ONE OCEAN EXPEDITION
2025 - 2026
SETTING SAIL FOR THE FUTURE

# Sustainability Report

*Around the world for knowledge, education and diplomacy by the Norwegian tall ship Statsraad Lehmkuhl.*

*A part of the UN Decade of Ocean Science for Sustainable Development*

*Crown Prince Haakon visited Statsraad Lehmkuhl in Nice during the UN Ocean Conference. The Crown Prince is also a goodwill ambassador for the One Ocean Expedition. Here he is with the ship's professional crew and the CEO of the Statsraad Lehmkuhl Foundation, Haakon Vatle.*


# Message from the CEO

The goal of One Ocean Expedition is to create attention and share knowledge about the crucial role of the ocean for a sustainable future in a global perspective. This ambition shapes every aspect of the expedition – from the route we sail and the ports we visit to the activities we undertake and the way we operate the ship.

As a floating ambassador for the United Nations Decade of Ocean Science for Sustainable Development, One Ocean Expedition 2025-2026 seeks not only to support ocean research, but also to reduce the gap between science and the public by making ocean knowledge more accessible.

Building on the experience of our first expedition in 2021–2023, we have continued to explore how a more than 100-year-old tall ship, equipped with a wide range of advanced scientific instruments, can serve both as a sail training vessel and a floating university. Students, researchers, educators and members of the public have participated in courses, workshops and research activities at sea, where sail training and traditional seamanship are combined with science, education and international cooperation.

The ocean we want depends not only on science, but also on the people we engage and inspire. Throughout this expedition, 1,330 voyage crew from 47 countries across five continents have lived, learned and worked together on board. In the 27 ports visited, more than 17,200 people took part in conferences, lectures, school activities and public events on board the ship, all aimed at sharing knowledge about the ocean and inspiring engagement for its future.

In a time of growing geopolitical tensions, we firmly believe that Statsraad Lehmkuhl and One Ocean Expedition can play a role in bringing people together across borders, cultures and professions. Through shared experiences at sea, participants gain new knowledge and perspectives, while the connections formed along the way can contribute to greater understanding, cooperation and engagement for the ocean in the years to come.

As we look ahead to One Ocean Expedition 2028–2030, we will build on the strong partnerships and experiences from this voyage and welcome new partners to join our shared mission for the ocean. We cannot save the ocean alone, but together we can make a positive difference.

I would like to extend a special thanks to our partner PwC for preparing this report and contributing their expertise to our shared commitment to transparency, learning and sustainability.

**Haakon Vatle**

**CEO, The Statsraad Lehmkuhl Foundation**

# Understanding the numbers behind the voyage

This report should be read as a sustainability report for One Ocean Expedition 2025–2026. While greenhouse gas emissions are an important part of the assessment, they represent only one dimension of sustainability. To provide a more complete picture of the expedition's impact, the report also examines a wider range of environmental and social indicators.

The report is structured around three core pillars: climate reporting, environmental reporting and social reporting. It includes both an expedition overview covering the full voyage and separate chapters for each of the 21 voyage legs. Together, these provide insight into how different operational conditions, activities and priorities influenced the expedition's overall performance.

## An Expedition Shaped by Purpose

Unlike a traditional sailing voyage, where maximizing sailing performance may be the primary objective, One Ocean Expedition combines sail training, education, diplomacy and scientific research. Research priorities, educational programmes and outreach activities both at sea and in port therefore influence operational decisions throughout the expedition and must be considered when interpreting the figures presented in this report.

The overall sailing percentage for One Ocean Expedition 2025–2026 is lower than that of the first expedition in 2021–2023. This was partly expected, as the second expedition included a more extensive programme of research, education, port activities and international collaboration. Many legs were chartered by educational and scientific institutions, transforming the vessel into a living classroom, while others were open to the public or combined both audiences.

Researchers, students and institutions from around the world use the vessel to collect ocean and atmospheric data and conduct studies in areas of scientific interest. One example was the transit between Tromsø, Reykjavik and Nice, where 50 PhD candidates from around the world participated in the European Space Agency's six-week Ocean Training Course, combining satellite observations, scientific fieldwork at sea and sail training.

These activities, together with educational programmes and outreach initiatives in ports, influenced route planning, activities and operational priorities throughout the expedition. For example, Statsraad Lehmkuhl remained in Nice for ten days, serving as a central gathering point during the United Nations Ocean Conference in June 2025 and reflecting the expedition's broader educational, diplomatic and outreach objectives.


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# Understanding the numbers behind the voyage

## Adapting to Changing Conditions

The expedition was also affected by circumstances beyond our control. The cancellation of the planned Northwest Passage transit and the subsequent rerouting via Bermuda and the Panama Canal influenced both sailing percentage and fuel consumption. Together, these factors illustrate an important reality of both sailing and expedition operations: despite careful planning and preparation, nature ultimately sets the boundaries for where and how we can sail.

One of the report's key observations is that the largest source of greenhouse gas emissions is not always the ship itself. As a global expedition involving participants from around the world, travel to and from the vessel represents a significant share of the total carbon footprint. While these journeys contribute to the expedition's emissions, they also enable international collaboration, education and knowledge sharing that would otherwise not take place.

## Key Figures and Outlook

Over the course of the expedition, Statsraad Lehmkuhl sailed more than 34 600 nautical miles and maintained a strong safety record throughout the voyage. The expedition also supported extensive scientific data collection. Sensors on board continuously recorded oceanic and atmospheric conditions, complemented by more than 1 000 manual water, biological and environmental samples collected by researchers for further analysis.

These indicators highlight that the expedition's impact extends beyond climate metrics alone and includes contributions to scientific knowledge, data collection and maritime operations.

The ambition of this report is not to present a perfect expedition, but a transparent one. By documenting both achievements and challenges, we hope to contribute to learning, accountability and continuous improvement for future expeditions.



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# Sailing route: One Ocean Expedition 2025 - 2026


Dashed line indicates the original Northwest Passage route, revised due to ice conditions.

| Leg | Departure | Arrival | Link |
|---|---|---|---|
| | Expedition overview | | Slide 10 |
| 1 | Bergen, Norway | Tromsø, Norway | Leg 1 |
| 2 | Tromsø, Norway | Reykjavik, Iceland | Leg 2 |
| 3 | Reykjavik, Iceland | Nice, France | Leg 3 |
| 4 | Nice, France | Ponta Delgada, The Azores (Portugal) | Leg 4 |
| 5 | Ponta Delgada, The Azores (Portugal) | Nuuk, Greenland | Leg 5 |
| 6 | Nuuk, Greenland | St. John's, Canada | Leg 6 |
| 7 | St. John's, Canada | Bermuda | Leg 7 |
| 8 | Bermuda | Los Angeles, USA | Leg 8 |
| 9 | Los Angeles, USA | Vancouver, Canada | Leg 9 |
| 10 | Vancouver, Canada | Seattle, USA | Leg 10 |
| 11 | Seattle, USA | San Francisco, USA | Leg 11 |
| 12 | San Francisco, USA | San Diego, USA | Leg 12 |
| 13 | San Diego, USA | La Paz, Mexico | Leg 13 |
| 14 | La Paz, Mexico | Herradura, Costa Rica | Leg 14 |
| 15 | Herradura, Costa Rica | Cartagena, Colombia | Leg 15 |
| 16 | Cartagena, Colombia | Norfolk, USA | Leg 16 |
| 17 | Norfolk, USA | Cádiz, Spain | Leg 17 |
| 18 | Cádiz, Spain | Ponta Delgada, the Azores | Leg 18 |
| 19 | Ponta Delgada, the Azores | Brest, France | Leg 19 |
| 20 | Brest, France | Dublin, Ireland | Leg 20 |
| 21 | Dublin, Ireland | Bergen, Norway | Leg 21 |
| | Appendix | | Slide 98 |

# Content and reader guidance

The sustainability report includes climate, environmental and social reporting for the One Ocean Expedition 2025-2026.
The expedition is separated into 21 legs, which are presented to the left.

The report includes both an "*Expedition overview*" chapter and separate chapters per leg.

- ***Expedition overview*** includes data for all legs of the expedition.
- The ***leg chapters*** include data only from one leg of the expedition.

# Key elements of the sustainability report

This sustainability report is structured around three core pillars, supported by appendices providing definitions and detailed explanations and descriptions of the methodologies applied.

**I. Climate reporting**

Focuses on the expedition's impact on the climate through its greenhouse gas emissions.

This section covers:
- Greenhouse gas emissions
- Carbon intensity
- Sailing percentage

**II. Environmental reporting**

Addresses the broader environmental effects of the expedition.

This section covers:
- Water consumption
- Waste generation
- Pollution to air
- Marine protected areas

**III. Social reporting**

Focuses on the expedition's impact on crew and their well-being onboard.

This section covers:
- Safety on board
- Crew diversity
- Educational hours
- Emergency drills

**Appendix**
The appendices provide readers with an introduction to core components of sustainability reporting and include a glossary as well as descriptions of methodologies applied.


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# How to read a climate statement

## What is a Greenhouse Gas (GHG) inventory?

A carbon footprint report, also referred to as a greenhouse gas (GHG) inventory, is a structured way to measure and report the greenhouse gas emissions associated with an activity, organization, or event. $CO_2e$ is a standardized unit that reflects the warming impact of all greenhouse gases as if they were equivalent amounts of $CO_2$. The term $tCO_2e$ refers to metric tonnes of carbon dioxide equivalents.

The GHG Protocol divides emissions into three categories, or "scopes," to ensure a comprehensive and standardized approach:

### Scope 1

Direct emissions from our operations on the ship

### Scope 2

Indirect emissions from energy we buy

### Scope 3

All other indirect emissions directly linked to the ship and our operations

**Did you know?**

The ship's propulsion resulted in emissions of about 2000 tCO2e. This is similar to the emissions of 200 gasoline cars driving the same distance (source: SSB).

Our international crew traveling to meet the ship at its various destinations resulted in close to 3000 $tCO_2e$, similar to 1500 return flights between New York and Amsterdam (source: DEFRA).

# Expedition overview

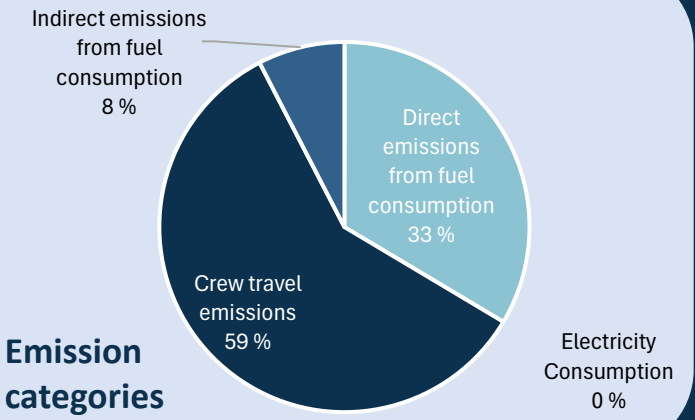
21 legs – 373 days - 34 604 nautical miles

# Expedition overview: Climate reporting

**4 938,47**
$tCO_2e$
Total emissions for full expedition*

**13,24**
$tCO_2e$
Carbon intensity per day*
18,31
in OOE 2021-23

**0,14**
$tCO_2e$
Carbon intensity per nautical mile*
0,19
in OOE 2021-23

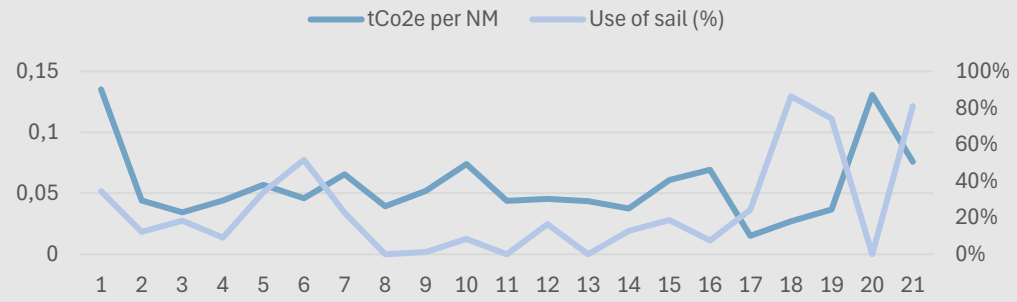



**23%**
Use of sail in percentage of nautical miles travelled

## Greenhouse Gas Inventory

| | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 1 656,79 | 0,05 |
| Scope 2 Location-based | 0,45 | 0,00 |
| Scope 2 Market-based | 1,18 | 0,00 |
| Scope 3 | 3 281,22 | 0,09 |
| **Total*** | **4 938,47** | **0,14** |

## Use of sail and fuel related carbon intensity




The light blue line shows the use of sail as a means of propulsion, in percentage of total distance travelled.

The dark blue line shows fuel related carbon intensity per nautical mile travelled at sea.

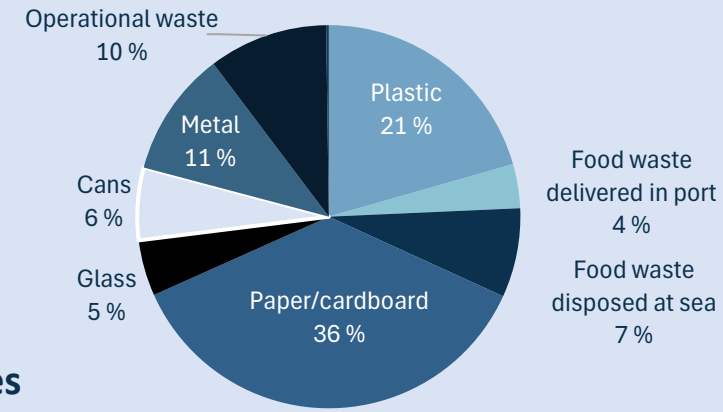
*Includes location-based scope 2 emissions

# Expedition overview: Environmental reporting

222 $m^3$

Total waste generated

**Waste categories**




4 of 22

Ports with observable recycling system

2 809 660 liters

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 75 liters |
| Average Norwegian | 140 liters * |

85%

Of used water self-generated

24 tonnes

NOx emissions

27 Special areas sailed through

22 Marine protected areas sailed through

4 %

Vegetarian dinners

3 %

Of crew climate compensated their travel

*Norsk Vann, 2025

# Expedition overview: Social reporting

**On board safety**

7
Near accidents

12
Low criticality incidents

10
Medium criticality incidents

0
High criticality incidents

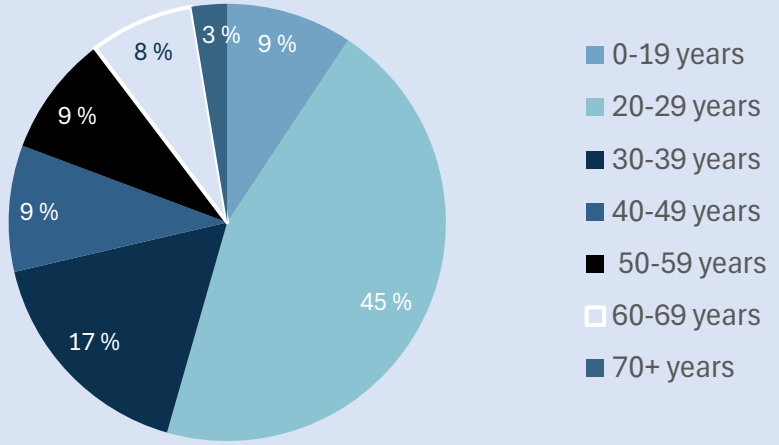
37%
Female voyage crew

45%
Female professional crew

47
Number of nationalities

571
Number of educational hours

**Crew age distribution**




49
Number of emergency drills

Leg 1

# Bergen, Norway – Lerwick, UK – Tromsø, Norway

1 093 nautical miles

Leg overview

Appendix

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# Leg 1:

# Bergen, Norway via Lerwick, UK to Tromsø, Norway

Voyage: 11.04.25 – 20.04.25
Days at Port: 0
Days at Sea: 10

## Captain's comment:

The 34% sail ratio for the initial leg reflects a strategic focus on testing and commissioning critical operational systems for the One Ocean Expedition.

Fine-tuning research equipment required precise maneuvering, while heavy provisioning and unboxing resulted in elevated waste, specifically paper and cardboard, during this necessary setup phase.

**34 %**
Use of sail in percentage of nautical miles travelled

**1 093**
Nautical miles travelled

**129**
Crew size

**225,13**
$tCO_2e$
Total emissions from leg

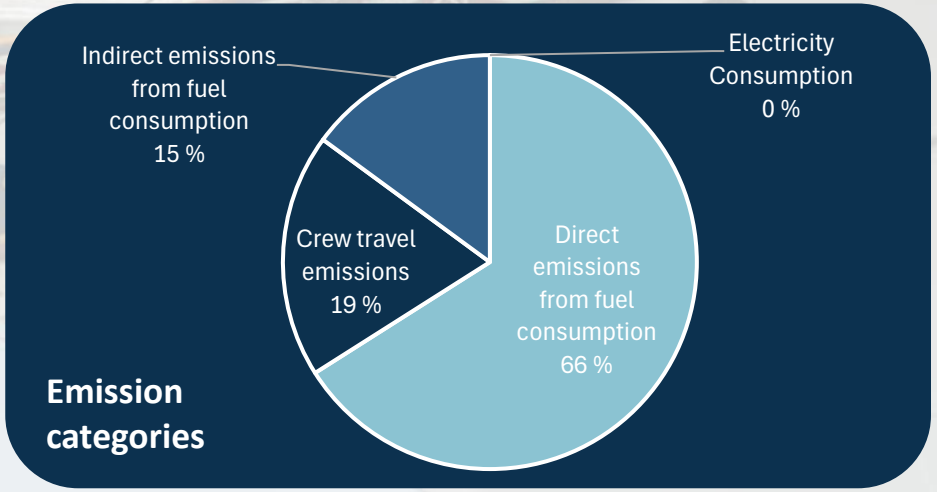
**22,51**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,21**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 147,72 | 0,14 |
| Scope 2 Location-based | 0,01 | 0,00 |
| Scope 2 Market-based | 0,90 | 0,00 |
| Scope 3 | 76,51 | 0,07 |
| **Total (Location-based)** | **225,13** | **0,21** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 1:

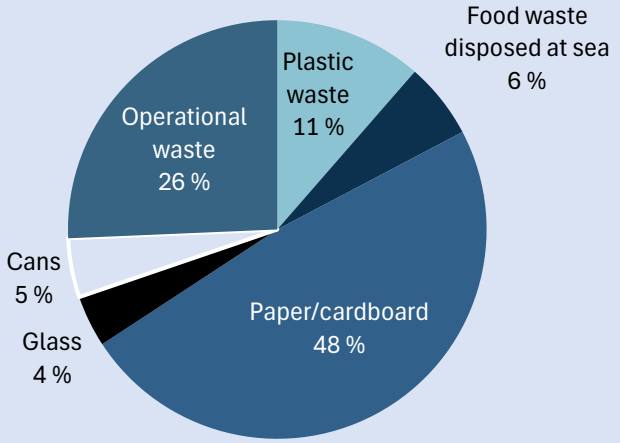
# Bergen, Norway via Lerwick, UK to Tromsø, Norway

Voyage: 11.04.25 – 20.04.25
Days at Port: 0
Days at Sea: 10

**17,53m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**Yes**

**98 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 76 liters |
| Average Norwegian | 140 liters * |

**0 %**

Of used water self-generated

**2,15 tonnes**
NOx emissions

**1**
Number of vegetarian dinners

**0** Special areas sailed through

**0** Marine protected areas sailed through

**13 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 1:

# Bergen, Norway via Lerwick, UK to Tromsø, Norway

Voyage: 11.04.25 – 20.04.25
Days at Port: 0
Days at Sea: 10

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

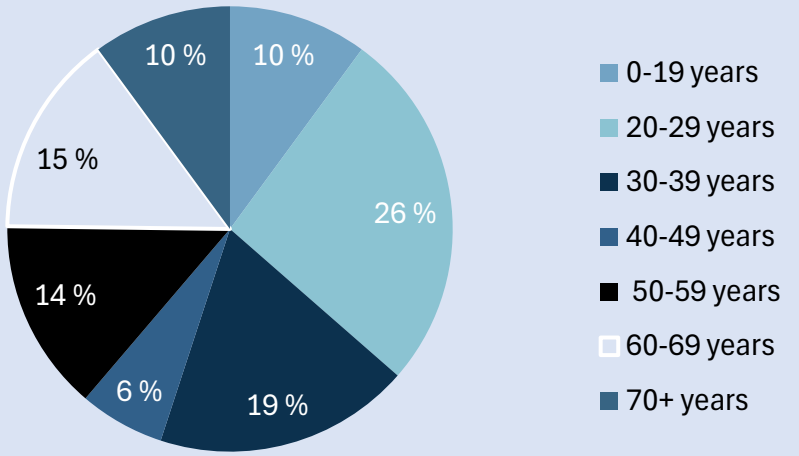
**41%**
Female voyage crew

**39%**
Female professional crew

**13**
Number of nationalities

**4**
Number of educational hours

## Crew age distribution




**4**
Number of emergency drills

Leg 2

# Tromsø, Norway – Reykjavik, Iceland

1 283 nautical miles

Leg overview

Appendix

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# Leg 2: Tromsø, Norway to Reykjavik, Iceland

Voyage: 22.04.25 – 05.05.25
Days at Port: 1
Days at Sea: 14

## Captain's comment:

The 12% sail ratio on this leg was heavily restricted by tight scientific schedules and variable wind conditions, requiring extended engine use to maintain progress.

