IVR Congress Amsterdam
Emission Calculation Tool

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A brief introduction

'The measure of intelligence is the ability to change' -Albert Einstein

However, to change behavior is one of the hardest things to do (including to make use of new disruptive technologies)

Reasons to change behavior

- Awareness and Education
- Personal Values and Beliefs
- Financial incentives – Cost Savings
- Social influence and Norms
- Regulatory Requirements

EXPERTISES IVR

International Representation

Representation of the organisation at EU level, international river commissions and UNEGE

Platform & Events

International independent platform, sharing knowledge and organising networking events such as a congress, colloquia and workshops

Legal

Harmonisation & Unification of law

Loss Prevention Inspection

Loss Prevention Inspections on behalf of the insurability of inland navigation

Steering Gear Inspections

Independent certification of steering gear inspection

Engine Registration System

Initiated by several major insurers the IVR developed the present Engine Registration System (ERS)

IVR Ships Information System

Up-to-date vessel database concerning the European inland shipping fleet

Project

EMISSION CALCULATION TOOL

*The calculation tool estimates the emissions of an inland vessel and thereby provides **insight** into the vessel's efficiency.*

FOR WHO?

Directly for Shipowners
(linked to their unique vessel via unique ENI number)

Other Parties

For example: insurers, financial institutions, et cetera

WHY?

We all want ship owners to become more efficient and reduce emissions.

On global level

- The Paris Agreement
- The Poseidon Principles are consistent with the policies and ambitions of the International Maritime Organization, including its ambition for greenhouse gas emissions to peak as soon as possible and to reduce shipping's total annual GHG emissions by at least 50% by 2050.

On European Level

- European Green Deal: The European Green Deal called for decisive action to shift a substantial part of the freight transported by road (currently accounting for 75% of inland freight) to inland navigation and rail, namely through measures to increase the capacity of inland waterways from 2021. The green deal also calls for zero emission transport in 2050.
- Taxonomy

TWO INDICATORS PROVIDE INSIGHT INTO THE VESSEL'S EFFICIENCY

01 The emissions per kilowatt-hour

02 The emissions per ton-kilometer (the emissions for shipping 1 ton over 1 kilometer)

What does the IVR tool calculate? Green House Gases

- **Carbon dioxide CO2**
- **Nitrogen Oxides NOx**
- **Particulate Matter PM**

IVR tool allows to calculate CO2/NOx/PM taking into account various indicators. What happens to GHG when a more efficient engine is installed or HVO is added to the fuel mix instead of 100% diesel?

The total emissions can be split into Well-to-Tank (WTT) emissions and Tank-to-Wake (TTW) emissions. The emissions that result from the production and distribution of the fuel to the ship are called Well-to-Tank emissions. The emissions that result from the use of fuel aboard are called Tank-to-Wake emissions.

*The calculation tool aims to make an **estimate** of the emissions based on input data that is readily available or that can be easily obtained.*

Year of construction engine

Engine type

Fuel

Shiptype

Waterway Type

Capacity (Ton/TEU)

SCR (Selective Catalytic Reduction)

DPF (Diesel particulate filter)

Power

Now it is time to show you how the simulation tool actually works

IVR Emission Tool

Publication IVR Technical Leaflet

ANY QUESTIONS?

More information about IVR:

www.ivr-eu.com