulatory or recommendatory instruments.

REFERENCES:

- LCA Guidelines

ATTACHMENTS: No

Kindest Regards,  
CONARINA Technical Office

**CONARINA Head Office**

6505 Blue Lagoon Dr. Suite 455

Miami, Fl., 33126

Tel: 1 (786) 558 5288,

Fax: 1 (786) 325 0200,

[Joel@conarinagroup.com](mailto:Joel@conarinagroup.com)