The leg brought together 50 PhD candidates from across the world through the European Space Agency's One Ocean Training Course. Representing 31 nationalities, the participants highlighted the global mission of the expedition and its role as a platform for international collaboration in ocean science, education and sail training.

**12 %**
Use of sail in percentage of nautical miles travelled

**1 283**
Nautical miles travelled

**142**
Crew size

**165,32**
$tCO_2e$
Total emissions from leg

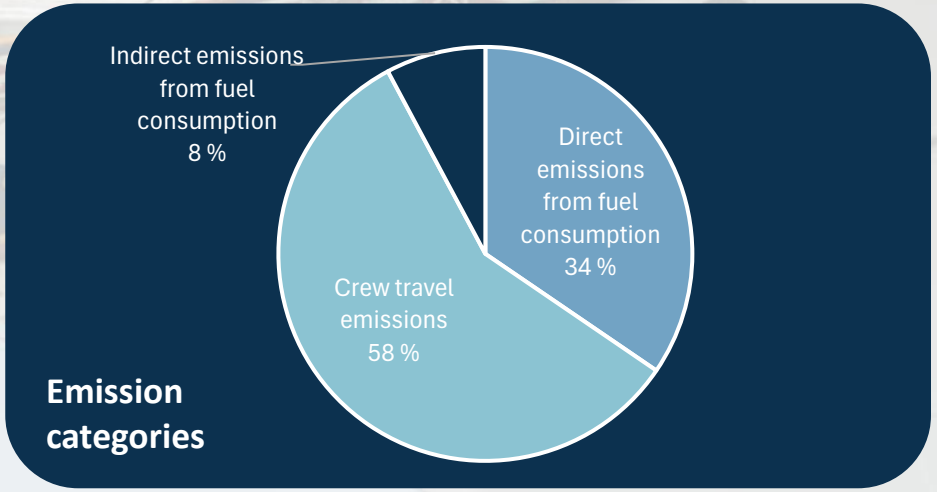
**11,02**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,13**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 56,59 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 108,73 | 0,09 |
| **Total (Location-based)** | **165,32** | **0,13** |



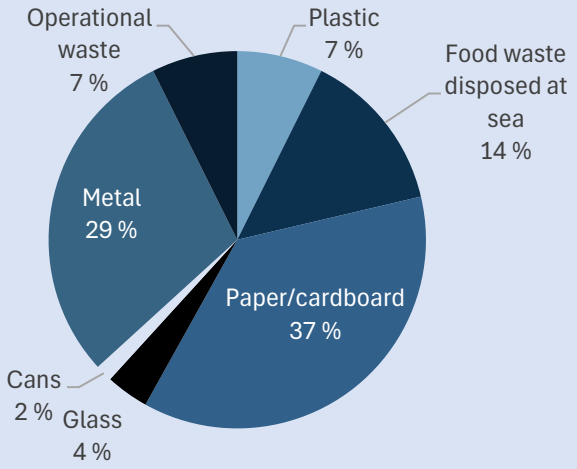
# Leg 2:
# Tromsø, Norway to Reykjavik, Iceland

Voyage: 22.04.25 – 05.05.25
Days at Port: 1
Days at Sea: 14

**13,6m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**168 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 79 liters |
| Average Norwegian | 140 liters * |

**87%**

Of used water self-generated

**0.82 tonnes**
NOx emissions

**2**
Number of vegetarian dinners

**1** Special areas sailed through

**0** Marine protected areas sailed through

**5 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

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# Leg 2: Tromsø, Norway to Reykjavik, Iceland

Voyage: 22.04.25 – 05.05.25
Days at Port: 1
Days at Sea: 14

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

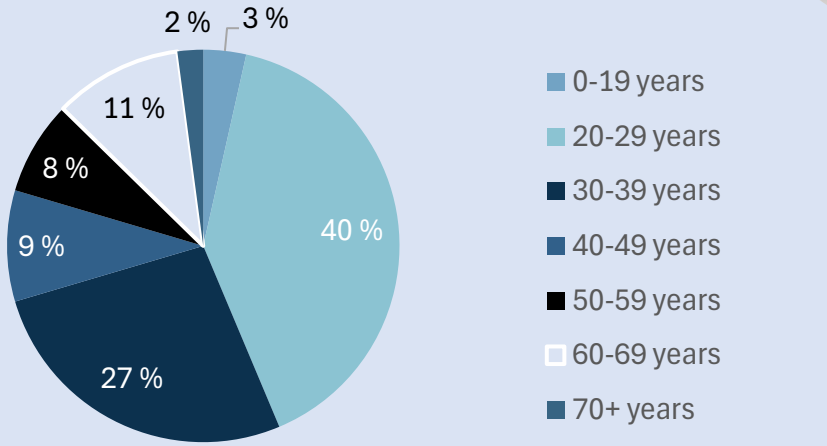
**44%**
Female voyage crew

**35%**
Female professional crew

**31**
Number of nationalities

**6**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

Leg 3

# Reykjavik, Iceland – Mahon, Spain – Nice, France

3 265 nautical miles

Leg overview

Appendix

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# Leg 3:

# Reykjavik, Iceland via Mahon, Spain to Nice, France

Voyage: 08.05.25 – 03.06.25
Days at Port: 2
Days at Sea: 27

## Captain's comment:

This was the most research-intensive leg of the expedition. Scientific priorities required precise positioning for sampling beneath satellite tracks, which limited opportunities to optimize the route according to prevailing wind conditions. Frequent research stops further disrupted sailing continuity throughout the voyage.

The unusually high amount of metal waste reported in Nice was primarily caused by the replacement of the ship's waste compactor.

**18 %**
Use of sail in percentage of nautical miles travelled

**3 265**
Nautical miles travelled

**128**
Crew size

**176,39**
$tCO_2e$
Total emissions from leg

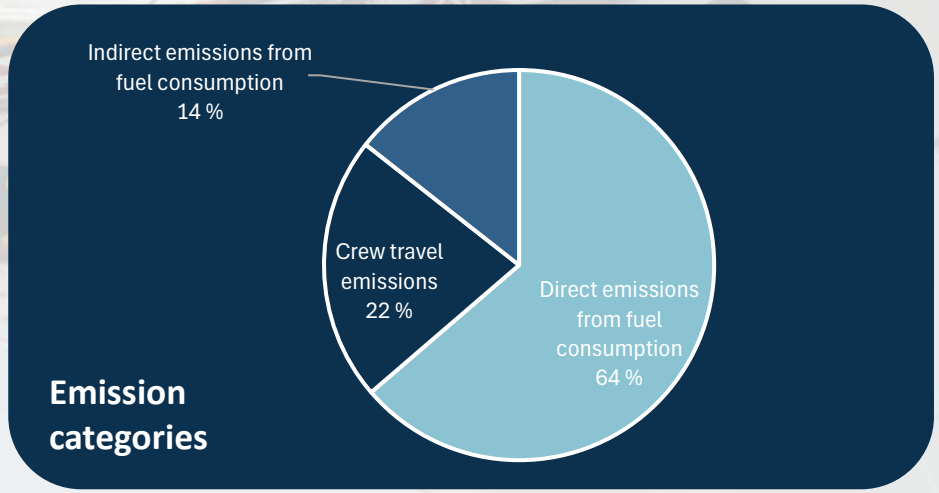
**6,08**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,05**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 112,35 | 0,03 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 64,03 | 0,02 |
| **Total (Location-based)** | **176,39** | **0,05** |



ONE OCEAN EXPEDITION 2025 - 2026
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# Leg 3:

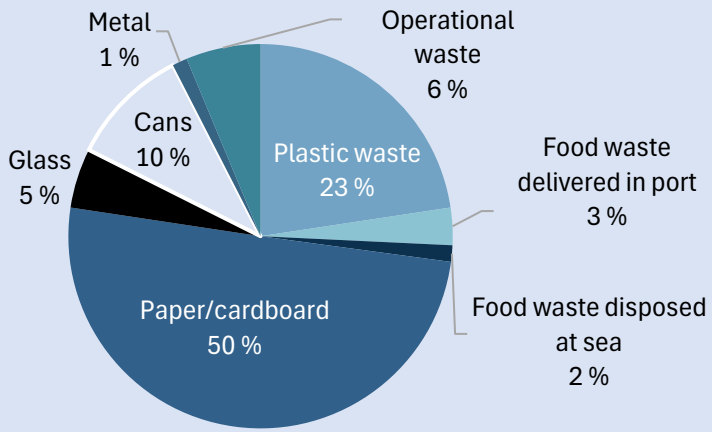
# Reykjavik, Iceland via Mahon, Spain to Nice, France

Voyage: 08.05.25 – 03.06.25
Days at Port: 2
Days at Sea: 27

**79,6m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**Yes**

**571 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 153 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**1.63 tonnes**
NOx emissions

**3**
Number of vegetarian dinners

**9**
Special areas sailed through

**0**
Marine protected areas sailed through

**1 %**
Of crew climate compansated their travel

*Norsk Vann, 2025

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# Leg 3:

# Reykjavik, Iceland via Mahon, Spain to Nice, France

Voyage: 08.05.25 – 03.06.25
Days at Port: 2
Days at Sea: 27

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

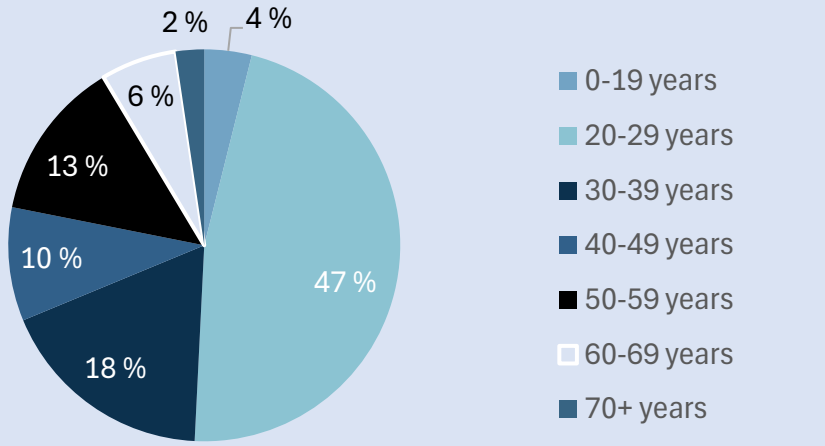
**41%**
Female voyage crew

**33%**
Female professional crew

**26**
Number of nationalities

**30**
Number of educational hours

## Crew age distribution




**3**
Number of emergency drills

Leg 4

# Nice, France – Ponta Delgada, the Azores (Portugal)

1 928 nautical miles

Leg overview

Appendix

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# Leg 4:
# Nice, France to Ponta Delgada, the Azores (Portugal)

Voyage: 14.06.25 – 02.07.25
Days at Port: 10
Days at Sea: 19

## Captain's comment:

The 34% sail ratio on this leg reflects the predictably calm wind conditions across the Mediterranean, which limited sailing opportunities.

However, the 10 days in port were highly productive, as Statsraad Lehmkuhl served as a central gathering point for conferences, workshops and international collaboration during the United Nations Ocean Conference in Nice.

**34%**
of expedition using sails

**1 928**
Nautical miles travelled

**62**
Crew size

**144,55**
$tCO_2e$
Total emissions from leg

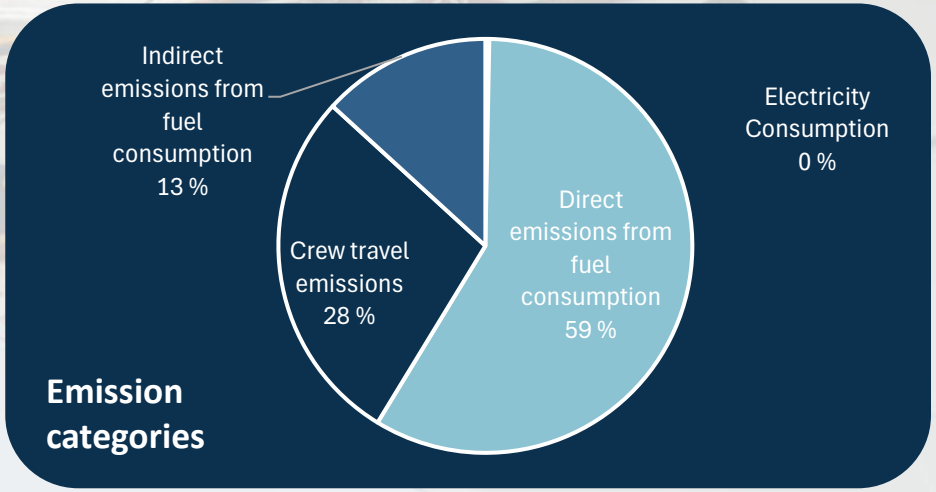
**4,98**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,07**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 85,00 | 0,04 |
| Scope 2 Location-based | 0,44 | 0,00 |
| Scope 2 Market-based | 0,28 | 0,00 |
| Scope 3 | 59,55 | 0,03 |
| **Total (Location-based)** | **144,55** | **0,07** |

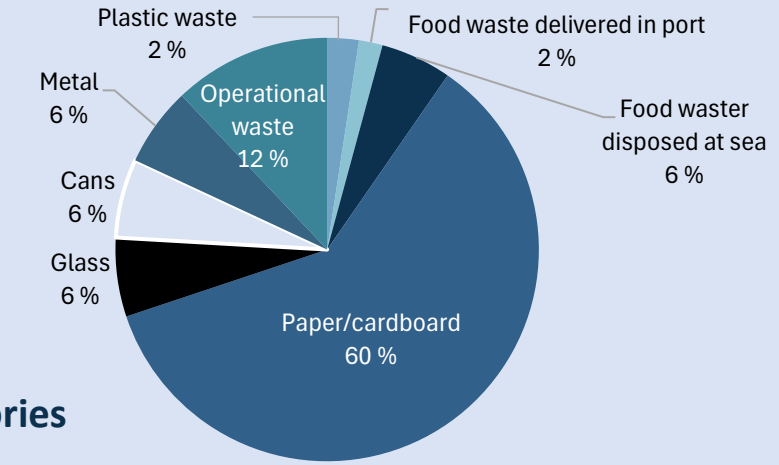


# Leg 4:
# Nice, France to Ponta Delgada, the Azores (Portugal)

Voyage: 14.06.25 – 02.07.25
Days at Port: 10
Days at Sea: 19

**16,6m³**

Total waste generated




**Waste categories**

Did arrival port have an observable recycling system?

**Yes**

**263 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 100 liters |
| Average Norwegian | 140 liters * |

**62%**

Of used water self generated

**1,23 tonnes**
NOx emissions

**2**
Number of vegetarian dinners

**1** Special areas sailed through

**0** Marine protected areas sailed through

**12 %**
Of crew climate compansated their travel

*Norsk Vann, 2025

# Leg 4:
# Nice, France to Ponta Delgada, the Azores (Portugal)

Voyage: 14.06.25 – 02.07.25
Days at Port: 10
Days at Sea: 19

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

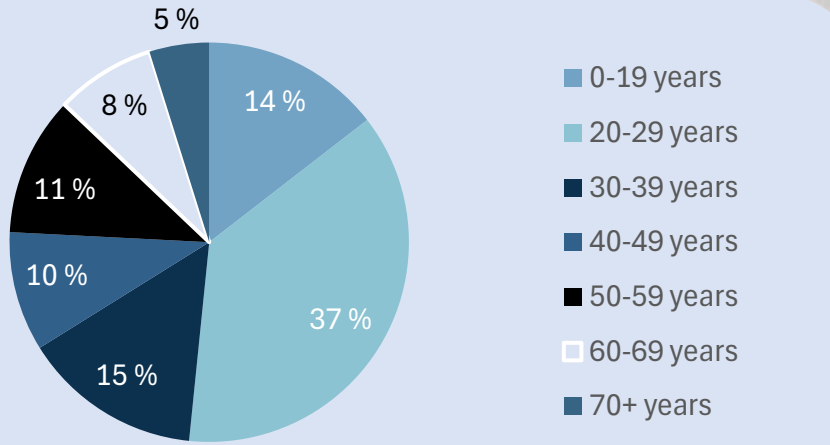
**45%**
Female voyage crew

**38%**
Female professional crew

**8**
Number of nationalities

**1**
Number of educational hours

## Crew age Distribution




**3**
Number of emergency drills

Leg 5

# Ponta Delgada, the Azores (Portugal) – Nuuk, Greenland

2 369 nautical miles

Leg overview

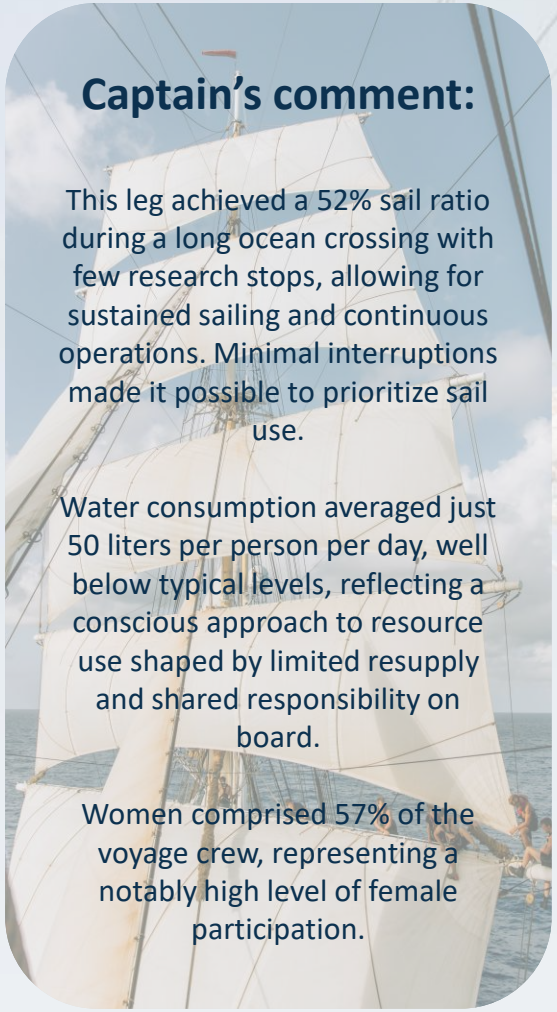
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 5:

Voyage: 08.07.25 – 29.07.25
Days at Port: 5
Days at Sea: 22

# Ponta Delgada, the Azores (Portugal) – Nuuk, Greenland



## Captain's comment:

This leg achieved a 52% sail ratio during a long ocean crossing with few research stops, allowing for sustained sailing and continuous operations. Minimal interruptions made it possible to prioritize sail use.

Water consumption averaged just 50 liters per person per day, well below typical levels, reflecting a conscious approach to resource use shaped by limited resupply and shared responsibility on board.

Women comprised 57% of the voyage crew, representing a notably high level of female participation.

