



SAR

Greenhouse Gas Emissions Report

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1. Background

SAR offers complete waste solutions and handles all types of waste from offshore- and landbased industry. We offer customers a total solution for Waste Chain Management (WCM®) for the treatment and handling of all types of waste.

We turn waste in to reusable resources, creating a circular economy which is in line with UN goal #12 "Responsible Consumption and production".

Sustainability is the core of our foundation. We recognise that every resource has a life cycle. The goal is to minimise the volume of waste generated and rather retain the resource for as long as possible through its lifecycle. Further by optimizing recycling of the resource and energy recovery we ensure that our customers reduce their environmental footprint.

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. The 17 goals address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice.

SAR's activities to recover and recycle waste involves significant energy consumption especially in the sea logistics between the departments of SAR and electricity at the treatment locations at Risavika, Averøy, Sandnessjøen and Hammerfest.

This report covers emission data connected to Service, Treatment and Logistics activity from SAR in Norway.

Scope 3 emission (GHG) are not calculated as data sources of climate effect on waste handling and downstream treatment options are not standardised in the industry. SAR is involved in some projects to standardise such factors. We will continuously evaluate SARs climate footprint and will update the report for coming years when data is more available.

2. Method

This Climate Emission Report for 2021 represents the collected data within Scope 1 & Scope 2 according to the Greenhouse Gas Protocol (GHG-Protocol). Two emission scenarios are presented in Scope 2, one for "market based" and for "location based" calculation on electricity consumption.

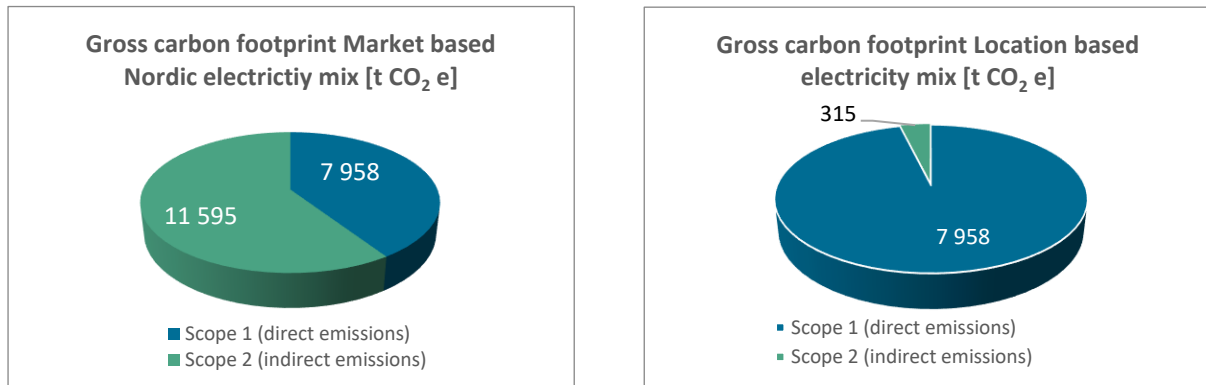
"The market-based method reflects emissions from electricity that companies have purposefully chose (or their lack of choice), while the location-based method reflects the average emissions intensity of grids on which energy consumption occurs".¹

The report will present both scenarios to secure full transparency on the Scope 2 emissions.

¹ GHG Protocol Scope 2 Guidance (2020), p.25.

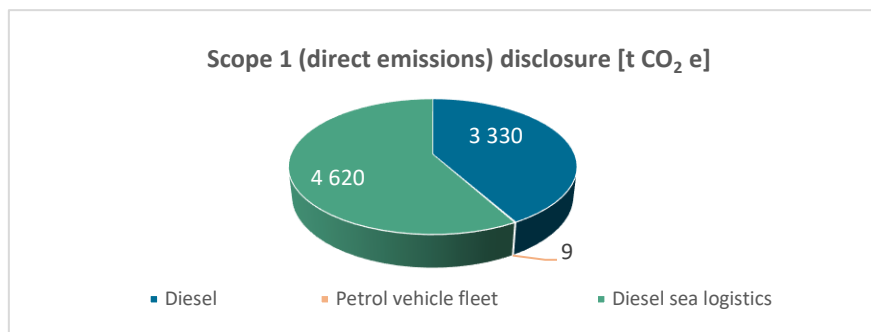
3. Results

3.1. Total SAR carbon footprint from Scope 1 and Scope 2:



Gross carbon footprint SAR AS	2021 Market based [t CO ₂ e]	2021 Location based [t CO ₂ e]
Scope 1 (direct emissions)	7 958	7 958
Scope 2 (indirect emissions)	11 595	315
Scope 3 (value chain emissions)	N/A	N/A
Total carbon footprint	19 553	8 273

