

Decarbonization Strategy



Foreword

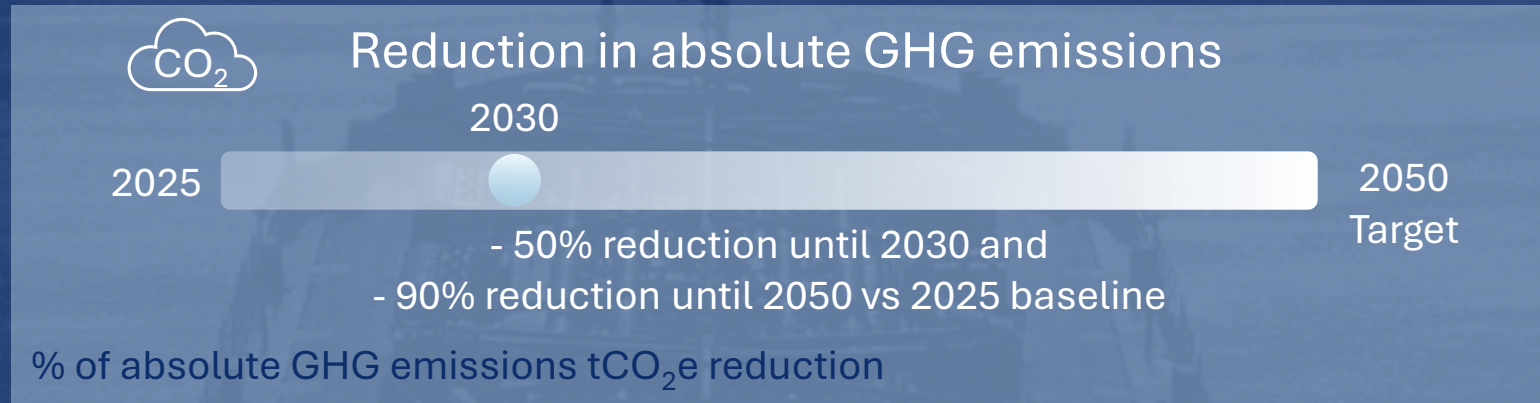
The maritime sector is undergoing a profound transformation as it responds to accelerating climate change, evolving regulatory requirements and increasing expectations from customers, financiers and society at large. As a company whose core activities are inherently energy-intensive, Rubikon Group recognizes both its responsibility and its opportunity to actively contribute to the transition towards a lower-carbon economy.

This Decarbonization Strategy sets out Rubikon Group's structured approach to reducing greenhouse gas emissions across its operations, with a particular focus on fleet activities, which represent the dominant share of the Group's emissions profile. The strategy is grounded in a clear understanding of Rubikon Group's emissions baseline, operational realities and regulatory obligations, and is aligned with internationally recognized frameworks for greenhouse gas accounting and reporting.

Rubikon Group's approach to decarbonization balances **regulatory compliance, operational efficiency and long-term resilience**. It distinguishes between carbon-intensity improvements required under maritime regulations and the reduction of absolute emissions across the value chain, ensuring that progress is both measurable and meaningful. The strategy therefore combines operational measures, fleet renewal and fuel transition pathways to deliver tangible emissions reductions while maintaining safety, reliability and commercial viability.

This document provides a transparent roadmap towards 2030, defining clear targets, boundaries and assumptions, and establishes a foundation for continuous improvement as technologies, fuels and regulatory frameworks evolve. Through this strategy, Rubikon Group reaffirms its commitment to responsible growth and to supporting the broader decarbonization of the maritime sector

Targets



Fleet operations targets

- CII reduction of 17.37% until 2030 vs 2019 baseline
(carbon intensity, in line with IMO)
- Fuel intensity reduction of 6% until 2030 vs 2020 baseline
(in line with FuelEU Maritime)
- Fleet operations emissions reduction of 50% until 2030 vs 2025 baseline
(in line with IMO)



Onshore activities targets

- Achieve 30% share of renewable energy utilization in electricity consumption by 2030 for onshore activities.
- Reach a 30% share of SAF in total fuel supplied to aviation customers by 2030.
- Increase in green steel procurement for shipbuilding

Contents

1 OUR GHG EMISSIONS

1.1 Fleet Operations Emissions

1.2 Onshore Activities Emissions

2 DECARBONIZATION AT RUBIKON GROUP

2.1 Decarbonization of Fleet Operations

2.2 Decarbonization of Onshore Activities

2.3 Total Group Decarbonization Pathway

1



OUR GHG EMISSIONS

OUR GHG EMISSIONS

The shipping industry is undergoing a profound transformation as it responds to **increasingly ambitious decarbonization targets** and evolving international and European regulatory frameworks. As a transport-intensive and energy-dependent sector, shipping is widely recognized as a **hard-to-abate industry**, facing structural challenges related to fuel availability, infrastructure readiness and the maturity of alternative propulsion technologies. Despite these constraints, decarbonization is advancing rapidly and represents a **central strategic priority for Rubikon Group**.