**52 %**
Use of sail in percentage of nautical miles travelled

**2 369**
Nautical miles travelled

**117**
Crew size

**322,69**
$tCO_2e$
Total emissions from leg

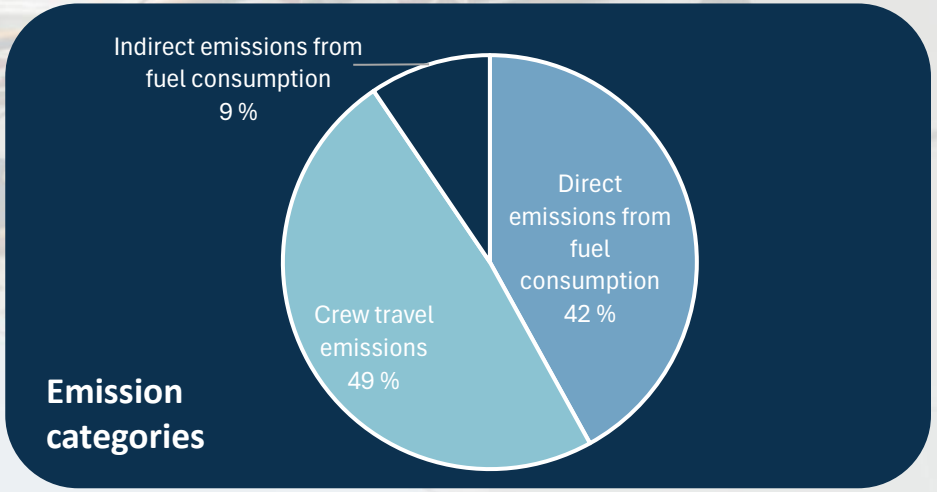
**11,95**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,14**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 134,99 | 0,06 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 186,70 | 0,08 |
| **Total (Location-based)** | **322,69** | **0,14** |



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 5:

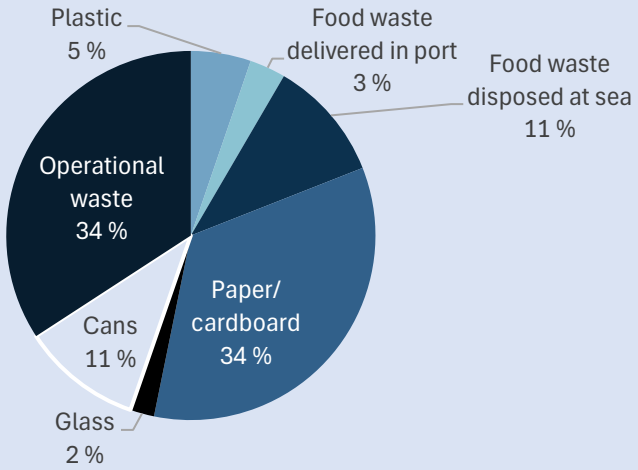
Voyage: 08.07.25 – 29.07.25
Days at Port: 5
Days at Sea: 22

# Ponta Delgada, the Azores (Portugal) – Nuuk, Greenland

**9,51m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**158 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 50 liters |
| Average Norwegian | 140 liters * |

**77 %**

Of used water self-generated

**1,96 tonnes**
NOx emissions

**2**
Number of vegetarian dinners

**1** Special areas sailed through

**0** Marine protected areas sailed through

**5 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 5:

Voyage: 03.07.25 – 29.07.25
Days at Port: 5
Days at Sea: 22

# Ponta Delgada, the Azores (Portugal) – Nuuk, Greenland

**On board safety**

0
Near accidents

1
Low criticality incidents

0
Medium criticality incidents

0
High criticality incidents

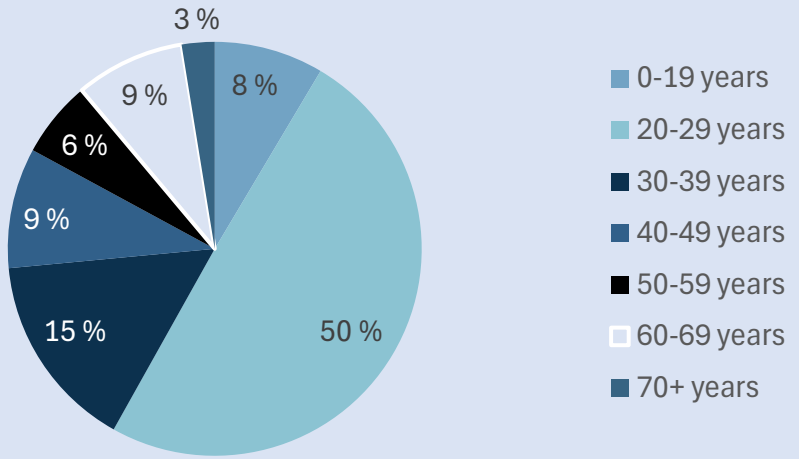
57%
Female voyage crew

39%
Female professional crew

17
Number of nationalities

13
Number of educational hours

**Crew age distribution**




5
Number of emergency drills

Leg 6

# Nuuk, Greenland – St. John's, Canada

## 1 970 nautical miles

Including 7 extra days. Route changed due to ice conditions in the Northwest Passage.

Leg overview

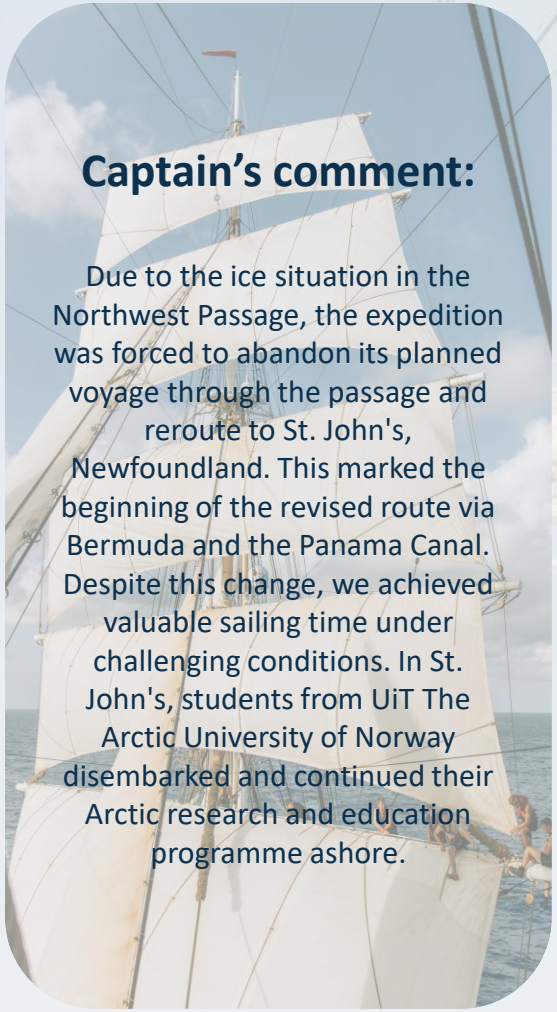
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 6:

# Nuuk, Greenland – St. John's, Canada

Voyage: 30.07.25 – 20.08.25
Days at Port: 6
Days at Sea: 16



## Captain's comment:

Due to the ice situation in the Northwest Passage, the expedition was forced to abandon its planned voyage through the passage and reroute to St. John's, Newfoundland. This marked the beginning of the revised route via Bermuda and the Panama Canal. Despite this change, we achieved valuable sailing time under challenging conditions. In St. John's, students from UiT The Arctic University of Norway disembarked and continued their Arctic research and education programme ashore.

**23%**
Use of sail in percentage of nautical miles travelled

**1 970**
Nautical miles travelled

**115**
Crew size

**323,76 $tCO_2e$**
Total emissions from leg

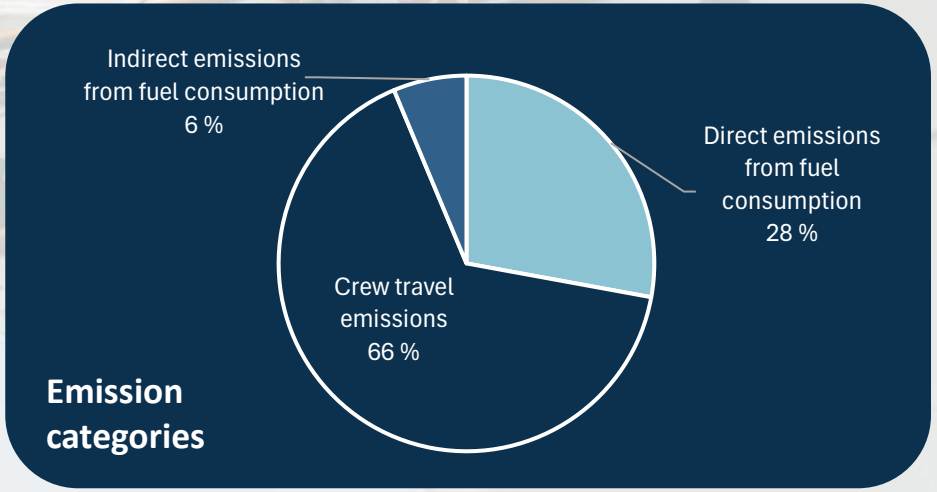
**14,72 $tCO_2e$**
Carbon intensity per day

**13,24**
Full expedition

**0,16 $tCO_2e$**
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 90,21 | 0,05 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 233,55 | 0,12 |
| **Total (Location-based)** | **323,76** | **0,16** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 6:

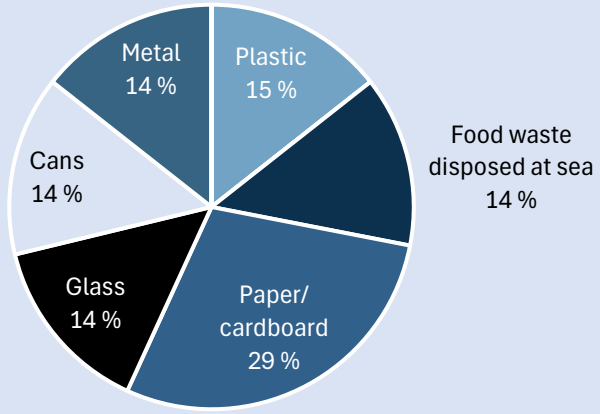
# Nuuk, Greenland – St. John's, Canada

Voyage: 30.07.25 – 20.08.25
Days at Port: 6
Days at Sea: 16

**6,95m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**158 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 62 liters |
| Average Norwegian | 140 liters * |

**65%**

Of used water self-generated

**1,31 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**0** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

Leg 6:

# Nuuk, Greenland – St. John's, Canada

Voyage: 30.07.25 – 20.08.25
Days at Port: 6
Days at Sea: 16

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

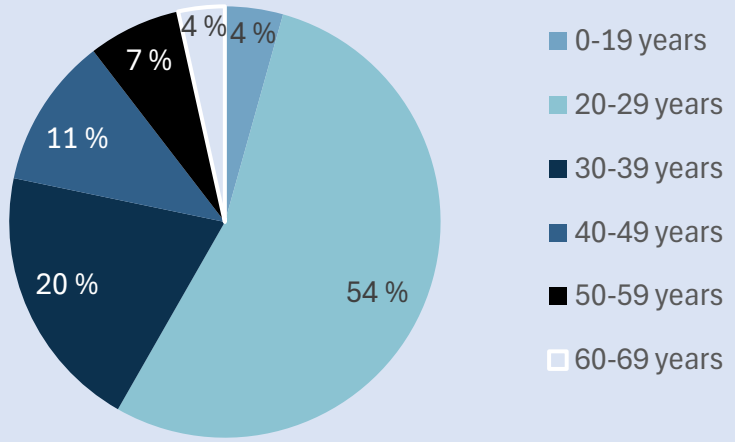
**55%**
Female voyage crew

**45%**
Female professional crew

**17**
Number of nationalities

**0**
Number of educational hours

## Crew age distribution




**4**
Number of emergency drills

# Leg 7
# St. John's, Canada – Bermuda

1 152 nautical miles

Leg overview

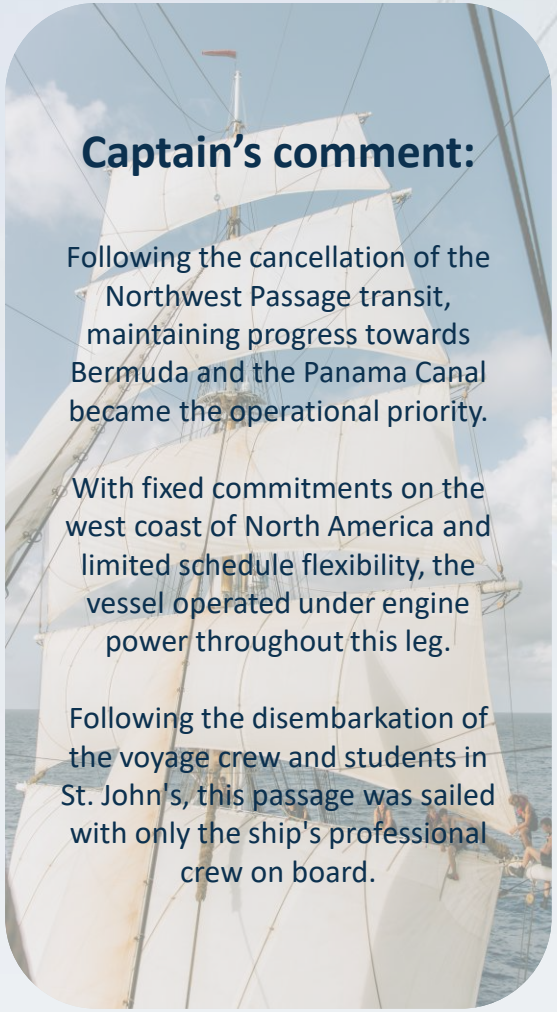
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 7:

# St. John's, Canada – Bermuda

Voyage: 21.08.25 – 29.08.25
Days at Port: 2
Days at Sea: 7



## Captain's comment:

Following the cancellation of the Northwest Passage transit, maintaining progress towards Bermuda and the Panama Canal became the operational priority.

With fixed commitments on the west coast of North America and limited schedule flexibility, the vessel operated under engine power throughout this leg.

Following the disembarkation of the voyage crew and students in St. John's, this passage was sailed with only the ship's professional crew on board.

**0%**
Use of sail in percentage of nautical miles travelled

**1 152**
Nautical miles travelled

**34**
Crew size

**107,17**
$tCO_2e$
Total emissions from leg

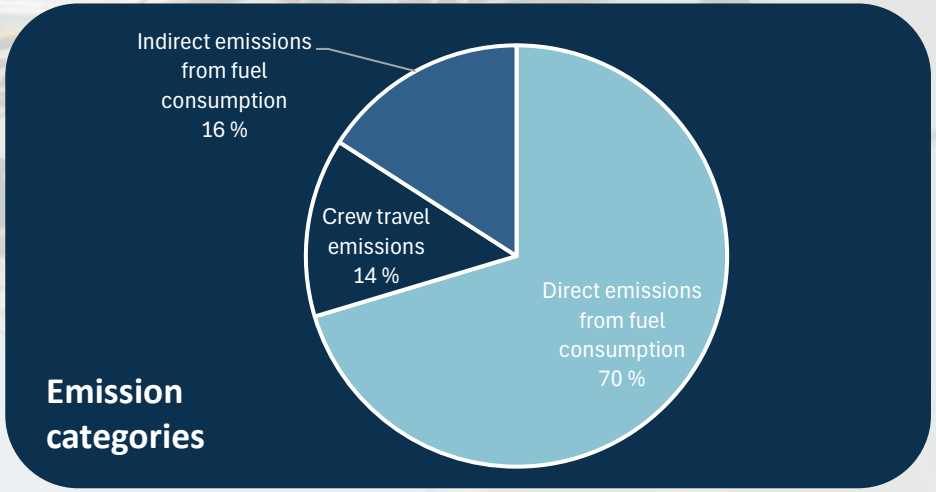
**11,91**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,09**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 75,41 | 0,06 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 31,76 | 0,03 |
| **Total (Location-based)** | **107,17** | **0,09** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 7:

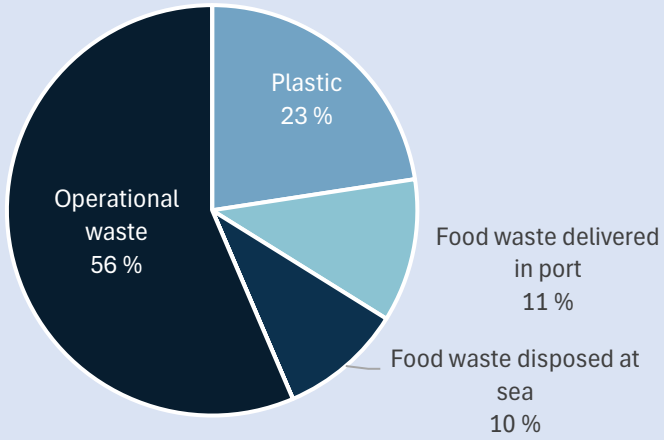
# St. John's, Canada – Bermuda

Voyage: 21.08.25 – 29.08.25
Days at Port: 2
Days at Sea: 7

**4,43m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**49 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 160 liters |
| Average Norwegian | 140 liters * |

**100 %**

Of used water self-generated

**2,00 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**0** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 7:

# St. John's, Canada – Bermuda

Voyage: 21.08.25 – 29.08.25
Days at Port: 2
Days at Sea: 7

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

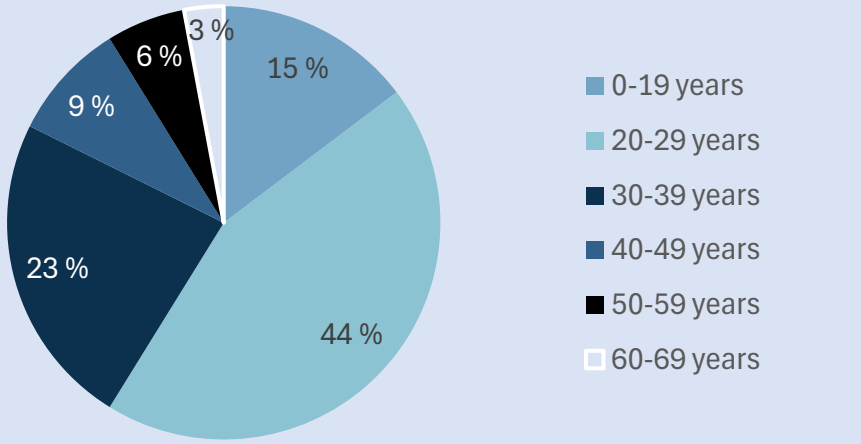
**N/A**
Female voyage crew
*No voyage crew

**44%**
Female professional crew

**5**
Number of nationalities

**0**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

# Leg 8
# Bermuda – Los Angeles, USA

4 850 nautical miles

Leg overview

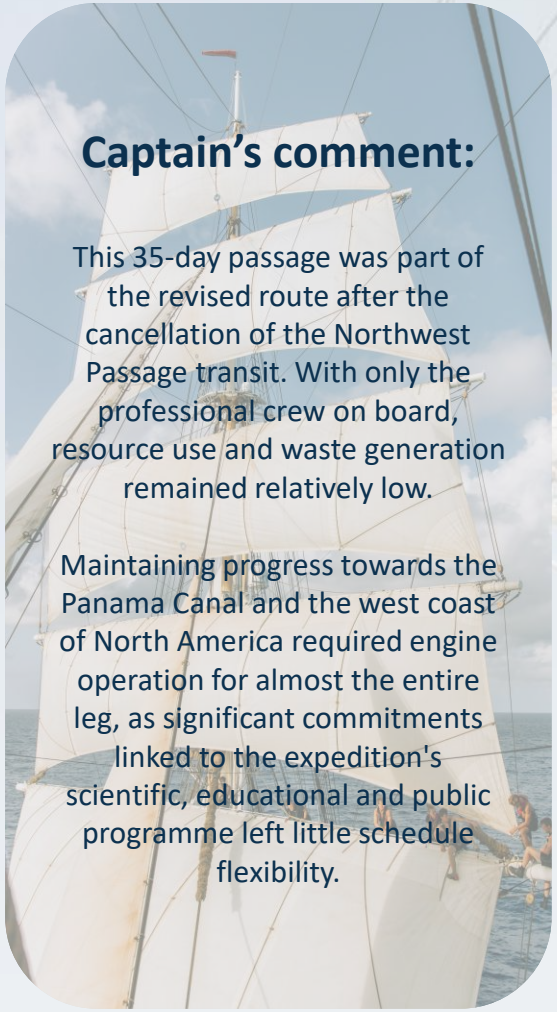
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 8:

# Bermuda – Los Angeles, USA

Voyage: 01.09.25 – 05.10.25
Days at Port: 2
Days at Sea: 35



## Captain's comment:

This 35-day passage was part of the revised route after the cancellation of the Northwest Passage transit. With only the professional crew on board, resource use and waste generation remained relatively low.

Maintaining progress towards the Panama Canal and the west coast of North America required engine operation for almost the entire leg, as significant commitments linked to the expedition's scientific, educational and public programme left little schedule flexibility.

