



VERIFICATION STATEMENT

Statement no:
985994494984

Valid from:
4 June 2024

Hempel A/S

Verification of CO₂-eq emissions savings for vessels applying the Hempaguard hull coating

DNV Business Assurance Denmark A/S (DNV) was commissioned by Hempel to provide limited assurance on the data demonstrating that Hempel's high performance hull coating (Hempaguard) is helping its customers to reduce CO₂-eq emissions after their vessels have been applied with the Hempaguard coating.

The purpose of this document is to verify the CO₂-eq emissions for the data used to determine the speed loss savings and related direct fuel savings. The data has been compared to the market average (5.9 % speed loss, IMO GHG Study 2009) multiplied by the number of vessels that have applied Hempaguard in drydock during the 01 January 2013 – 31 December 2023 period, when Hempel treated its clients' vessels.

The verification is based on the principles of the Life Cycle Analyses and GHG Protocol GHG accounting rules. DNV does not accept or assume any responsibility or liability for claims made in relation to this verification on behalf of any party that may have access to this statement or related documents.

1. Boundaries of the reporting company covered by the assurance report and any known exclusions:

The scope of our work was limited to the assurance of the 01 January 2013 – 31 December 2023 Hempaguard treatment figures and savings calculations outlined in the Hempaguard - Performance and evidence.pdf in addition to information and data from the following supporting documents:

- Second IMO GHG Study 2009
- Hempel performance calculations with nonlinear speed loss
- DNV Updated model non-normalised.xlsx
- Hempaguard Performance study

2. Emissions reductions verified:

The GHG aggregated emissions data for Hempel (Selected Information) presented in the table below, represents the CO₂-eq emissions savings per year and the cumulative emissions, as determined based on the assumptions inherent in the scope of the work delineated in Section 1 (above).

Year	Fuel Savings per Year (tons)	Total CO ₂ Savings in Year (tCO ₂)	Cumulative CO ₂ Savings (tCO ₂)
2013	3 731	11 752	11 752
2014	34 209	107 760	119 512
2015	117 078	368 796	488 308
2016	251 410	791 943	1 280 251
2017	433 772	1 366 381	2 646 632
2018	658 539	2 074 398	4 721 030
2019	860 130	2 709 408	7 430 438
2020	1 006 750	3 171 263	10 601 701
2021	1 174 059	3 698 287	14 299 987



Year	Fuel Savings per Year (tons)	Total CO2 Savings in Year (tCO2)	Cumulative CO2 Savings (tCO2)
2022	1 368 877	4 311 961	18 611 949
2023	1 570 655	4 947 564	23 559 513

Other emissions have not been part of the verification scope and hence have not been verified by DNV.

3. Period included in the verification: 01 January 2013 to 31 December 2023.

4. Reporting criteria: ISO 14064-1:2019, GHG Protocol Corporate Accounting and Reporting Standard

5. Level of assurance: Limited Assurance.

The verification was conducted between 15 February 2024 and 25 March 2024, during which Hempel provided its GHG calculations.

DNV has performed the verification with the following approach:

- A review of the validated methodology assessing the fuel savings and emission calculations
- Routines for data quality management
- Review of calculation methods and emission source references
- Interviews with key personnel through calls (MS Teams)
- Closing out reported non-compliances, observations, and clarifications

Based on the procedures that DNV has performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information for the period 01 January 2013 – 31 December 2023 has not been prepared, in all material respects, in accordance with the Reporting Criteria.

6. Verification provider:

DNV Business Assurance Denmark A/S
Date: 4 June 2024

Lead Verifier
Edwin Aalders

Technical Reviewer
Heidi Käkälä