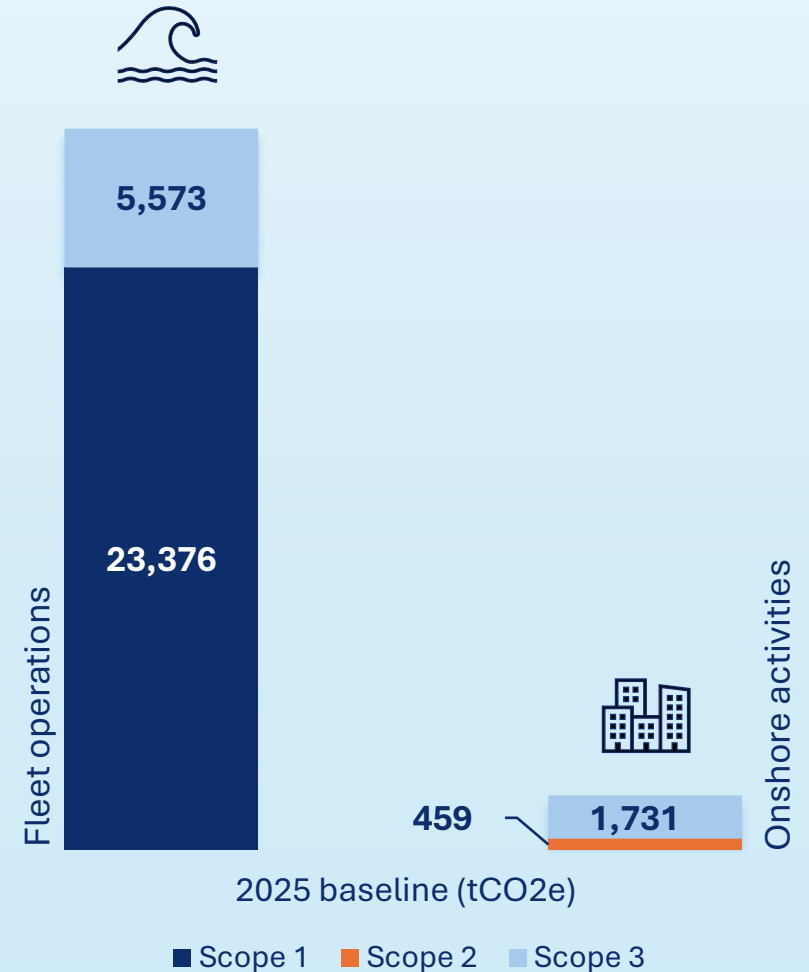
Rubikon Group's greenhouse gas emissions profile reflects these sector characteristics. **Bunker fuel consumption in fleet operations accounts for the vast majority of the Group's absolute GHG emissions**, making vessel operations the primary driver of Rubikon Group's carbon footprint and the focus of company's regulatory exposure.

Rubikon Group's emissions baseline is structured along two complementary streams:

- **emissions from fleet operations** 
- **emissions from onshore activities** 

This distinction reflects the different emissions drivers, regulatory pressures and decarbonization levers applicable to each stream, and provides a clear and practical foundation for the development of targeted decarbonization measures in the subsequent chapter.

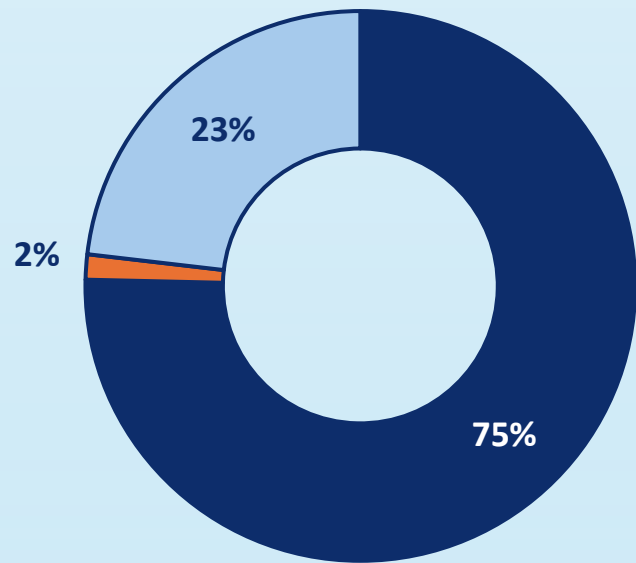
Absolute GHG* emissions



*Absolute baseline GHG emissions are calculated for year 2025 in accordance with the GHG Protocol Corporate Standard utilizing operational control consolidation approach.