**1%**
Use of sail in percentage of nautical miles travelled

**4 850**
Nautical miles travelled

**35**
Crew size

**311,58**
$tCO_2e$
Total emissions from leg

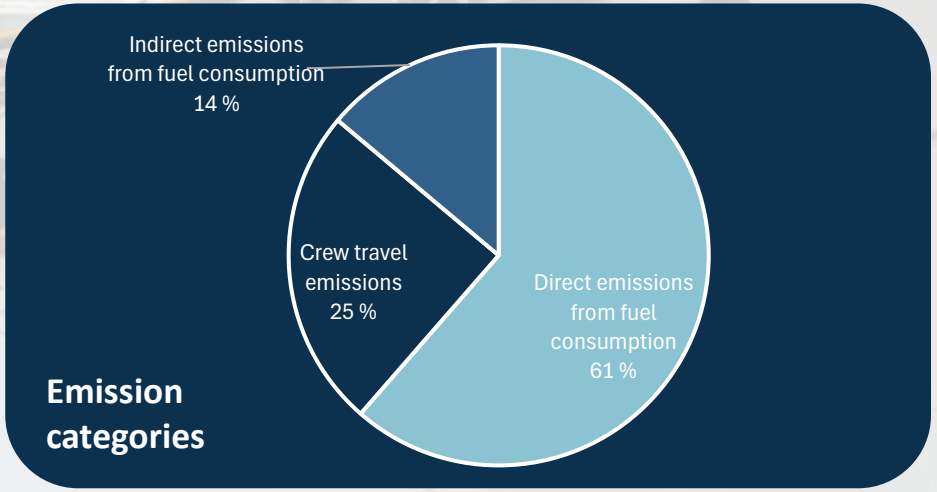
**8,42**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,06**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 191,36 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 120,22 | 0,02 |
| **Total (Location-based)** | **311,58** | **0,06** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 8:

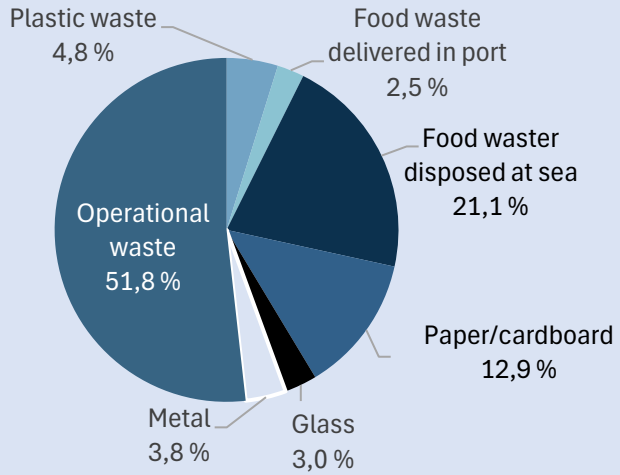
# Bermuda – Los Angeles, USA

Voyage: 01.09.25 – 05.10.25
Days at Port: 2
Days at Sea: 35

**3,94m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**200 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 154 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**2,78 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**3** Special areas sailed through

**0** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 8:

# Bermuda – Los Angeles, USA

Voyage: 01.09.25 – 05.10.25
Days at Port: 2
Days at Sea: 35

## On board safety

**0**
Near accidents

**2**
Low criticality incidents

**4**
Medium criticality incidents

**0**
High criticality incidents

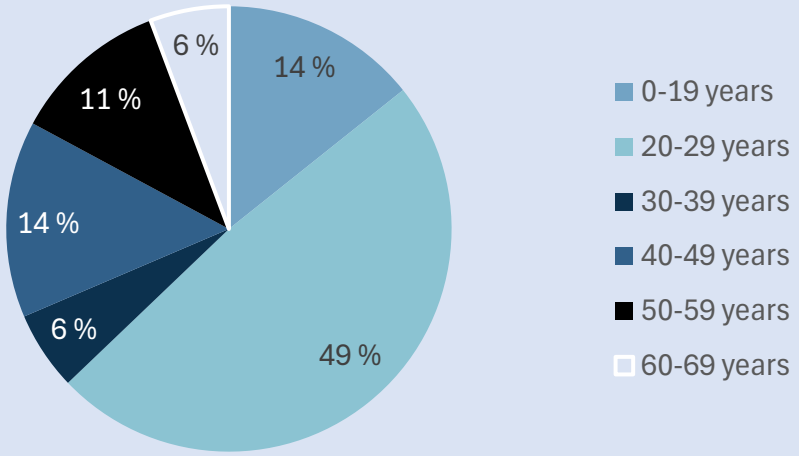
**40%**
Female voyage crew

**43%**
Female professional crew

**7**
Number of nationalities

**0**
Number of educational hours

## Crew age distribution




**6**
Number of emergency drills

# Leg 9
# Los Angeles, USA – Vancouver, Canada

1 371 nautical miles

Leg overview

Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 9:

# Los Angeles, USA – Vancouver, Canada

Voyage: 07.10.25 – 17.10.25
Days at Port: 1
Days at Sea: 11

## Captain's comment:

A low 8% sail ratio was caused by persistent headwinds and a tight schedule, requiring continuous engine power to stay on schedule. Meanwhile, travel emissions peaked significantly due to major crew rotations. Changing our professional crew of 30 and welcoming Dutch naval cadets in Los Angeles generated nearly 80% of this leg's emissions.

Vancouver marked the expedition's return to its planned schedule following the Arctic route change.

**8 %**
Use of sail in percentage of nautical miles travelled

**1 371**
Nautical miles travelled

**132**
Crew size

**403,95**
$tCO_2e$
Total emissions from leg

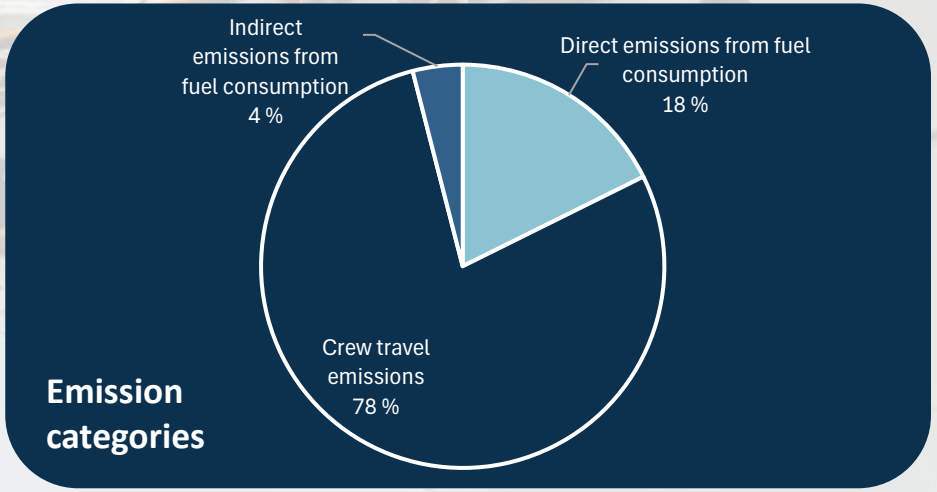
**33,66**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,29**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 71,39 | 0,05 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 322,56 | 0,25 |
| **Total (Location-based)** | **403,95** | **0,29** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 9:

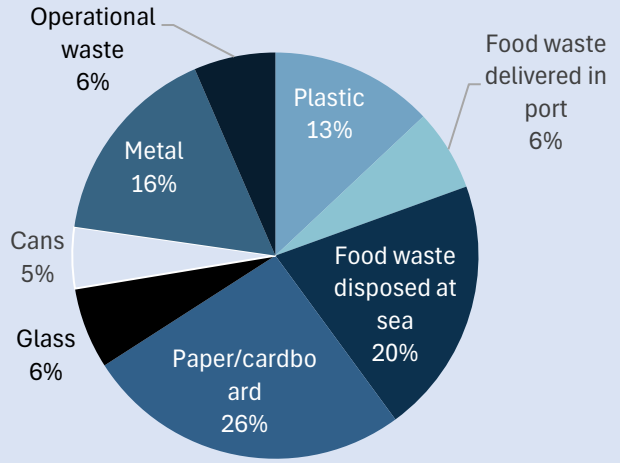
# Los Angeles, USA – Vancouver, Canada

Voyage: 07.10.25 – 17.10.25
Days at Port: 1
Days at Sea: 11

**3,08m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**116 800 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 74 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**1,04 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**2** Special areas sailed through

**3** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 9:

# Los Angeles, USA – Vancouver, Canada

Voyage: 07.10.25 – 17.10.25
Days at Port: 1
Days at Sea: 11

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**1**
Medium criticality incidents

**0**
High criticality incidents

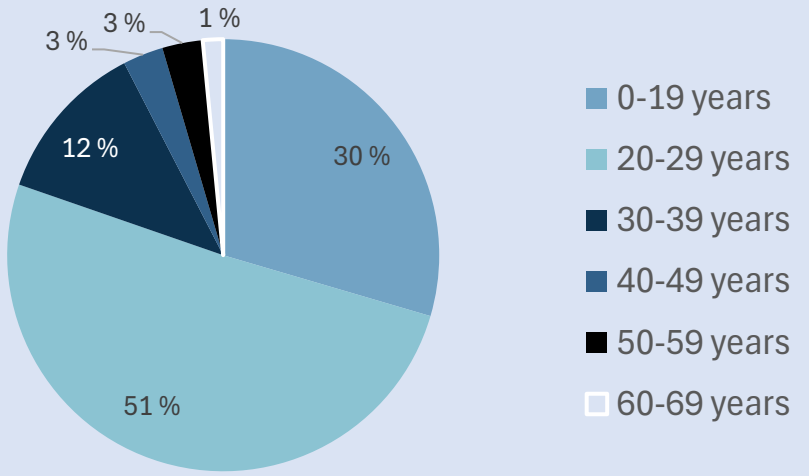
**23%**
Female voyage crew

**55%**
Female professional crew

**6**
Number of nationalities

**0**
Number of educational hours

## Crew age distribution




**6**
Number of emergency drills

# Leg 10
# Vancouver, Canada – Seattle, USA

168 nautical miles

Leg overview | Appendix

# Leg 10:

# Vancouver, Canada – Seattle, USA

Voyage: 21.10.25 – 22.10.25
Days at Port: 3
Days at Sea: 2

## Captain's comment:

With only the ship's professional crew on board, this short leg functioned primarily as an operational transfer between Vancouver and Seattle ahead of One Ocean Week Seattle, where Statsraad Lehmkuhl served as a platform for scientific, educational and public outreach activities, as well as collaboration between academia, industry and government.

**0 %**
Use of sail in percentage of nautical miles travelled

**168**
Nautical miles travelled

**32**
Crew size

**15,26**
$tCO_2e$
Total emissions from leg

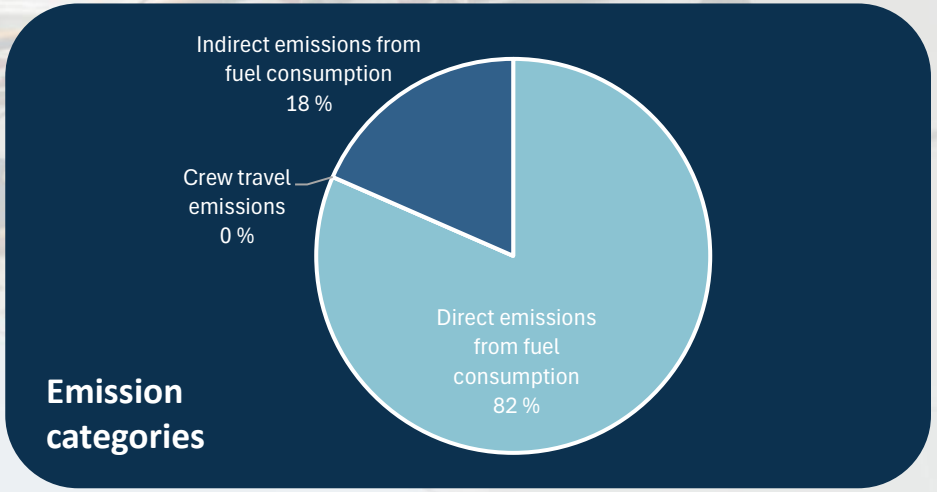
**3,05**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,09**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 12,44 | 0,07 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 2,81 | 0,02 |
| **Total (Location-based)** | **15,26** | **0,09** |



# Leg 10:

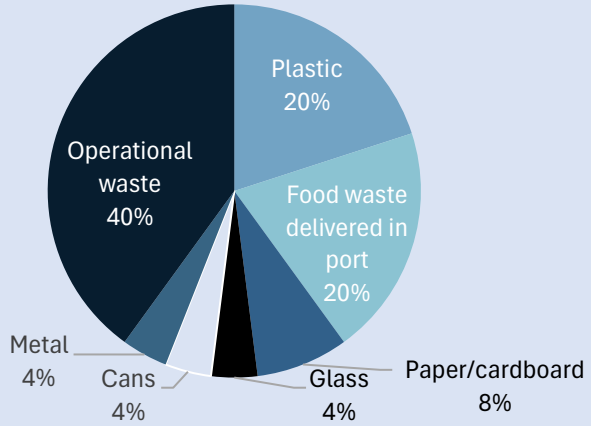
# Vancouver, Canada – Seattle, USA

Voyage: 21.10.25 – 22.10.25
Days at Port: 3
Days at Sea: 2

**2,50 $m^3$**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**11 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 69 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,20 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**1** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

Leg 10:

# Vancouver, Canada – Seattle, USA

Voyage: 21.10.25 – 22.10.25
Days at Port: 3
Days at Sea: 2

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

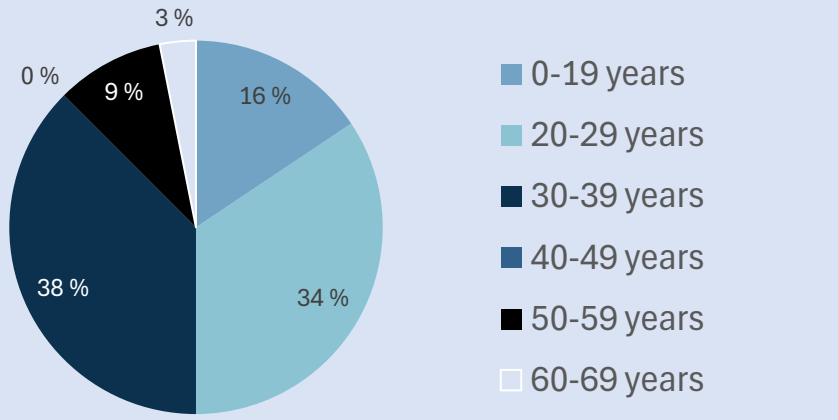
**N/A**
Female voyage crew
*No voyage crew

**56%**
Female professional crew

**5**
Number of nationalities

**0**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

# Leg 11
# Seattle, USA – San Francisco, USA

1 020 nautical miles

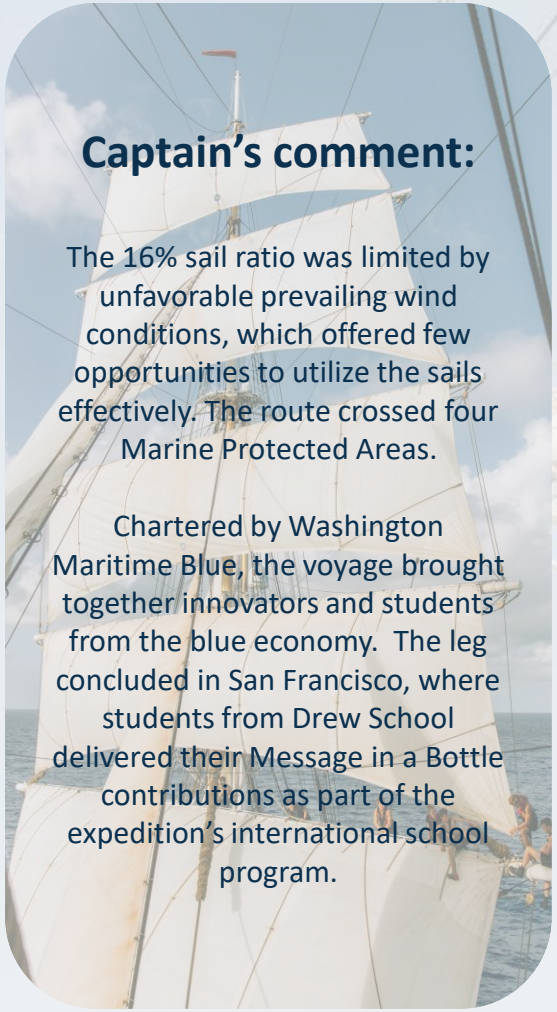
Leg overview

Appendix

# Leg 11:

# Seattle, USA – San Francisco, USA

Voyage: 27.10.25 – 03.11.25
Days at Port: 3
Days at Sea: 7



## Captain's comment:

The 16% sail ratio was limited by unfavorable prevailing wind conditions, which offered few opportunities to utilize the sails effectively. The route crossed four Marine Protected Areas.

Chartered by Washington Maritime Blue, the voyage brought together innovators and students from the blue economy. The leg concluded in San Francisco, where students from Drew School delivered their Message in a Bottle contributions as part of the expedition's international school program.

**16 %**
Use of sail in percentage of nautical miles travelled

**1 020**
Nautical miles travelled

**98**
Crew size

**113,62**
$tCO_2e$
Total emissions from leg

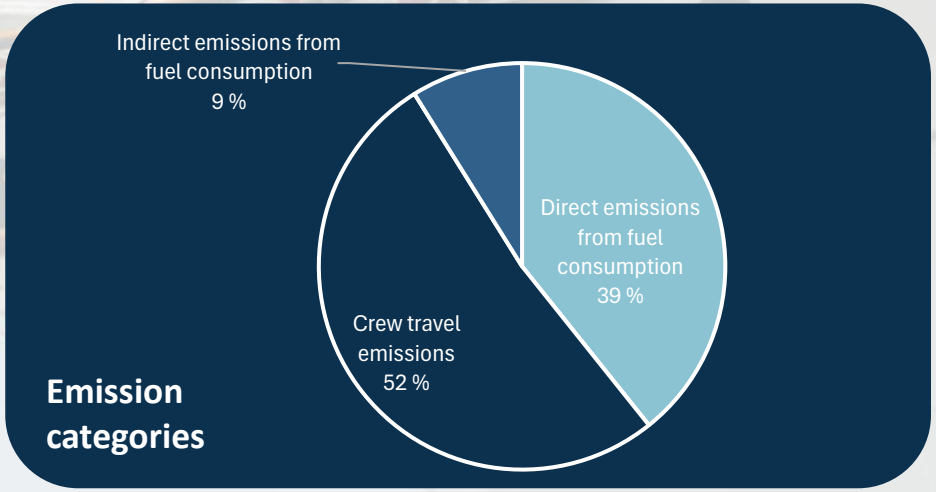
**9,47**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,11**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 44,62 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 69,00 | 0,07 |
| **Total (Location-based)** | **113,62** | **0,11** |



# Leg 11:

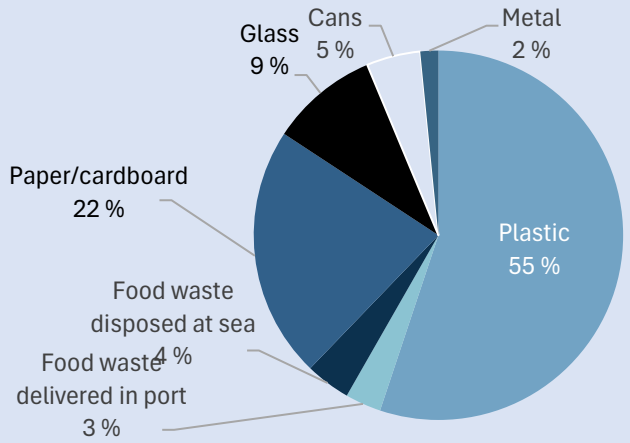
# Seattle, USA – San Francisco, USA

Voyage: 27.10.25 – 03.11.25
Days at Port: 3
Days at Sea: 7

**6,35 $m^3$**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**62 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 53 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,65 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**4** Marine protected areas sailed through

**1 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 11:

# Seattle, USA – San Francisco, USA

Voyage: 27.10.25 – 03.11.25
Days at Port: 3
Days at Sea: 7

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

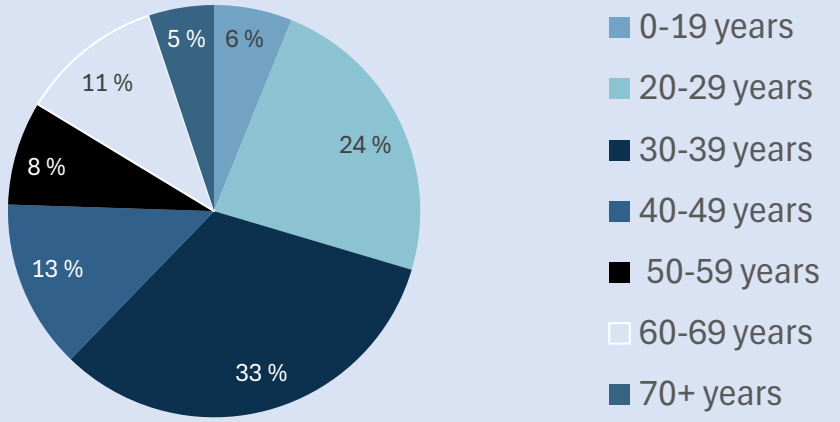
**38%**
Female voyage crew

**50%**
Female professional crew

**9**
Number of nationalities

**3**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

# Leg 12
# San Francisco, USA – San Diego, USA

532 nautical miles

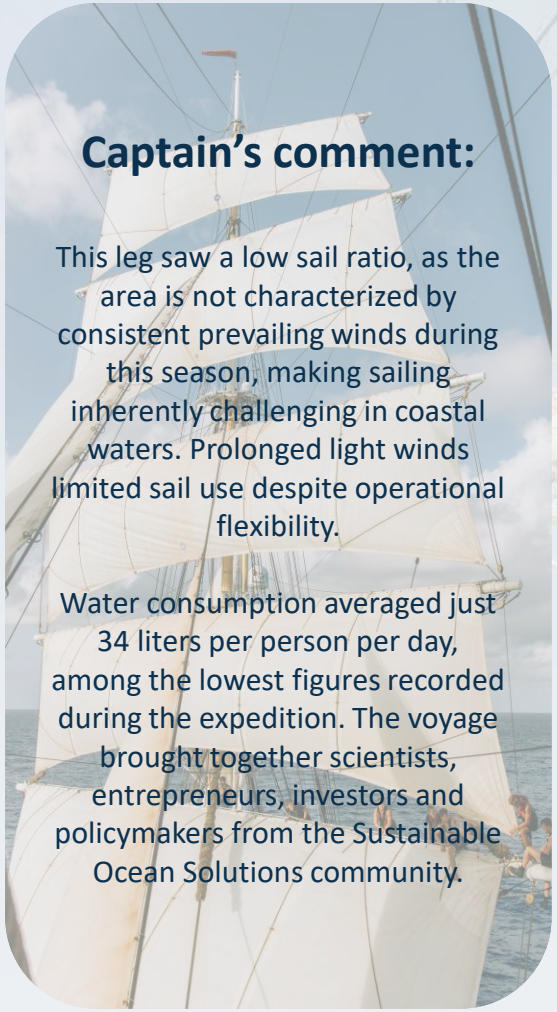
Leg overview

Appendix

# Leg 12:

# San Francisco, USA – San Diego, USA

Voyage: 07.11.25 – 11.11.25
Days at Port: 3
Days at Sea: 5



## Captain's comment:

This leg saw a low sail ratio, as the area is not characterized by consistent prevailing winds during this season, making sailing inherently challenging in coastal waters. Prolonged light winds limited sail use despite operational flexibility.