3.2. Total SAR carbon footprint from Scope 1 Disclosure:



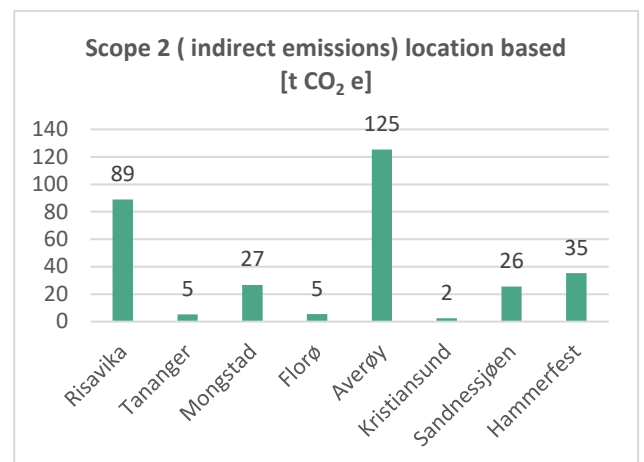
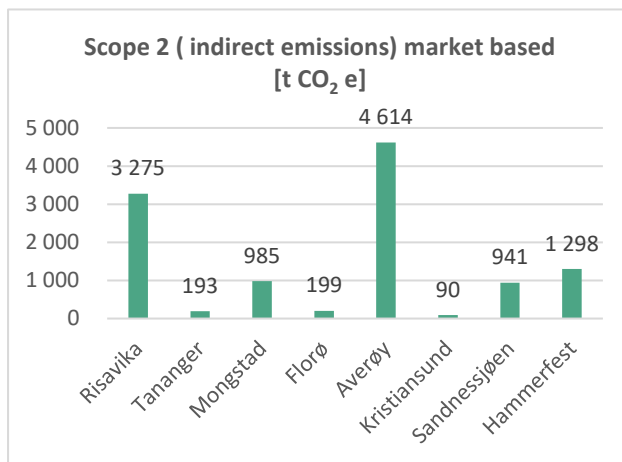
Scope 1 (direct emissions)	2021 [liter]	emissions [t CO ₂ e]
Fugitive emissions	-	-
Process emissions	-	-
Diesel	1 325 309	3 330 ²
Petrol vehicle fleet	4 144	9 ³
Marine gas Oil sea logistics	1 664 456	4 620 ⁴
Total	2 993 909	7 958

² DEFRA (2021) Emission factor Diesel (average biofuel blend) [ton CO₂ e per liter Diesel]: 0,00251233

³ DEFRA (2021) Emission factor Petrol (average biofuel blend) [ton CO₂ e per liter Petrol]: 0,00219352

⁴ DEFRA (2021) Emission factor Marine gas Oil [ton CO₂ e per liter Marine gas Oil]: 0,00277539

3.3. Total SAR carbon footprint from Scope 2 Disclosure:



Scope 2 (indirect emissions)	2021 [kWh]	Emissions market based [t CO ₂ e] ⁵	Emissions location based [t CO ₂ e] ⁶
Risavika	8 087 063	3 275	89
Tananger	475 994	193	5
Mongstad	2 432 586	985	27
Florø	490 850	199	5
Averøy	11 392 509	4 614	125
Kristiansund	222 606	90	2
Sandnessjøen	2 322 739	941	26
Hammerfest	3 204 403	1 298	35
Total	2 862 8750	11 595	315

SAR AS has not purchased any Guarantees of Origin for electricity in 2021.

⁵ NVE (2021) Emission factor Nordic energy mix [ton CO₂ e per kWh]: 0,000405

⁶ NVE (2021) Emission factor for Norway [ton CO₂ e per kWh]: 0,000011

4. References

1 GHG Protocol Scope 2 Guidance (2020) P.25;

https://ghgprotocol.org/sites/default/files/standards/Scope%20%20Guidance_Final_Sept26.pdf

2 DEFRA (2021) Emission factor Diesel (average biofuel blend) [ton CO₂e per liter Diesel]:
0,00251233;

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1049333/conversion-factors-2021-full-set-advanced-users.xlsm

3 DEFRA (2021) Emission factor Petrol (average biofuel blend) [ton CO₂e per liter Petrol]:
0,00219352;

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1049333/conversion-factors-2021-full-set-advanced-users.xlsm

4 DEFRA (2021) Emission factor Marine gas Oil [ton CO₂e per liter Marine gas Oil]:
0,00277539;

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1049333/conversion-factors-2021-full-set-advanced-users.xlsm

5 NVE (2021) Emission factor Nordic energy mix [ton CO₂e per kWh]: 0,000405;

<https://2021.nve.no/energy-supply/electricity-disclosure/>

6 NVE (2021) Emission factor for Norway [ton CO₂e per kWh]: 0,000011;

<https://www.nve.no/energi/energisystem/kraftproduksjon/hvor-kommer-strommen-fra/>