OUR GHG EMISSIONS

Scope	Unit	2025
Scope 1 - Direct emissions	Metric tons CO ₂ e	23,376
Scope 2 - Indirect emissions)	Metric tons CO ₂ e	459
Scope 3 – Other indirect emissions	Metric tons CO ₂ e	7,304
TOTAL EMISSIONS	Metric tons CO₂e	31,139



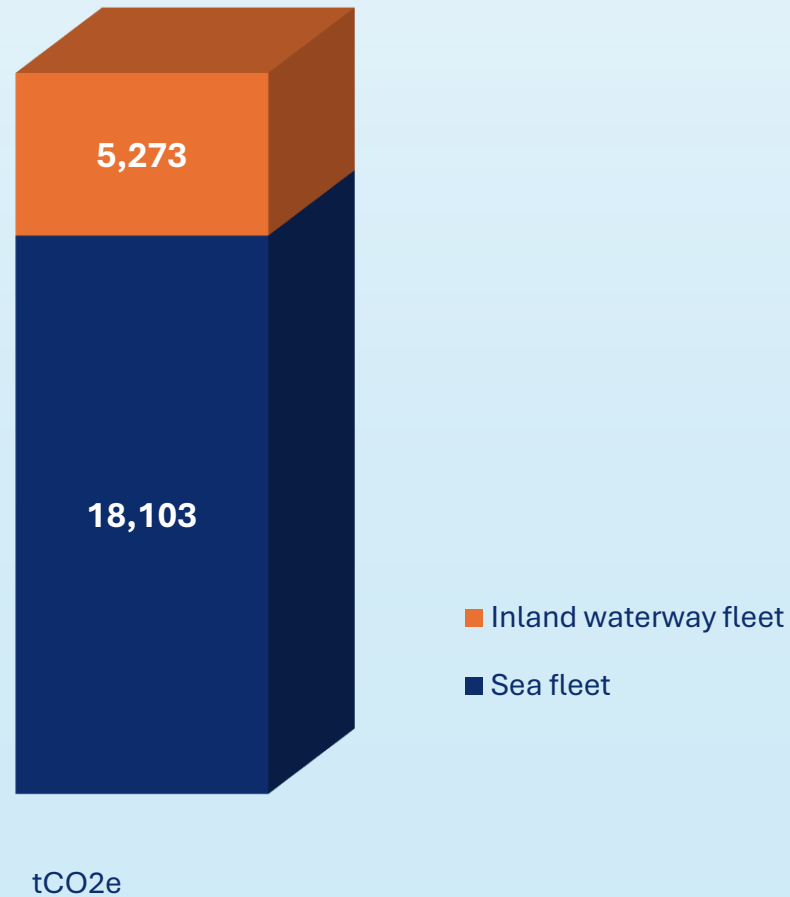
■ Scope 1 ■ Scope 2 ■ Scope 3

- Vessel bunker fuel consumption dominates the Group emissions profile, with direct (Scope 1) and indirect emissions (Scope 3.3) from fleet fuel accounting for **~95–96%** of total GHG emissions. This confirms that fleet operations remain the primary decarbonization lever for Rubikon Group.
- Onshore activities (electricity, heat, leased facilities, transport, waste etc.) together represent **less than 5%** of total emissions.
- **Scope 2** emissions represent a significant category within the Group’s onshore emissions profile, driven primarily by electricity consumption at **shipyard facilities**, which are the most energy-intensive onshore operations within the Group.
- **Scope 3** emissions are highly concentrated in fuel- and energy-related activities (Category 3.3), reflecting upstream emissions associated with bunker fuel production and distribution.