Water consumption averaged just 34 liters per person per day, among the lowest figures recorded during the expedition. The voyage brought together scientists, entrepreneurs, investors and policymakers from the Sustainable Ocean Solutions community.

**0 %**
Use of sail in percentage of nautical miles travelled

**532**
Nautical miles travelled

**125**
Crew size

**367,96**
$tCO_2e$
Total emissions from leg

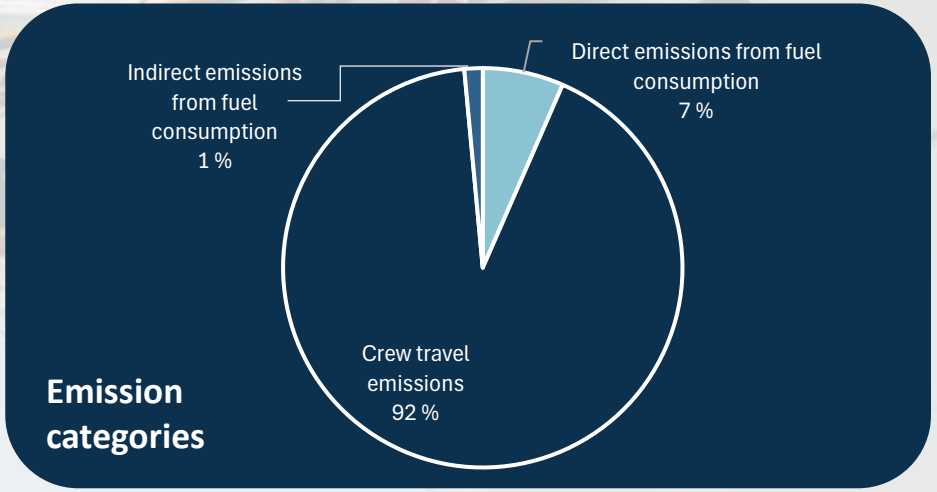
**46,00**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,69**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 24,11 | 0,05 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 343,85 | 0,65 |
| **Total (Location-based)** | **367,96** | **0,69** |



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 12:

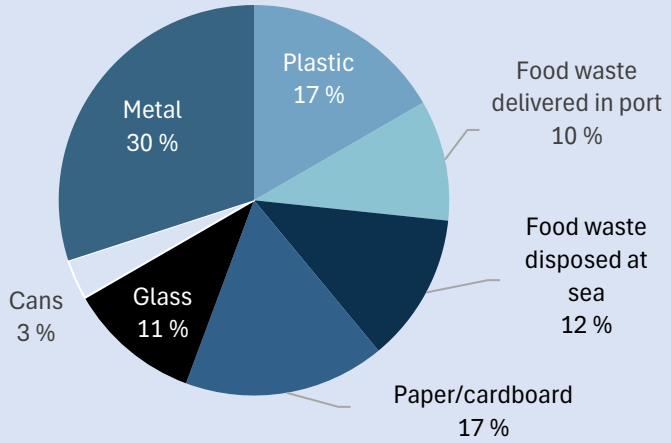
# San Francisco, USA – San Diego, USA

Voyage: 07.11.25 – 11.11.25
Days at Port: 3
Days at Sea: 5

**3,00 m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**34 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 34 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,35 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**3** Marine protected areas sailed through

**1 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 12:

# San Francisco, USA – San Diego, USA

Voyage: 07.11.25 – 11.11.25
Days at Port: 3
Days at Sea: 5

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

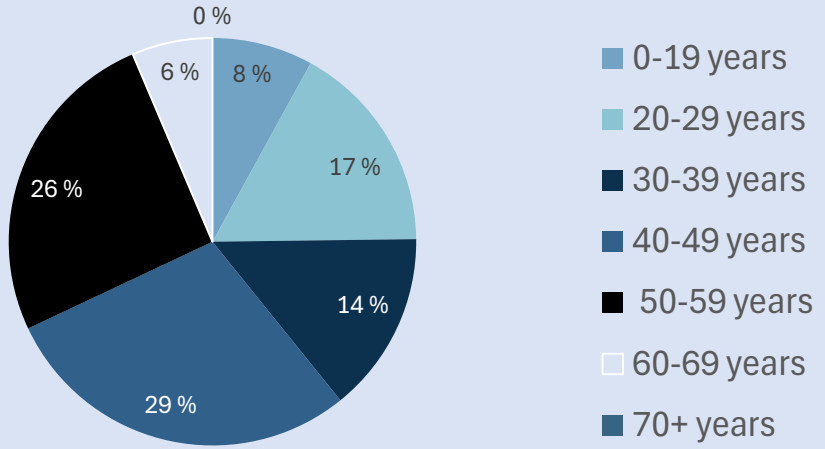
**47%**
Female voyage crew

**40%**
Female professional crew

**13**
Number of nationalities

**3**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

# Leg 13
# San Diego, USA – La Paz, Mexico

1 027 nautical miles

Leg overview

Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 13:

# San Diego, USA – La Paz, Mexico

Voyage: 16.11.25 – 24.11.25
Days at Port: 4
Days at Sea: 9

## Captain's comment:

The leg recorded the highest female participation of the expedition, with women making up 59% of the voyage crew. The voyage crew consisted of participants from the Mexican organization iAlumbra, bringing together young people from academia, technology, civil society and entrepreneurship focused on ocean sustainability and community development.

The low sail ratio of 13% was partly due to variable coastal winds and a port call in Ensenada to embark the voyage crew, required due to changes in US immigration regulations.

**13%**
Use of sail in percentage of nautical miles travelled

**1027**
Nautical miles travelled

**109**
Crew size

**70,97 $tCO_2e$**
Total emissions from leg

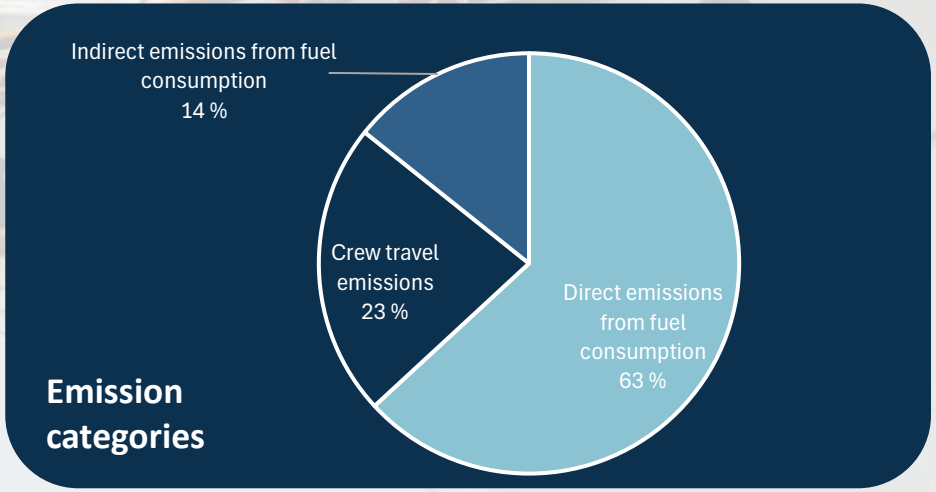
**5,46 $tCO_2e$**
Carbon intensity per day

**13,24**
Full expedition

**0,07 $tCO_2e$**
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 44,81 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 26,16 | 0,03 |
| **Total (Location-based)** | **70,97** | **0,07** |



# Leg 13:

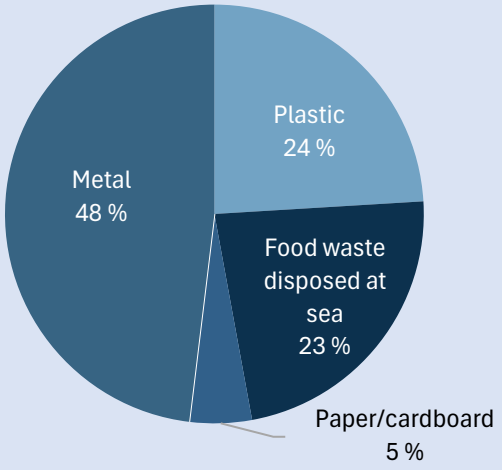
# San Diego, USA – La Paz, Mexico

Voyage: 16.11.25 – 24.11.25
Days at Port: 4
Days at Sea: 9

**2,08 $m^3$**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**79 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 56 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,65 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**1** Special areas sailed through

**1** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 13:

# San Diego, USA – La Paz, Mexico

Voyage: 16.11.25 – 24.11.25
Days at Port: 4
Days at Sea: 9

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

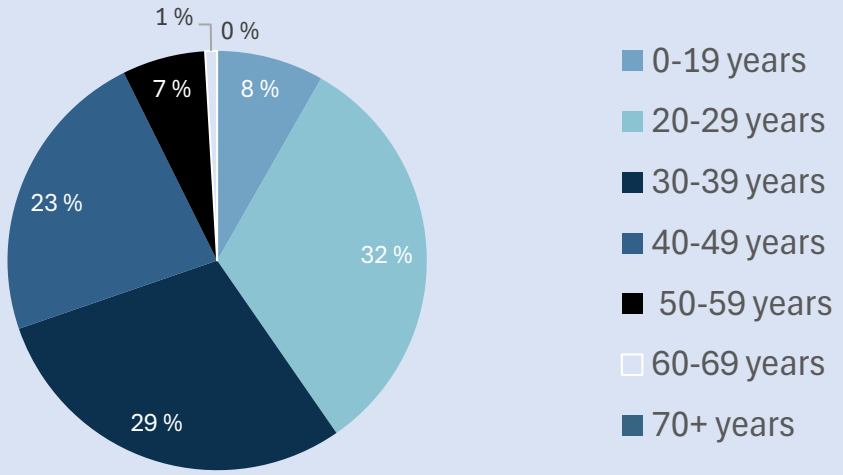
**59%**
Female voyage crew

**42%**
Female professional crew

**14**
Number of nationalities

**3**
Number of educational hours

## Crew age distribution




**4**
Number of emergency drills

# Leg 14
# La Paz, Mexico – Herradura, Costa Rica

1 903 nautical miles

Leg overview

Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 14:

# La Paz, Mexico – Herradura, Costa Rica

Voyage: 26.11.25 – 09.12.25
Days at Port: 1
Days at Sea: 14

## Captain's comment:

The 19% sail ratio reflects generally light and variable winds along the route, which limited sailing opportunities.

Limited waste disposal opportunities in Costa Rica meant that waste had to be retained on board until later ports. This led to a strong operational focus on minimizing waste, supported by the recently installed waste compactor, which reduced storage requirements and improved onboard waste management.

**19%**
Use of sail in percentage of nautical miles travelled

**1903**
Nautical miles travelled

**144**
Crew size

**473,50**
$tCO_2e$
Total emissions from leg

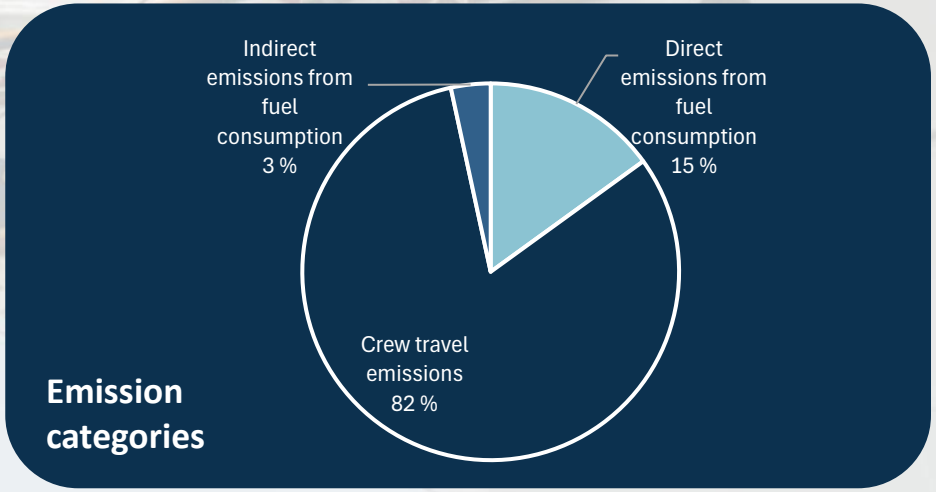
**31,57**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,25**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 71,14 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 402,36 | 0,21 |
| **Total (Location-based)** | **473,50** | **0,25** |



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

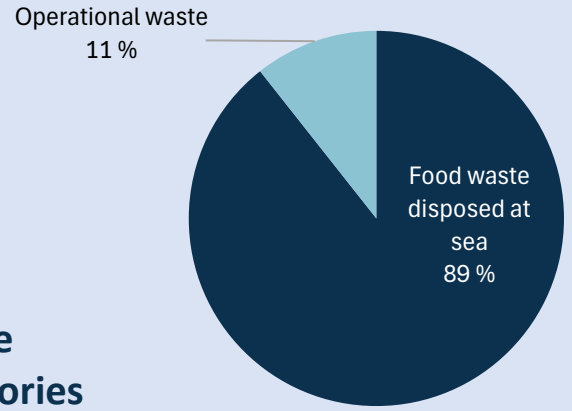
# Leg 14:

# La Paz, Mexico – Herradura, Costa Rica

Voyage: 26.11.25 – 09.12.25
Days at Port: 1
Days at Sea: 14

**0,94 $m^3$**

Total waste generated




**Waste categories**

Did arrival port have an observable recycling system?

**No**

**156 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 72 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**1,03 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**1** Marine protected areas sailed through

**4 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 14:

# La Paz, Mexico – Herradura, Costa Rica

Voyage: 26.11.25 – 09.12.25
Days at Port: 1
Days at Sea: 14

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**1**
Medium criticality incidents

**0**
High criticality incidents

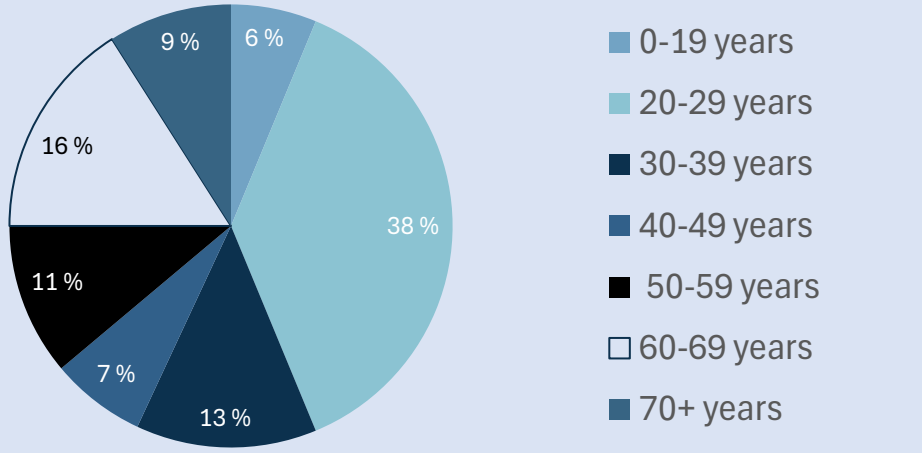
**50%**
Female voyage crew

**45%**
Female professional crew

**13**
Number of nationalities

**11**
Number of educational hours

## Crew age distribution




**4**
Number of emergency drills

Leg 15

# Herradura, Costa Rica – Panama Canal – Cartagena, Colombia

873 nautical miles

Leg overview

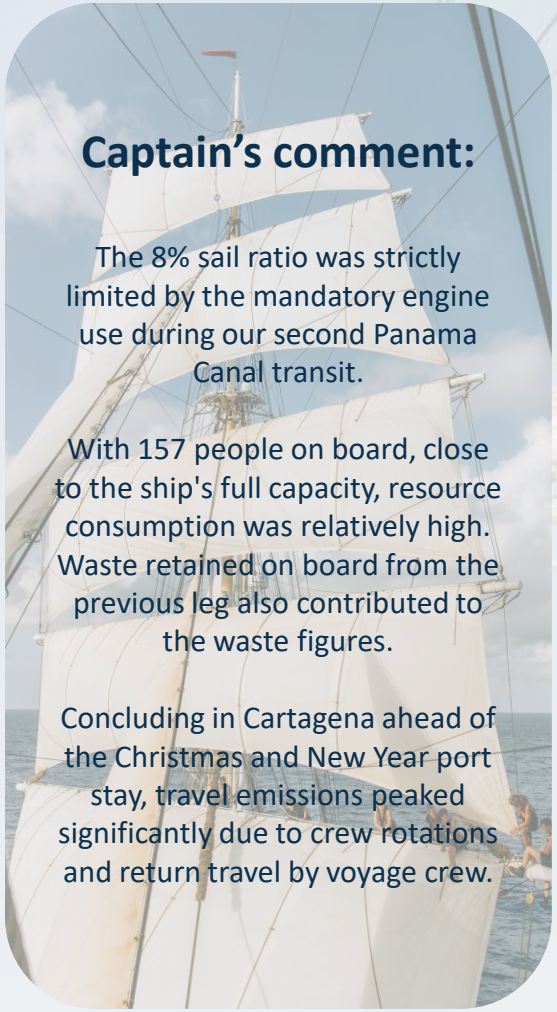
Appendix

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 15:

# Herradura, Costa Rica – Panama Canal – Cartagena, Colombia

Voyage: 13.12.25 – 22.12.25
Days at Port: 3
Days at Sea: 10



## Captain's comment:

The 8% sail ratio was strictly limited by the mandatory engine use during our second Panama Canal transit.

With 157 people on board, close to the ship's full capacity, resource consumption was relatively high. Waste retained on board from the previous leg also contributed to the waste figures.

Concluding in Cartagena ahead of the Christmas and New Year port stay, travel emissions peaked significantly due to crew rotations and return travel by voyage crew.

**8 %**
Use of sail in percentage of nautical miles travelled

**873**
Nautical miles travelled

**157**
Crew size

**552,16**
$tCO_2e$
Total emissions from leg

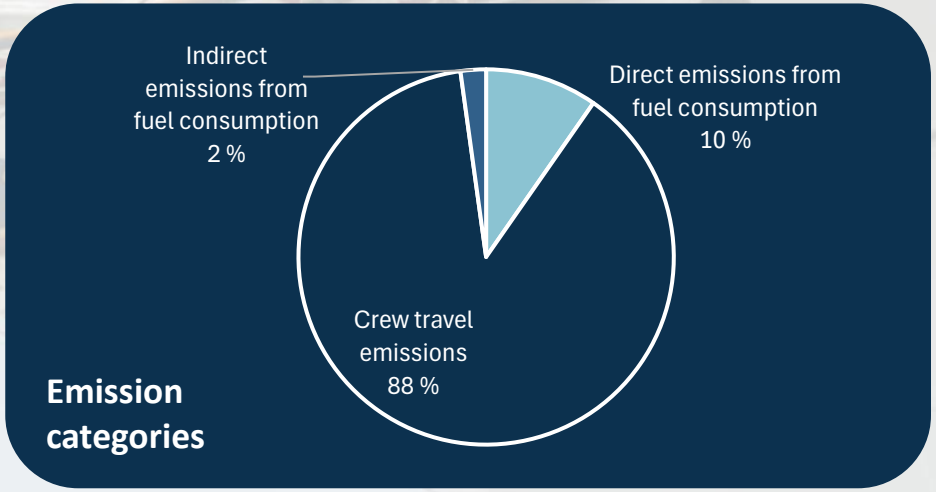
**42,47**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,63**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 53,18 | 0,06 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 498,98 | 0,57 |
| **Total (Location-based)** | **552,16** | **0,63** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 15:

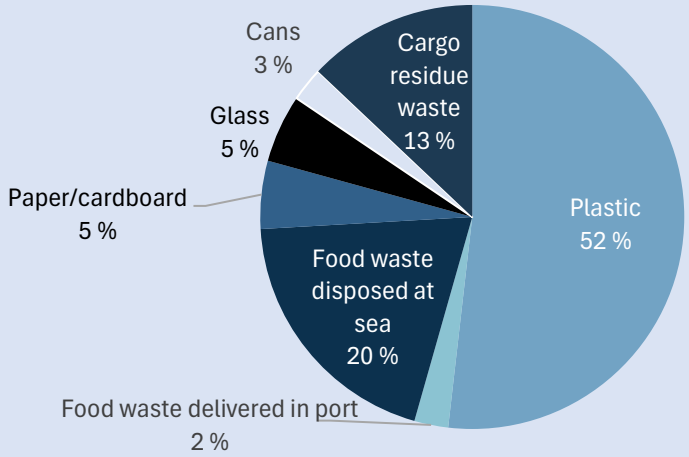
Voyage: 13.12.25 – 22.12.25
Days at Port: 3
Days at Sea: 10

# Herradura, Costa Rica – Panama Canal – Cartagena, Colombia

**3,86 m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**Yes**

**127 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 62 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,77 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**1** Marine protected areas sailed through

**4 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 15:

# Herradura, Costa Rica – Panama Canal – Cartagena, Colombia

Voyage: 13.12.25 – 22.12.25
Days at Port: 3
Days at Sea: 10

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

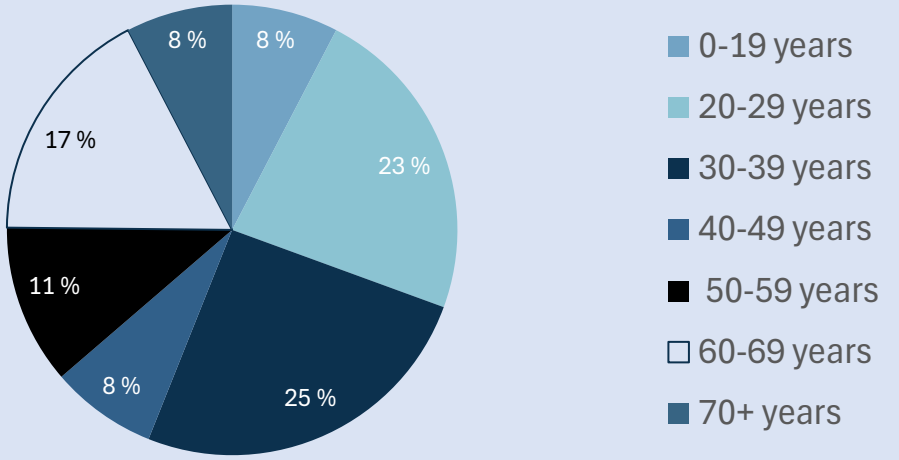
**45%**
Female voyage crew

**50%**
Female professional crew

**13**
Number of nationalities

**11**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

# Leg 16
# Cartagena, Colombia – Norfolk, USA

2 261 nautical miles

Leg overview

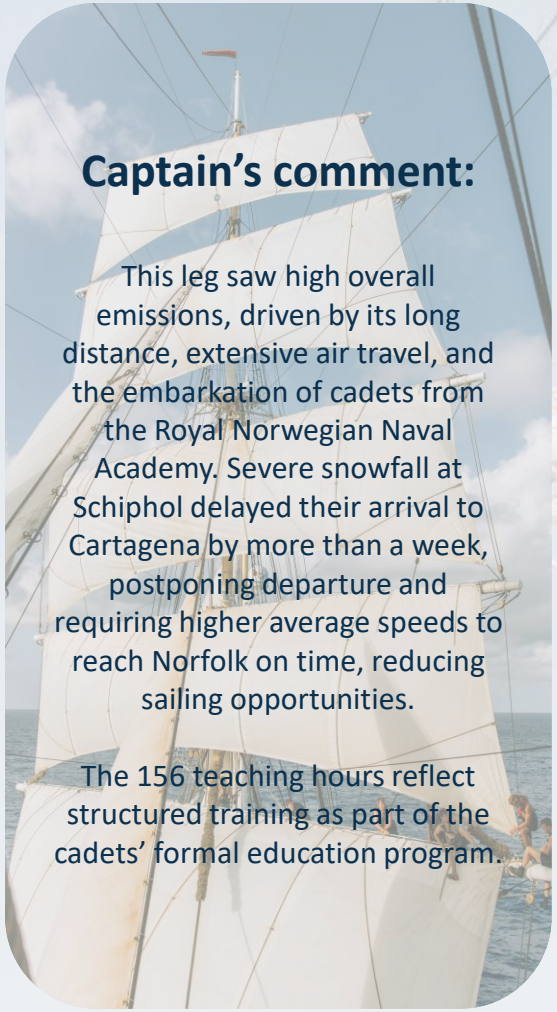
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 16:

# Cartagena, Colombia – Norfolk, USA

Voyage: 16.01.26 – 31.01.26
Days at Port: 24
Days at Sea: 16



## Captain's comment:

This leg saw high overall emissions, driven by its long distance, extensive air travel, and the embarkation of cadets from the Royal Norwegian Naval Academy. Severe snowfall at Schiphol delayed their arrival to Cartagena by more than a week, postponing departure and requiring higher average speeds to reach Norfolk on time, reducing sailing opportunities.

The 156 teaching hours reflect structured training as part of the cadets' formal education program.

**24 %**
Use of sail in percentage of nautical miles travelled

**2 261**
Nautical miles travelled

**132**
Crew size

**536,39**
$tCO_2e$
Total emissions from leg

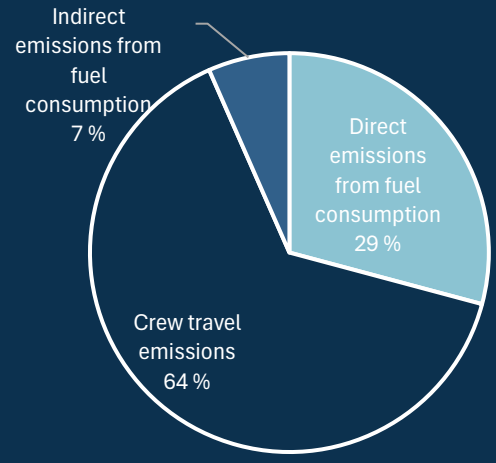
**13,41**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,24**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 156,42 | 0,07 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 379,97 | 0,17 |
| **Total (Location-based)** | **536,39** | **0,24** |




**Emission categories**

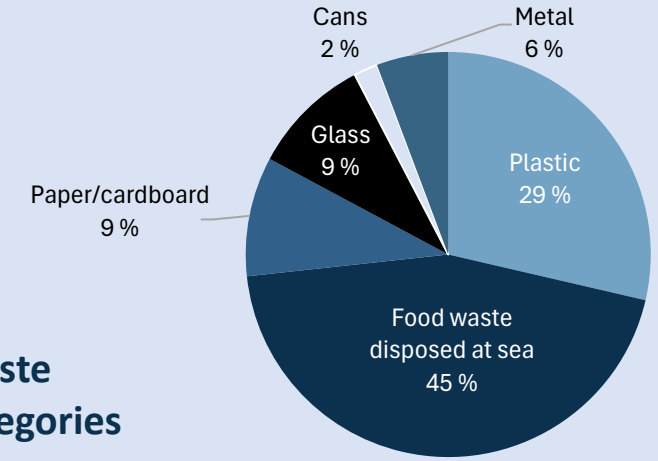
# Leg 16:

# Cartagena, Colombia – Norfolk, USA

Voyage: 16.01.26 – 31.01.26
Days at Port: 24
Days at Sea: 16

**5,24 $m^3$**

Total waste generated




**Waste categories**

Did arrival port have an observable recycling system?

**No**

**185 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 35 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**2,27 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**2**
Special areas sailed through

**0**
Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

Leg 16:

# Cartagena, Colombia – Norfolk, USA

Voyage: 16.01.26 – 31.01.26
Days at Port: 24
Days at Sea: 16

## On board safety

**2**
Near accidents

**1**
Low criticality incidents

**1**
Medium criticality incidents

**0**
High criticality incidents

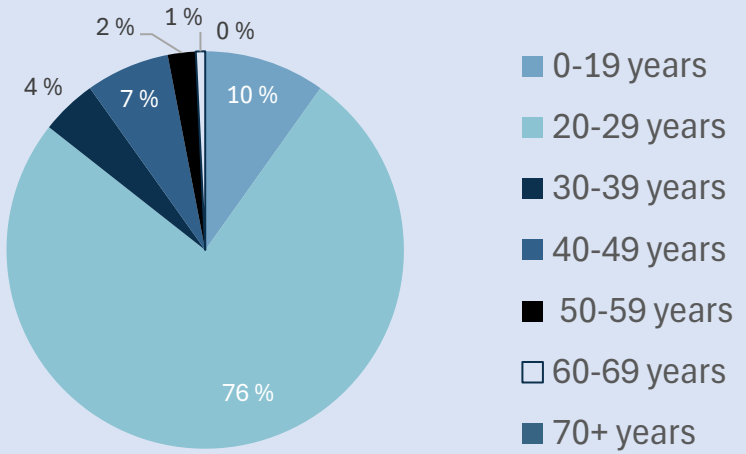
**17%**
Female voyage crew

**45%**
Female professional crew

**7**
Number of nationalities

**156**
Number of educational hours

## Crew age distribution




**5**
Number of emergency drills

Leg 17

# Norfolk, USA – Cádiz, Spain

3 514 nautical miles

Leg overview

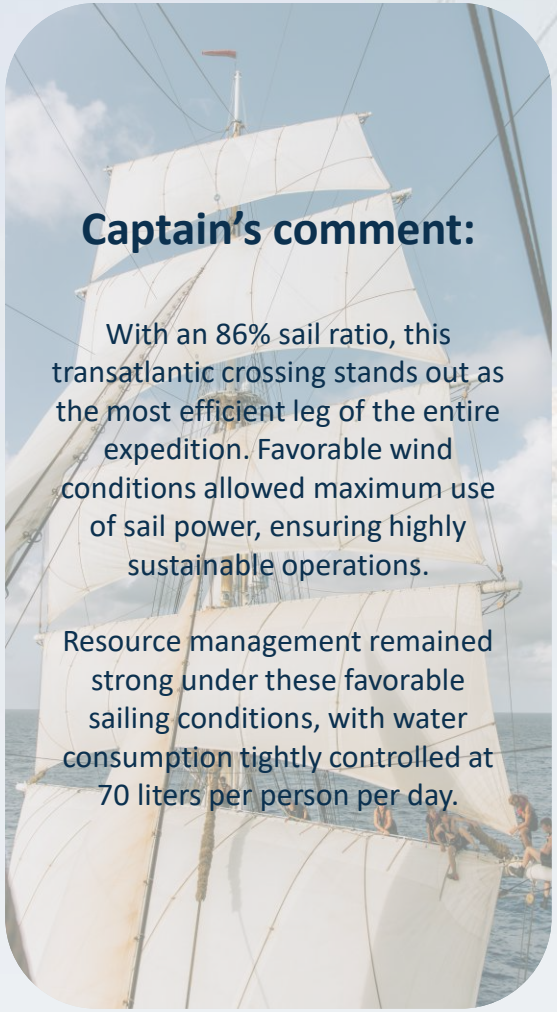
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 17:

# Norfolk, USA – Cádiz, Spain

Voyage: 08.02.26 – 01.03.26
Days at Port: 7
Days at Sea: 22



## Captain's comment:

With an 86% sail ratio, this transatlantic crossing stands out as the most efficient leg of the entire expedition. Favorable wind conditions allowed maximum use of sail power, ensuring highly sustainable operations.

Resource management remained strong under these favorable sailing conditions, with water consumption tightly controlled at 70 liters per person per day.

**86 %**
Use of sail in percentage of nautical miles travelled

**3 514**
Nautical miles travelled

**131**
Crew size

**115,63**
$tCO_2e$
Total emissions from leg

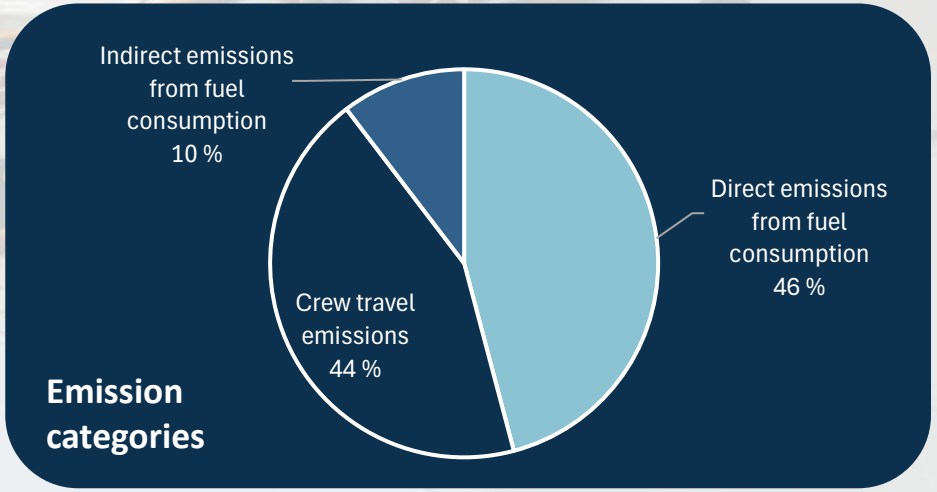
**3,99**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,03**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 53,04 | 0,02 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 62,59 | 0,02 |
| **Total (Location-based)** | **115,63** | **0,03** |



ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 17:

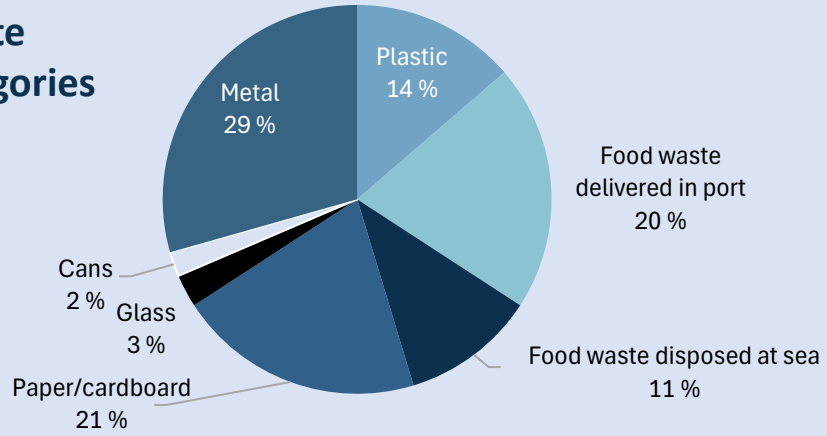
# Norfolk, USA – Cádiz, Spain

Voyage: 08.02.26 – 01.03.26
Days at Port: 7
Days at Sea: 22

**14,63 $m^3$**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**265 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 70 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,77 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**2** Special areas sailed through

**3** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 17:

# Norfolk, USA – Cádiz, Spain

Voyage: 08.02.26 – 01.03.26
Days at Port: 7
Days at Sea: 22

## On board safety

**3**
Near accidents

**0**
Low criticality incidents

**2**
Medium criticality incidents

**0**
High criticality incidents

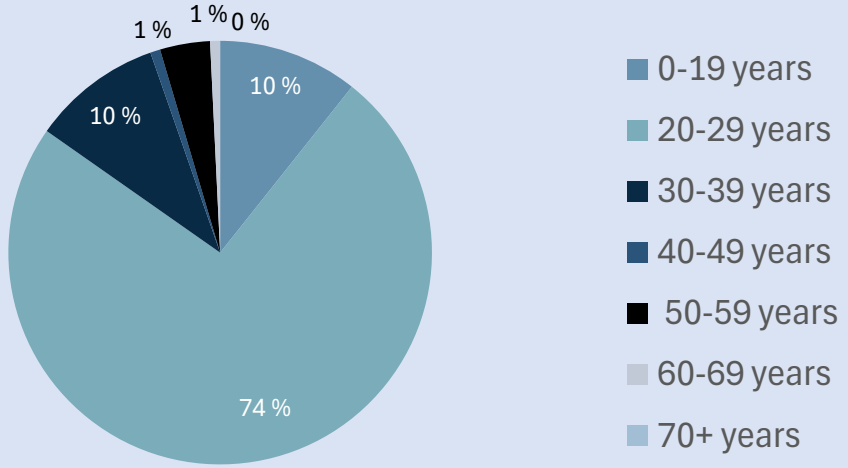
**17%**
Female voyage crew

**47%**
Female professional crew

**5**
Number of nationalities

**162**
Number of educational hours

## Crew age distribution




**3**
Number of emergency drills

Leg 18

# Cádiz, Spain– Ponta Delgada, the Azores (Portugal)

1 072 nautical miles

Leg overview

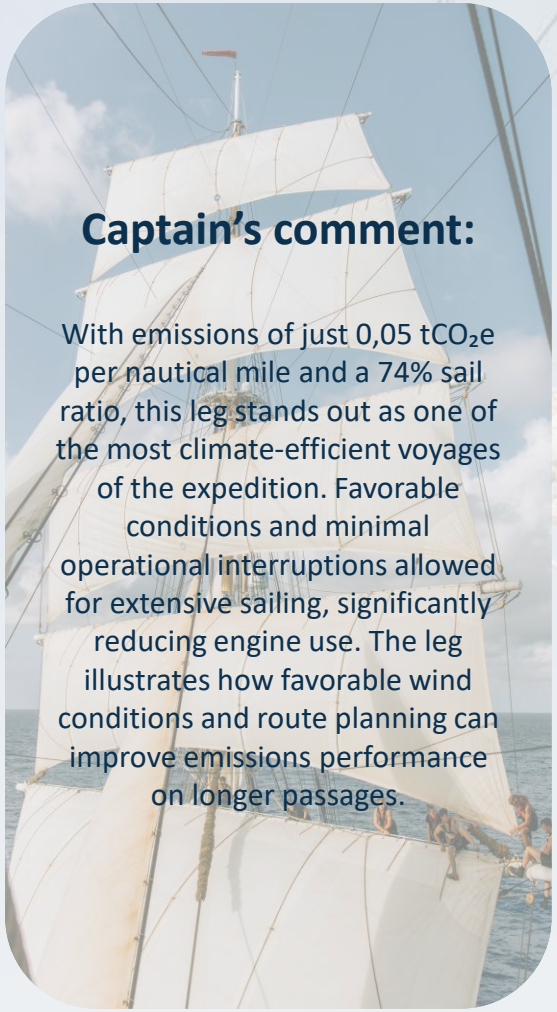
Appendix

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 18:

# Cádiz, Spain– Ponta Delgada, the Azores (Portugal)

Voyage: 05.03.26 – 14.03.26
Days at Port: 3
Days at Sea: 10



## Captain's comment:

With emissions of just 0,05 $tCO_2e$ per nautical mile and a 74% sail ratio, this leg stands out as one of the most climate-efficient voyages of the expedition. Favorable conditions and minimal operational interruptions allowed for extensive sailing, significantly reducing engine use. The leg illustrates how favorable wind conditions and route planning can improve emissions performance on longer passages.