OUR GHG EMISSIONS – SCOPE 1

Scope 1 emissions



Scope 1 emissions include all direct GHG emissions from sources owned or controlled by Rubikon Group. **These primarily comprise emissions from fuel combustion on board owned and operated sea-going and inland waterway vessels, including main and auxiliary engines.**

Onshore activities have no significant Scope 1 emissions since leased vehicles fuel consumption is accounted within the Scope 3.8 Category – Upstream Leased Assets.

Bunker fuel combustion by fleet operations (Scope 1)

GHG emissions from the combustion of marine fuels used in Rubikon Group’s sea-going and river fleet are **calculated based on actual annual fuel consumption data**. This includes fuel used for propulsion, auxiliary engines and port operations. Both sea fleet and inland waterway fleet use diesel as main fuel for its operations with one sea fleet vessel **using B100 biofuel** in part of their operational activities. Non-CO₂ combustion emissions from B100 biofuel consumption (e.g., CH₄, N₂O) remain included in Scope 1.

Emissions are calculated using fuel-specific emission factors in line with International Maritime Organization (IMO) guidance and other recognized maritime sources, and cover CO₂, CH₄ and N₂O where applicable.



OUR GHG EMISSIONS – SCOPE 2

Scope 2 emissions represent the indirect greenhouse gas emissions associated with the generation of purchased electricity consumed by Rubikon Group’s onshore operations.

In the context of Rubikon Group’s emissions profile, Scope 2 emissions are primarily **linked to shipyard activities**, which are significantly more electricity-intensive than other onshore functions due to the nature of ship construction, repair and maintenance processes.

Electricity consumption at shipyards reflects the continuous use of high-load equipment and infrastructure, including welding systems, machining tools, lifting equipment, workshops, lighting and auxiliary technical installations.

As a result, **Scope 2 emissions constitute the largest component of onshore indirect emissions**, even though they remain modest when compared to the emissions generated by fleet operations.

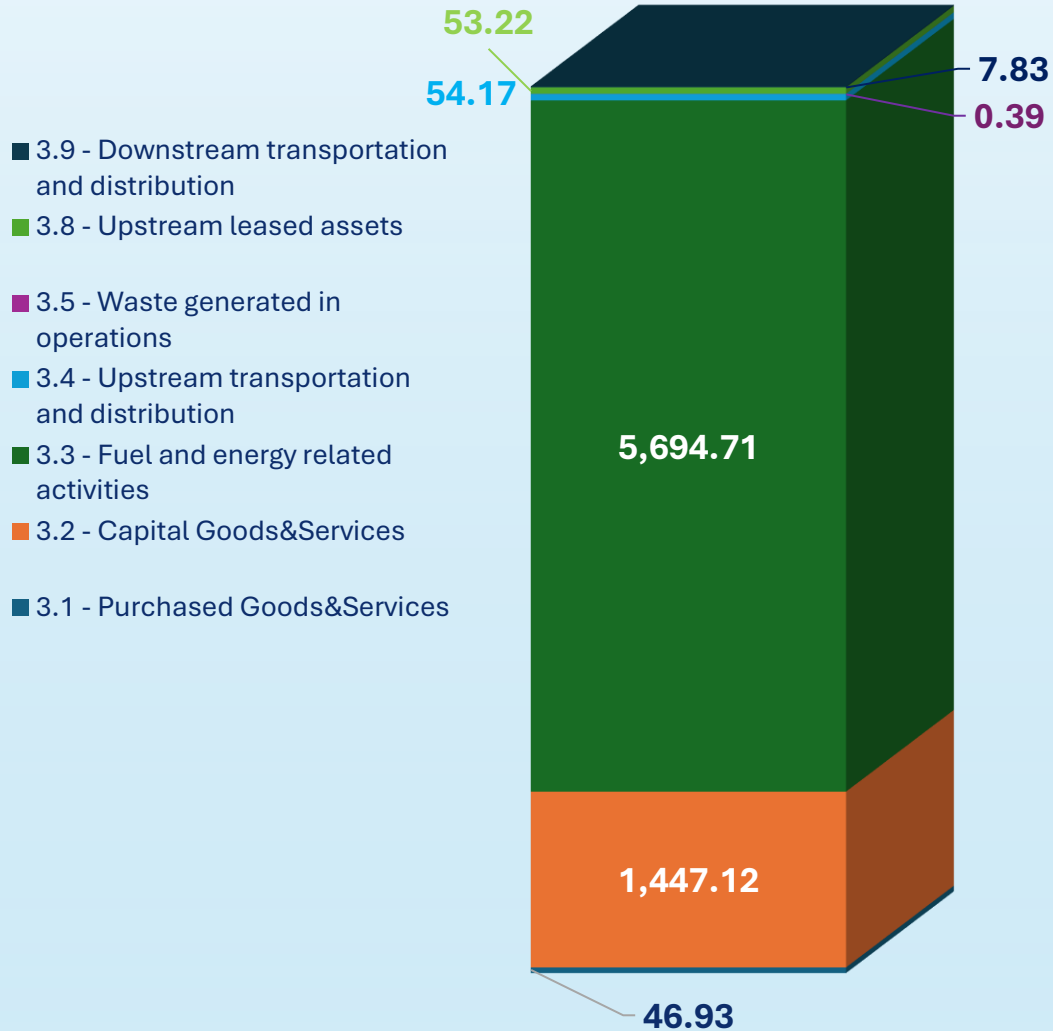
Emission factors used for location-based method are retrieved from CaDI (Carbon Data Intelligence). Upstream and T&D emissions arising from electricity consumption are also calculated within the relevant Scope 3 categories.