**74 %**
Use of sail in percentage of nautical miles travelled

**1 072**
Nautical miles travelled

**130**
Crew size

**49,21**
$tCO_2e$
Total emissions from leg

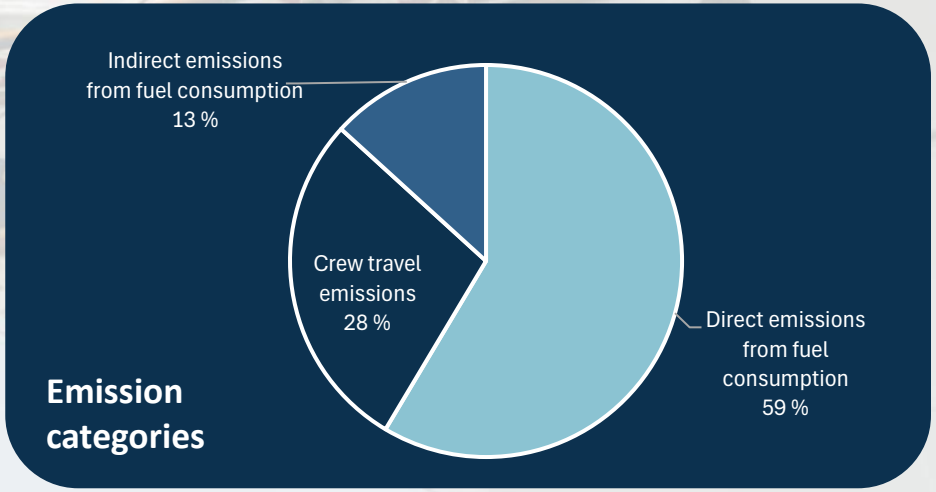
**3,79**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,05**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 29,10 | 0,03 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 20,11 | 0,02 |
| **Total (Location-based)** | **49,21** | **0,05** |



# Leg 18:

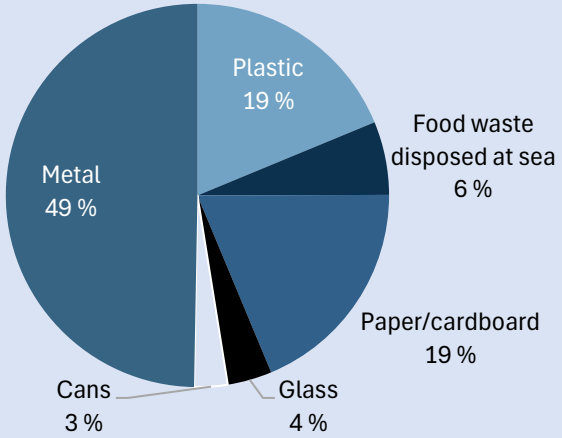
# Cádiz, Spain– Ponta Delgada, the Azores (Portugal)

Voyage: 05.03.26 – 14.03.26
Days at Port: 3
Days at Sea: 10

**10,66 $m^3$**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**107 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 63 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,42 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**2** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

Leg 18:

# Cádiz, Spain– Ponta Delgada, the Azores (Portugal)

Voyage: 05.03.26 – 14.03.26
Days at Port: 3
Days at Sea: 10

## On board safety

**2**
Near accidents

**1**
Low criticality incidents

**1**
Medium criticality incidents

**0**
High criticality incidents

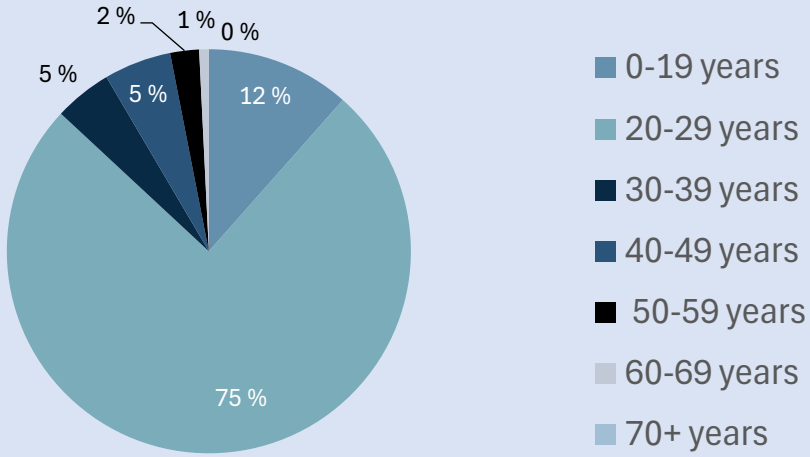
**18%**
Female voyage crew

**45%**
Female professional crew

**5**
Number of nationalities

**72**
Number of educational hours

## Crew age distribution




**2**
Number of emergency drills

Leg 19

# Ponta Delgada, the Azores (Portugal) – Brest, France

1 507 nautical miles

Leg overview

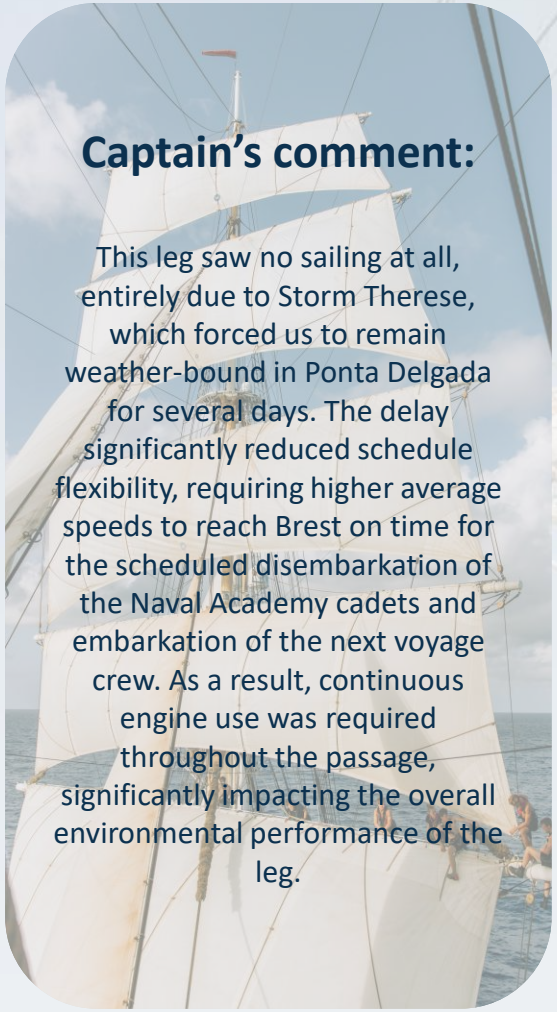
Appendix

ONE OCEAN EXPEDITION 2025 - 2026
SETTING SAIL FOR THE FUTURE

# Leg 19:

# Ponta Delgada, the Azores (Portugal) – Brest, France

Voyage: 18.03.26 – 27.03.26
Days at Port: 3
Days at Sea: 10



## Captain's comment:

This leg saw no sailing at all, entirely due to Storm Therese, which forced us to remain weather-bound in Ponta Delgada for several days. The delay significantly reduced schedule flexibility, requiring higher average speeds to reach Brest on time for the scheduled disembarkation of the Naval Academy cadets and embarkation of the next voyage crew. As a result, continuous engine use was required throughout the passage, significantly impacting the overall environmental performance of the leg.

**0 %**
Use of sail in percentage of nautical miles travelled

**1 507**
Nautical miles travelled

**129**
Crew size

**115,56**
$tCO_2e$
Total emissions from leg

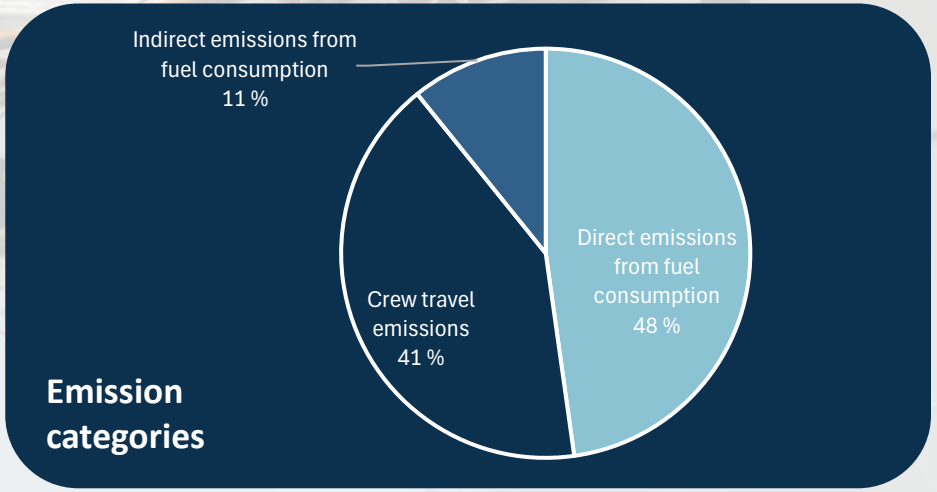
**8,89**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,08**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 55,21 | 0,04 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 60,35 | 0,04 |
| **Total (Location-based)** | **115,56** | **0,08** |



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 19:

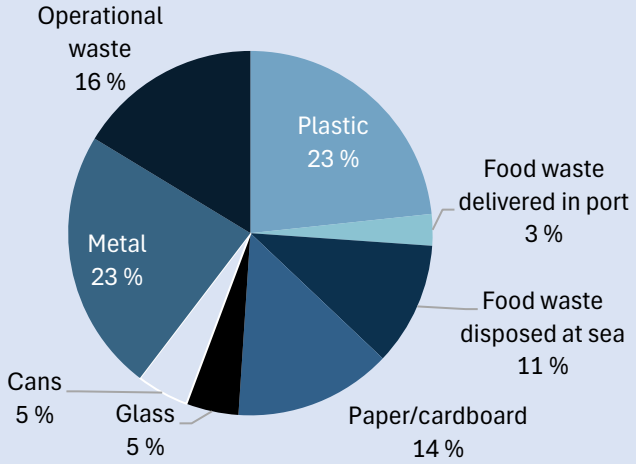
Voyage: 18.03.26 – 27.03.26
Days at Port: 3
Days at Sea: 10

# Ponta Delgada, the Azores (Portugal) – Brest, France

**4,29 m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**89 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 53 liters |
| Average Norwegian | 140 liters * |

**0%**

Of used water self-generated

**0,80 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**3** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 19:

# Ponta Delgada, the Azores (Portugal) – Brest, France

Voyage: 18.03.26 – 27.03.26
Days at Port: 3
Days at Sea: 10

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

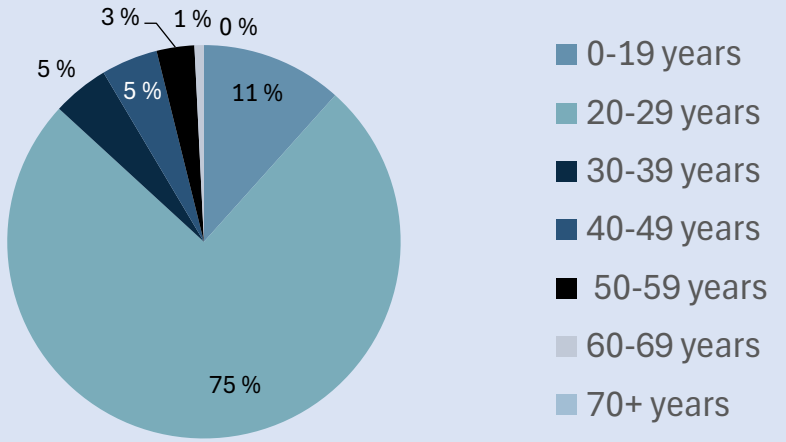
**17%**
Female voyage crew

**45%**
Female professional crew

**5**
Number of nationalities

**72**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

Leg 20

# Brest, France – Dublin, Ireland

695 nautical miles

Leg overview

Appendix

ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 20:

# Brest, France – Dublin, Ireland

Voyage: 30.03.26 – 05.04.26
Days at Port: 2
Days at Sea: 7

## Captain's comment:

This leg achieved an 81% sail ratio, reflecting the importance of sustainable route planning. A low average speed allowed sailing even in less favorable winds and enabled safe positioning ahead of Storm Dave.

The leg also had the largest complement on board at 182 people, which helps explain higher levels of waste and overall resource consumption across the period.

**81 %**
Use of sail in percentage of nautical miles travelled

**695**
Nautical miles travelled

**182**
Crew size

**230,02**
$tCO_2e$
Total emissions from leg

**25,56**
$tCO_2e$
Carbon intensity per day

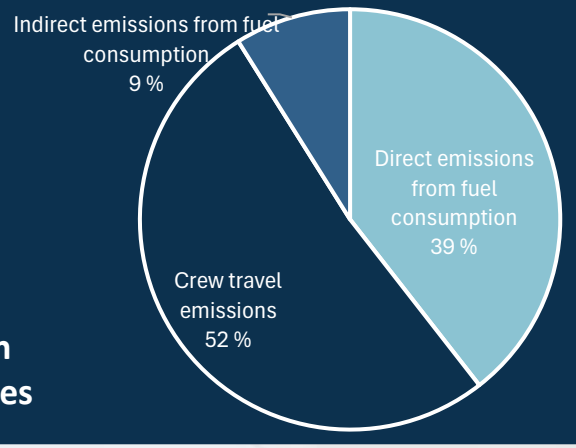
**13,24**
Full expedition

**0,33**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 90,76 | 0,13 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 139,26 | 0,20 |
| **Total (Location-based)** | **230,02** | **0,33** |

**Emission categories**



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

# Leg 20:

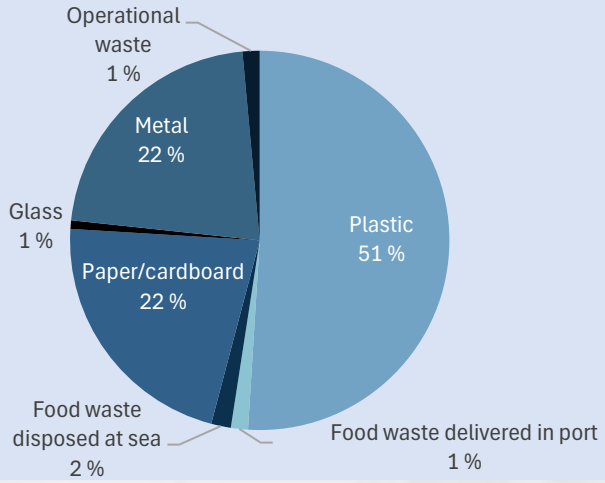
# Brest, France – Dublin, Ireland

Voyage: 30.03.26 – 05.04.26
Days at Port: 2
Days at Sea: 7

**13,73m³**

Total waste generated

**Waste categories**




Did arrival port have an observable recycling system?

**No**

**70 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 43 liters |
| Average Norwegian | 140 liters * |

**39%**

Of used water self-generated

**3,14 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**0** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

Leg 20:

# Brest, France – Dublin, Ireland

Voyage: 30.03.26 – 05.04.26
Days at Port: 2
Days at Sea: 7

## On board safety

**0**
Near accidents

**1**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

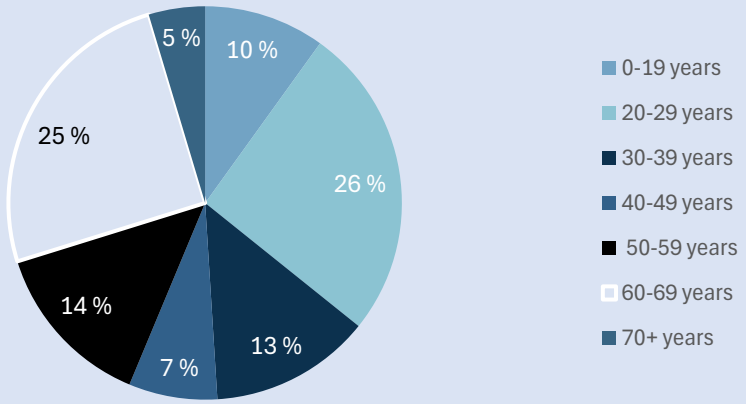
**35%**
Female voyage crew

**48%**
Female professional crew

**13**
Number of nationalities

**3**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills

Leg 21

# Dublin, Ireland – Bergen, Norway

750 nautical miles

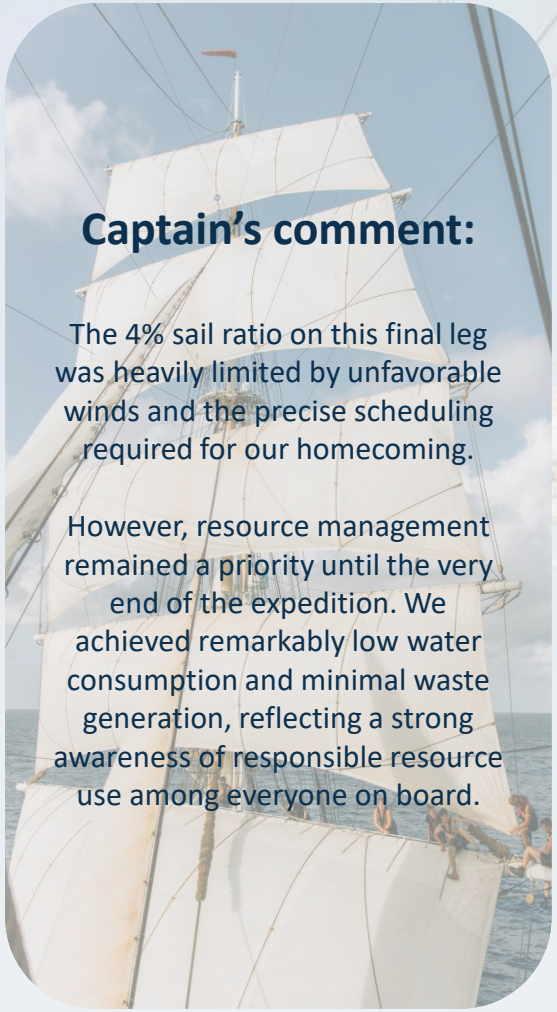
Leg overview

Appendix

# Leg 21:

# Dublin, Ireland – Bergen, Norway

Voyage: 12.04.26 – 18.04.26
Days at Port: 6
Days at Sea: 7



## Captain's comment:

The 4% sail ratio on this final leg was heavily limited by unfavorable winds and the precise scheduling required for our homecoming.

However, resource management remained a priority until the very end of the expedition. We achieved remarkably low water consumption and minimal waste generation, reflecting a strong awareness of responsible resource use among everyone on board.

**4 %**
Use of sail in percentage of nautical miles travelled

**750**
Nautical miles travelled

**129**
Crew size

**118,09**
$tCO_2e$
Total emissions from leg

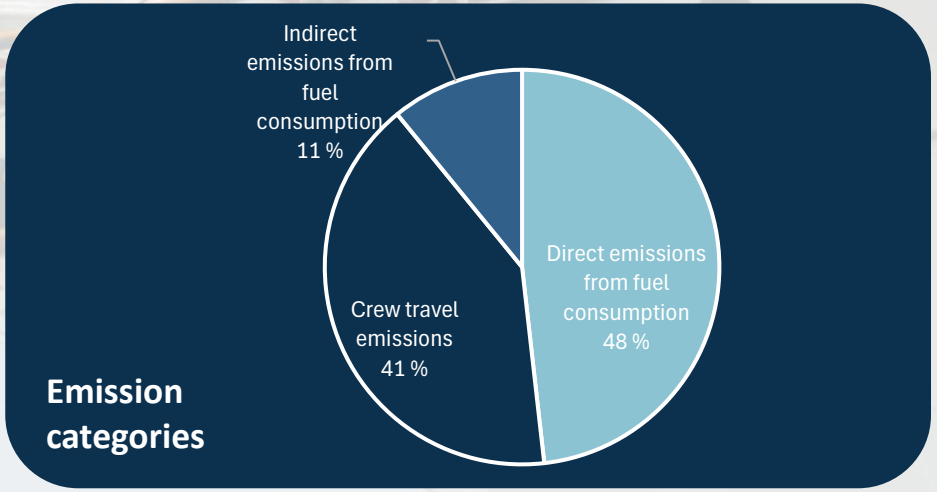
**9,08**
$tCO_2e$
Carbon intensity per day

**13,24**
Full expedition

**0,16**
$tCO_2e$
Carbon intensity per nautical mile (NM)

### Greenhouse Gas Inventory

| Scope | $tCO_2e$ | $tCO_2e$ per NM |
|---|---|---|
| Scope 1 | 56,92 | 0,08 |
| Scope 2 Location-based | 0 | 0 |
| Scope 2 Market-based | 0 | 0 |
| Scope 3 | 61,16 | 0,08 |
| **Total (Location-based)** | **118,09** | **0,16** |



ONE OCEAN EXPEDITION 2025 - 2026 SETTING SAIL FOR THE FUTURE

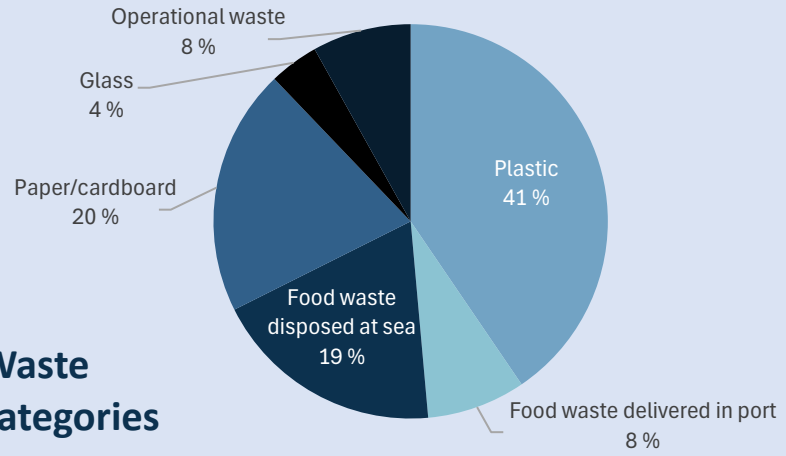
# Leg 21:

# Dublin, Ireland – Bergen, Norway

Voyage: 12.04.26 – 18.04.26
Days at Port: 6
Days at Sea: 7

**2,47 $m^3$**

Total waste generated




**Waste categories**

Did arrival port have an observable recycling system?

**Yes**

**57 000 liters**

Total water consumption

**Average water consumption per person per day**

| | |
|---|---|
| One Ocean Expedition | 34 liters |
| Average Norwegian | 140 liters * |

**100%**

Of used water self-generated

**0,83 tonnes**
NOx emissions

**0**
Number of vegetarian dinners

**0** Special areas sailed through

**0** Marine protected areas sailed through

**0 %**
Of crew climate compensated their travel

*Norsk Vann, 2025

# Leg 21:

# Dublin, Ireland – Bergen, Norway

Voyage: 12.04.26 – 18.04.26
Days at Port: 6
Days at Sea: 7

## On board safety

**0**
Near accidents

**0**
Low criticality incidents

**0**
Medium criticality incidents

**0**
High criticality incidents

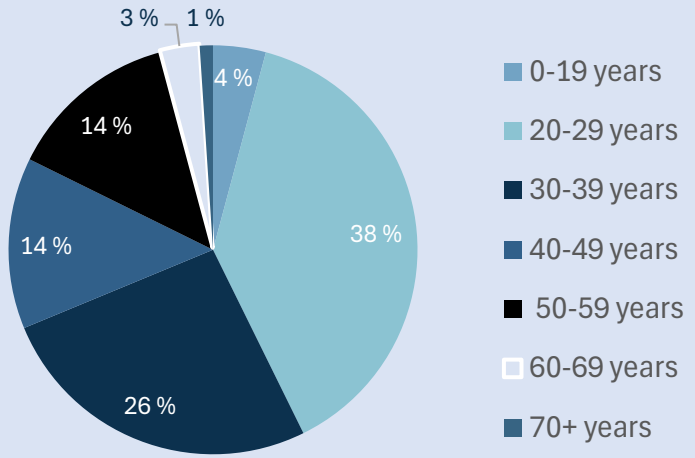
**46%**
Female voyage crew

**45%**
Female professional crew

**12**
Number of nationalities

**13**
Number of educational hours

## Crew age distribution




**0**
Number of emergency drills


# Appendices

1. Glossary
2. Climate reporting appendix
3. Environmental reporting appendix
4. Social reporting appendix

Leg overview



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# 1. Glossary

| Term | Explanation |
|---|---|
| $CO_2e$ | While $CO_2$ is the most important greenhouse gas, it is not the only one, and emissions of other greenhouse gases are converted into a common measurement unit called $CO_2$ equivalents ($CO_2e$), based on their global warming potential. For example, 1 kg of methane ($CH_4$) is equivalent to 28 kg of $CO_2e$. |
| DEFRA | In climate accounting, DEFRA refers to the Department for Environment, Food & Rural Affairs, a UK governmental department. DEFRA provides widely used greenhouse gas (GHG) emission conversion factors and guidelines that help organizations calculate and report their carbon footprints. These emission factors cover various activities such as energy use, transportation, waste, and more, ensuring standardized and consistent climate accounting practices. |
| GHG protocol | The most widely recognized and internationally accepted framework for measuring and managing greenhouse gas emissions. |
| Greenhouse gas | A gas that absorbs and traps heat in the Earth's atmosphere, contributing to global warming and climate change. Key greenhouse gases include carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$), among others. |
| Greenhouse gas inventory | A structured way to measure and report the greenhouse gas emissions associated with an activity, organization, or event. |
| Marine protected areas | Marine protected areas are designated ocean zones where certain activities like fishing and anchoring are restricted to protect marine ecosystems and wildlife. See Appendix 3 on page 104 for definition reference. |
| MGO | Marine Gas Oil (MGO) is a low-carbon fuel alternative to traditional fuel oil. |
| Nautical miles | Nautical miles are a unit of distance used primarily in maritime contexts. One nautical mile is defined as exactly 1,852 meters. |
| NOx (Nitrogen Oxides) | Nitrogen Oxides, NOx, is a group of reactive gases, primarily nitrogen dioxide ($NO_2$) and nitric oxide (NO), formed during the combustion of fossil fuels. NOx contributes to air pollution, acid rain, and the formation of ground-level ozone, which can harm human health and the environment. NOx emissions are a significant environmental concern from fuel consumption on ships. |
| Scope 1 emissions | Direct emissions that come directly from sources owned or controlled by the organization. |
| Scope 2 emissions | Indirect emissions from energy consumption, which is associated with the production of electricity |
| Scope 3 emissions | Other indirect emissions that occur because of the organization's activities. |
| Special areas | MARPOL Special Areas are designated sea regions where, due to their ecological sensitivity and traffic characteristics, stricter regulations are enforced to prevent marine pollution from ships. |

# 2. Climate Reporting - Appendix

## What is a Greenhouse Gas (GHG) inventory?

A carbon footprint report, also referred to as a greenhouse gas (GHG) inventory, is a structured way to measure and report the greenhouse gas emissions associated with an activity, organization, or event. $CO_2e$ is a standardized unit that reflects the warming impact of all greenhouse gases as if they were equivalent amounts of $CO_2$. The term $tCO_2e$ refers to metric tonnes of carbon dioxide equivalents.

By quantifying these emissions, we can better understand the environmental impact of the expedition and identify where emission reduction measures will be most effective.

## How did we prepare the GHG inventory?

The methodology used in this report is based on the Greenhouse Gas Protocol (GHG Protocol), the most widely recognized and internationally accepted framework for measuring and managing greenhouse gas emissions.

The GHG Protocol divides emissions into three categories, or "scopes," to ensure a comprehensive and standardized approach:

*Scope 1:* Direct emissions that come directly from sources owned or controlled by the organization.

*Scope 2:* Indirect emissions from energy consumption, which is associated with the production of electricity.

*Scope 3:* Other indirect emissions that occur as a result of the organization's activities.

To calculate the carbon footprint, data is collected from various sources, such as fuel consumption records, electricity bills, and participant surveys (in relation to travel data). Where exact data is unavailable, assumptions and estimates are made based on recognized standards and best practices. All calculations are aligned with the GHG Protocol to ensure accuracy and comparability.

# 2. Climate Reporting - Appendix

## Scope 1 emissions:

*What:* Direct emissions that come directly from sources owned or controlled by the organization.

*Emissions:* Scope 1 emissions from Statsraad Lehmkuhl are calculated as the direct greenhouse gas emissions from fuel combustion on board the vessel. The fuel used is Marine Gas Oil (MGO).

*Method:* Fuel consumption is reported by recording the quantity of MGO consumed. Consumed MGO is then converted to $CO_2e$ using DEFRA's conversion factor.

## Scope 2 emissions:

*What:* Indirect emissions from the production of electricity used.

*Emissions:* Scope 2 emissions consist of GHG emissions from purchased electricity when the vessel is connected to shore power when docked in a harbor.

*Method:* Purchased electricity is recorded on the electricity invoices and thereafter this quantity is converted to $CO_2$ using both the location-based and market-based method. The conversion is done by using DEFRA's conversion factors based on the country the shore power is obtained from.

**Location-based**: The location-based method calculates Scope 2 emissions using the average emission factor of the local electricity grid where the energy consumption occurs, regardless of any contractual arrangements.

**Market-based**: The market-based method calculates Scope 2 emissions based on the specific emission factor of the electricity that a company has contractually chosen to purchase.

# 2. Climate Reporting - Appendix

Scope 3 emissions are divided into 15 categories

| Scope 3 Category | Description | Relevance for OOE? | Description of relevance and cateogry description in emission pie charts. |
|---|---|---|---|
| 1. Purchased goods and services | Emissions from production of purchased goods and services | No | |
| 2. Capital goods | Emissions from production of capital assets (equipment, buildings) | No | |
| **3. Fuel- and energy-related activities** | **Emissions from extraction, production and transportation of fuels and energy** | **Yes** | **Equals indirect emissions from fuel consumption (not included in Scope 1 or 2)** |
| 4. Upstream transportation and distribution | Emissions from transporting and distributing purchased goods before company operations | No | |
| 5. Waste generated in operations | Emissions from disposal and treatment of waste from company operations | No | |
| **6. Business travel** | **Emissions from employee business travel** | **Yes** | **Equals crew travel emissions together with category 7 emissions** |
| **7. Employee commuting** | **Emissions from employees travelling to and from work** | **Yes** | **Equals crew travel emissions together with category 6 emissions** |
| 8. Upstream leased assets | Emissions from leased assets upstream in the value chain | No | |
| 9. Downstream transportation and distribution | Emissions from transporting and distributing sold products after company operations | No | |
| 10. Processing of sold products | Emissions from processing intermediate products sold to downstream companies | No | |
| 11. Use of sold products | Emissions from use of products sold by the company | No | |
| 12. End-of-life treatment of sold products | Emissions from disposal and treatment of sold products at end of life | No | |
| 13. Downstream leased assets | Emissions from company-owned leased assets leased to others | No | |
| 14. Franchises | Emissions from franchise operations not included in Scope 1 or 2 | No | |
| 15. Investments | Emissions related to company investments (e.g., portfolio emissions) | No | |

# 2. Climate Reporting - Appendix

**Scope 3 emissions:** *Other Indirect Emissions that occur because of the organization's activities.*

## Category 3 – Fuel- and energy-related activities:

**Method:** Emissions from Statsraad Lehmkuhl for this category are calculated as indirect greenhouse gas emissions associated with the production, refining, and transport of the marine gas oil consumed by the vessel. These are upstream emissions that occur before the fuel is delivered and used onboard. The same quantity as recorded for Scope 1 are converted into $CO_2e$ using DEFRA's scope 3 category 3 conversion factor.

# 2. Climate Reporting - Appendix

**Scope 3 emissions:** *Other Indirect Emissions that occur because of the organization's activities.*

## Category 6 – Business travel and Category 7 – Employee commuting:

### Travel data collection and emissions calculations from air travel to and from harbors (1 of 2)

**Method:** Emissions from crew travel have been estimated based on survey data, and DEFRA conversion factors *. The crew travel emissions have been allocated to the leg where the crew member has onboarded and offboarded.

Data from travel to and from harbors have been collected using Microsoft Forms. Each professional and voyage crew have been tasked with filling out the form. The questionnaire has only registered the primary form of transport to and from the harbor. The number of respondents vary per leg, requiring estimating total emissions based on sample averages. **Of the reported climate footprint for the expedition's travel, 67% is based on primary data from reported travel.** The estimation of not-reported travel emissions has been carried out by grossing up the registered trips for the leg based on the number of crew members for the journey.

*Further method description on the next page.

# 2. Climate Reporting - Appendix

**Scope 3 emissions:** *Other Indirect Emissions that occur because of the organization's activities.*

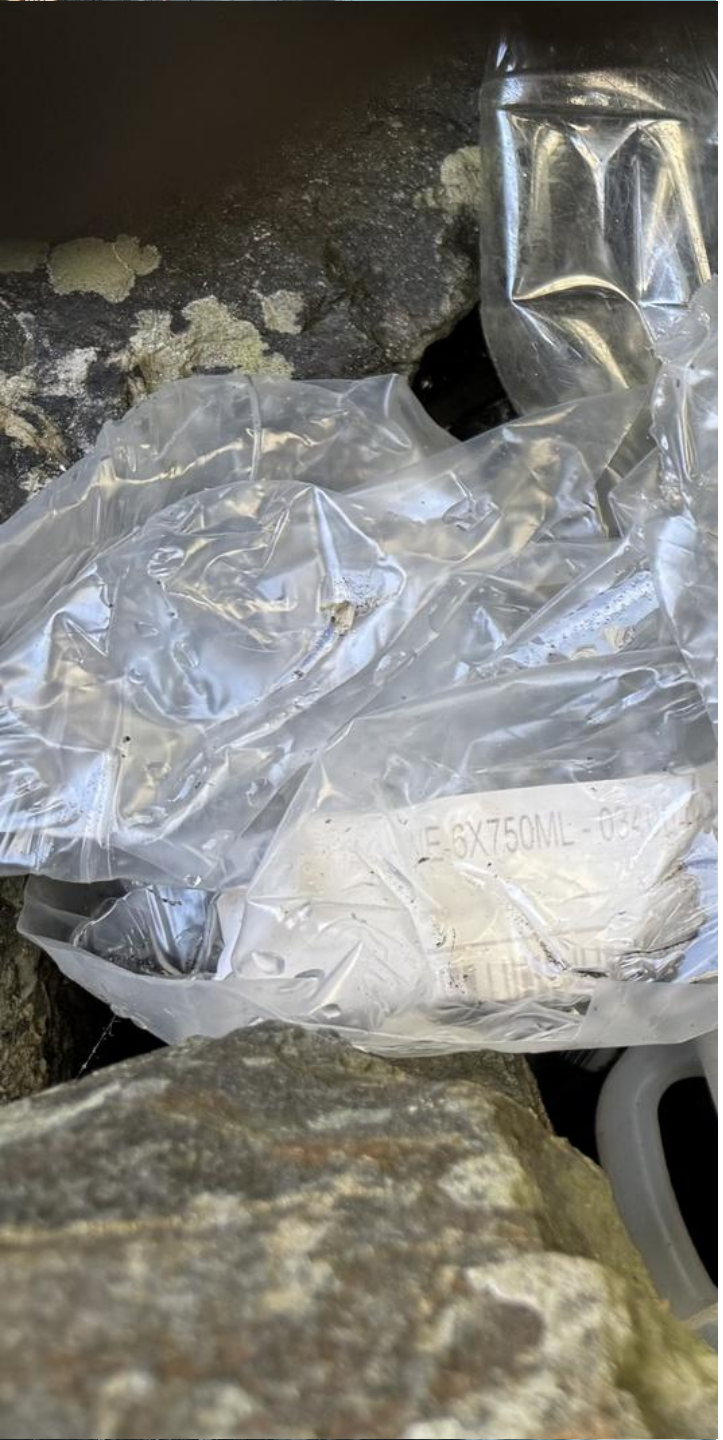
## Category 6 – Business travel and Category 7 – Employee commuting:

### Travel data collection and emissions calculations from air travel to and from harbors (2 of 2)

**Method:** Emission estimates from travel to and from the harbors rely on DEFRA conversion factors for 2024.

- First, travel distance for flights between all relevant airports have been calculated using Vincenty's formula * which considers that the Earth is an oblate spheroid, not a sphere.
- The flights have then been categorized into domestic (0-700 km), short-haul (700-3500km) and long-haul (>3500 km). Each respective flight has been multiplied with DEFRA's 2024 conversion factors for Business Travel Air considering both the ticket class (economy, premium economy etc.) and de distance category (domestic-, short-, long haul).
- DEFRA $CO_2e$ conversion factors for air travel include 8 % additional uplift to compensate for flight paths often not taking the shortest direct route etc. The factors used also include effects from Radiative Force (RF) of 70% increased $Co_2e$ effect. This is based on that some research suggesting that high altitude emissions from aviation, including NOx, contrails and vapor has a higher impact on climate than the $CO_2$ directly suggest. Further, Well To Tank (WTT) emissions for the respective flight emissions estimates has been added.

**https://www.ngs.noaa.gov/PUBS_LIB/inverse.pdf*



# 3. Environmental Reporting - Appendix

## Waste

Waste is sorted, measured and reported per leg. Waste categories derive from MARPOL, Annex V. According to MARPOL procedures, volume is measured instead of weight. This means that light but bulky waste appears as a large amount per person. In addition, the figures include all waste generated on board, not just what each individual produces.

Percentage of ports with observable recycling system is based on reporting from the Sustainability Officer's observations in each port and/or communication with port personnel.

## Water Consumption

Water filled from port and water used on board is logged and reported per day. Water produced on board is done through reverse osmosis.

Calculation of average water consumption per day:

Total water consumption (m3) * 1000 (to convert to liters) / total days / total number of crew

## Pollution to air

Pollution to air from NOx is estimated based on fuel consumption and a NOx emission factor defined in Norwegian legal regulations for relevant engine classification based on the ship's motor certificate.


# 3. Environmental Reporting - Appendix

## Marine Protected Areas

The European Standards for Sustainability reporting defines marine protected/biodiversity areas as legally designated ocean regions where human activities are restricted to conserve marine ecosystems, protect biodiversity, and safeguard cultural resources.

The expedition has used NATURA 2000, UNESCO World Heritage and KBA as sources to identify the number of marine protected areas sailed through.

## Special Areas

Special Areas are defined by MARPOL (the International Convention for the Prevention of Pollution from Ships, a key treaty developed by the International Maritime Organization – IMO) as designated sea regions where, due to their ecological sensitivity and traffic characteristics, stricter regulations are enforced to prevent marine pollution from ships.

## Vegetarian meals

One vegetarian meal is defined as a serving to all crew for one meal a day with no meat alternatives. The number of vegetarian meals is only measured and reported for one of the meals onboard a day.

## Climate compensated travel

Climate compensated travel data has been collected together with other travel data, using Microsoft Forms. Each professional and voyage crew traveler have been tasked with filling out the form, and answer whether they have climate compensated their travel. The average percentage of travelers choosing to climate compensate was then aggregated for the entire group of travelers.

# 4. Social Reporting - Appendix

## On board safety

**Near accidents** (near misses) are incidents that could have resulted in injury, damage or loss, but no actual harm occurred. Serve as warnings for potential hazards.

**Low criticality incidents** are incidents that result in minor injuries or minimal damage, with limited impact on operations or safety.

**Medium criticality incidents** are incidents that cause moderate injuries or damage and may disrupt operations temorarily.

**High criticality incidents** are incidents that lead to serious injuries, major damage or life-threarening situations, with significant disruption to operations.

## Educational hours

Educational lessons can be given by professional crew to group, or by charter to a group. The number of educational hours are reported as a sum of these two.

## Crew

Throughout this report, we use the following terms to refer to those on board:

- **Crew** – refers to everyone on board, including both professional crew and voyage crew.
- **Professional crew** – refers to the people employed to operate and manage the vessel.
- **Voyage crew** – refers to all other individuals on board.

# 4. Social Reporting - Appendix

## Emergency drills

Emergency drills are simulated exercises designed to prepare the crew and voyage crew to respond effectively to potential emergency situations. These drills replicate scenarios such as fire outbreaks, medical emergencies, equipment failures, man overboard or evacuations,. This allows participants to practice procedures, use safety equipment and improve coordination under controlled conditions.

The aim is to:

- Enhance preparedness for real emergencies.
- Ensure familiarity with safety procedures and equipment.
- Improve response time and decision-making under pressure.
- Identify weaknesses in current safety protocols.
- Promote teamwork and clear communication during crises.
- Comply with safety regulations and standards.

The number of emergency drills is reported per leg.