Scope 2 emissions



OUR GHG EMISSIONS – SCOPE 3

Scope 3 emissions



Scope 3 emissions represent indirect greenhouse gas emissions across Rubikon Group’s value chain that are not included in Scope 1 or Scope 2. The Group’s Scope 3 profile is highly concentrated, with emissions driven by a limited number of categories.

The largest contribution comes from **Scope 3.3 – fuel- and energy-related activities**, reflecting upstream emissions associated with the production and distribution of marine fuels consumed by the fleet. This confirms that a significant share of Rubikon Group’s climate impact occurs upstream of vessel operations, beyond direct fuel combustion.

Scope 3.2 – Capital goods and services represents the second most significant Scope 3 category, driven primarily by investments in vessels and shipyard-related assets. These emissions are linked to capital expenditure cycles rather than ongoing operations but remain material in years with elevated investment activity.

All other Scope 3 categories contribute only marginally to total Scope 3 emissions and do not materially influence the Group’s overall emissions profile when compared to fuel-related emissions. Scope 3 emissions are reported for material categories where reliable data is available.





FLEET OPERATIONS EMISSIONS

FLEET OPERATIONS EMISSIONS



GHG Emissions

Rubikon Group operates a mixed fleet of - **sea-going fleet, and inland waterway fleet**, reflecting the Group’s integrated maritime and logistics activities. The fleet comprises vessels of different sizes and operational profiles, supporting both regional seaborne transport and inland waterway operations.

The **sea-going fleet** for baseline year 2025 consists of **three oil tankers** operating within defined deadweight tonnage (DWT) classes. Two vessels fall within the **10,000–19,999 DWT** segment and are actively engaged in liquid bulk transport. The third vessel, operating in the below **5,000 DWT** category, is docked and used primarily for storage purposes. This vessel is not engaged in regular navigation, and its fuel consumption is limited to auxiliary engines and onboard systems.

The **inland waterway fleet** is composed predominantly of **motor vessels with lengths of 85–110 meters** and carrying capacities in the range of 1,000–2,000 tons, alongside a **pushed convoy configuration** consisting of a push boat and two barges. These vessels support shorter-distance transport along inland waterways and operate under different technical and operational constraints compared to the sea-going fleet.

Overall, the fleet structure reflects a combination of **higher-capacity sea-going vessels, non-trading support vessels and a larger number of smaller inland vessels**, each contributing differently to total transport work and emissions. Variations in vessel function, utilization and fuel consumption are therefore key considerations in the assessment of fleet operations emissions and in the development of targeted decarbonization measures.

SEA FLEET 	
Rubikon 78	Oil tanker 10000-19999dwt
Rubikon 202	Oil tanker 10000-19999dwt
Rubikon 14	Oil tanker 0-4999dwt
INLAND WATERWAY FLEET 	
Rubikon	Motor vessels 85-110m (1000-2000t)
Rubikon 4	Motor vessels 85-110m (1000-2000t)
Rubikon 8	Pushed convoy - push boat + 2 barges
Rubikon 9	Motor vessels 85-110m (1000-2000t)
Rubikon 21	Motor vessels 85-110m (1000-2000t)
Rubikon 23	Motor vessels 85-110m (1000-2000t)
Rubikon 35	Motor vessels 85-110m (1000-2000t)
Rubikon 55	Motor vessels 85-110m (1000-2000t)
Rubikon 122	Motor vessels 85-110m (1000-2000t)
81647	Motor vessels 85-110m (1000-2000t)
81631	Motor vessels 85-110m (1000-2000t)



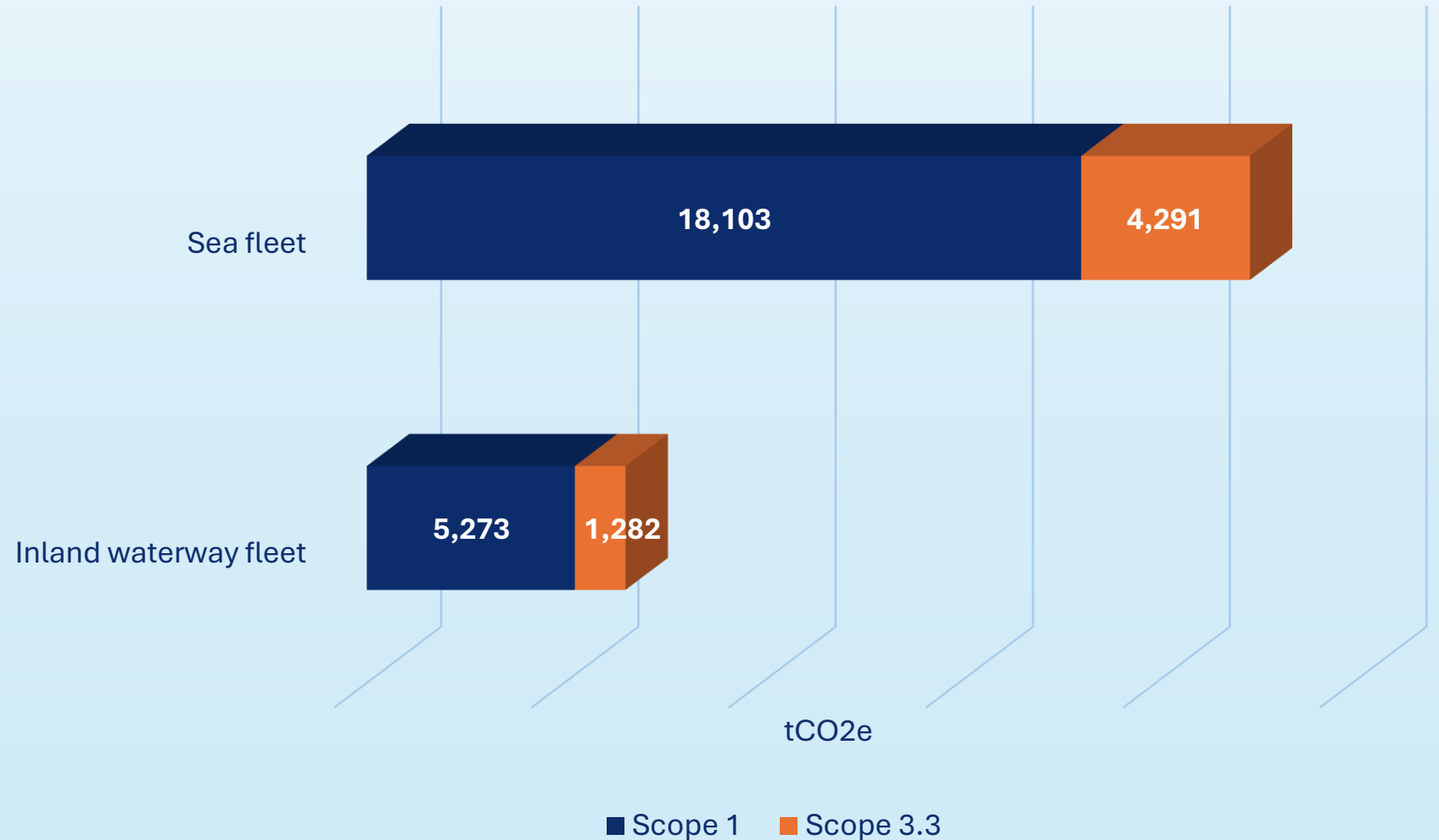
FLEET OPERATIONS EMISSIONS

GHG Emissions

The fleet operations emissions boundary covers all vessels owned and operated by the Group during the reporting year, including both **sea-going and inland waterway vessels**.

Emissions are calculated based on actual fuel consumption recorded for each vessel and in accordance with the GHG Protocol for following categories:

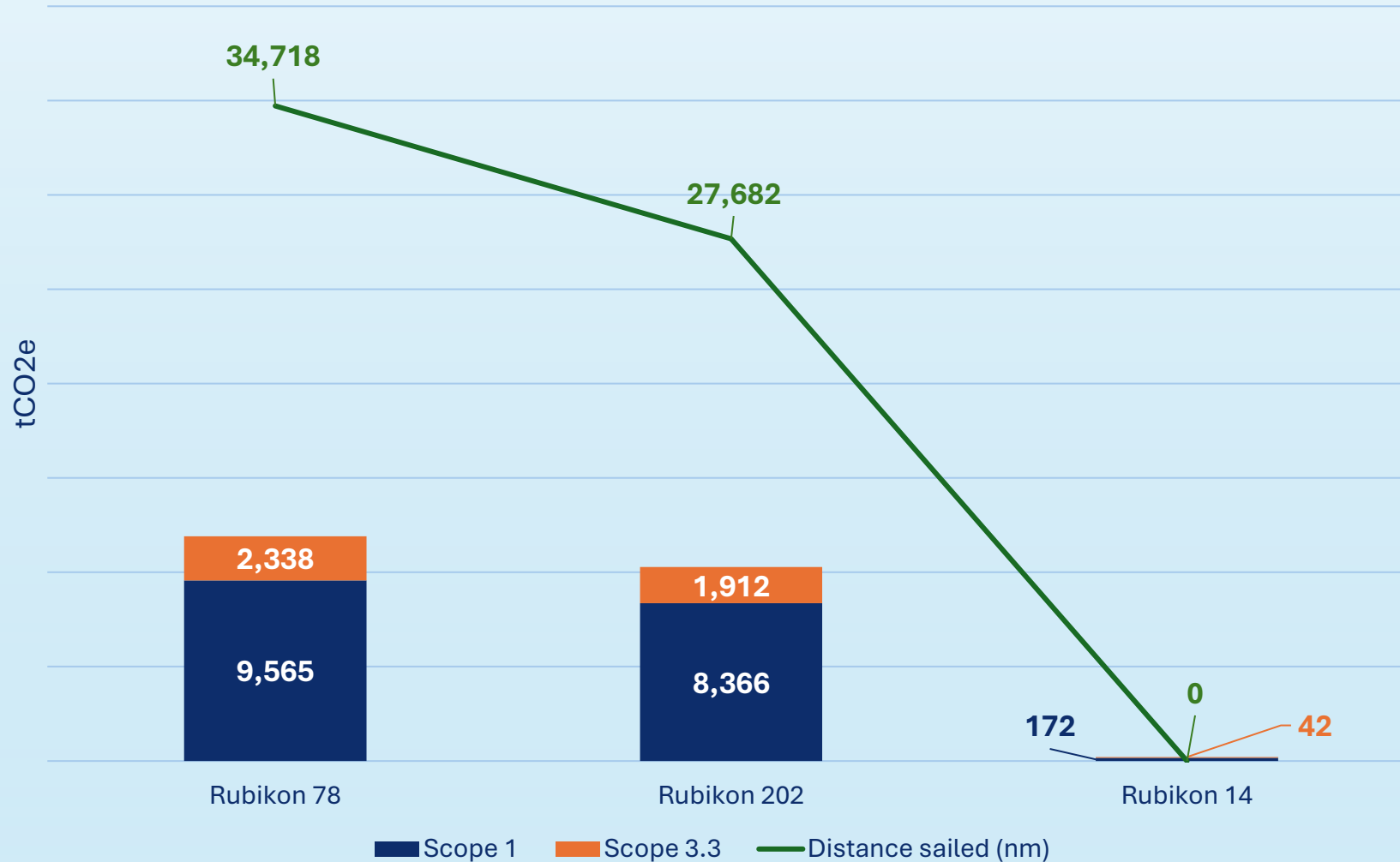
- **Scope 1** covering direct emissions from fuel combustion on board vessels using TTW emission factor, and
- **Scope 3** (Category 3.3, fuel- and energy-related activities) covering upstream emissions associated with the production and distribution of marine fuels calculated by using WTT emission factor.



FLEET OPERATIONS EMISSIONS / SEA FLEET

GHG Emissions

Sea fleet emissions per vessel (WTW)



Sea fleet emissions are **concentrated in the two trading oil tankers Rubikon 78 and Rubikon 202**, which account for most of both Scope 1 emissions from fuel combustion and Scope 3.3 emissions from fuel- and energy-related activities. Differences in emissions between the two vessels reflect variations in annual fuel consumption and operational utilization as seen on a distance sailed trajectory.

The third sea-going vessel, **Rubikon 14**, shows substantially lower emissions, as it is docked and used primarily for storage, with fuel consumption limited to auxiliary engines and onboard systems rather than regular navigation.

The split between Scope 1 and Scope 3.3 illustrates that sea fleet emissions comprise **both direct vessel emissions and upstream fuel-related emissions**, which together form the full emissions profile (WTW or well-to-wake) associated with sea-going operations.



FLEET OPERATIONS EMISSIONS / SEA FLEET

Carbon Intensity indicator (CII)

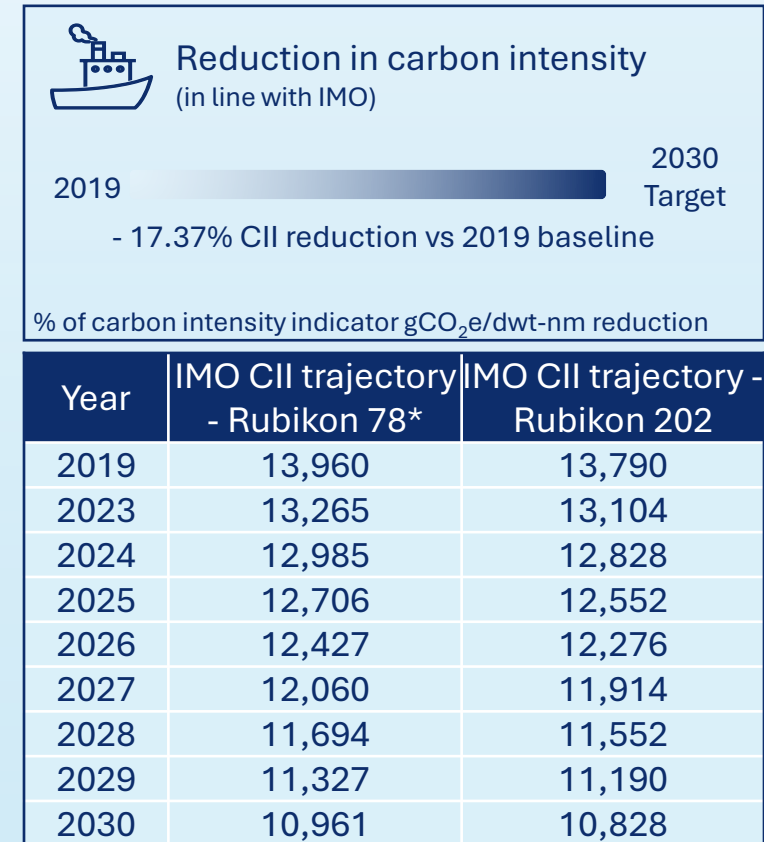
The **Carbon Intensity Indicator (CII)** is an IMO operational efficiency metric derived from the **Annual Efficiency Ratio (AER)** and expressed in grams of CO₂ per deadweight tonnage nautical mile (gCO₂/dwt·nm).

The attained annual operational CII is calculated based on **actual annual fuel consumption and distance sailed** and may be adjusted through IMO-prescribed correction factors and operational deductions, depending on vessel characteristics and operational conditions. Once all applicable corrections are applied, the **attained annual operational CII** is compared against the IMO-required reference value for the relevant year.

The IMO has established a **rating system from A to E**, with **Category C representing the minimum compliance threshold**. Vessels rated **D or E** are required to define and implement corrective measures to restore compliance. The trajectories shown on the chart represent the **IMO-defined annual CII reduction pathways** for Rubikon Group's trading sea-going vessels, derived from their **2019 reference carbon intensity**.

While the IMO's long-term ambition is linked to a **40% reduction in carbon intensity by 2030 relative to 2008**, the **practical reference year for CII implementation is 2019**. Based on this dataset, ship-type- and size-specific reference lines were established, from which annual reduction requirements are applied. Under the current framework, vessels are expected to achieve a **cumulative reduction of approximately 21% by 2030 compared to the 2019 reference level**.

In this context, Rubikon Group has aligned its fleet carbon-intensity ambition with the IMO trajectory and targets a **reduction in carbon intensity of approximately 17.37% by 2030 compared to the 2019 baseline**, as illustrated on the chart [on the following page](#), and within the Decarbonization at Rubikon Group chapter.



* - Attained Rubikon 78 CII for year 2024 is **13,765** gCO₂/dwt·nm.

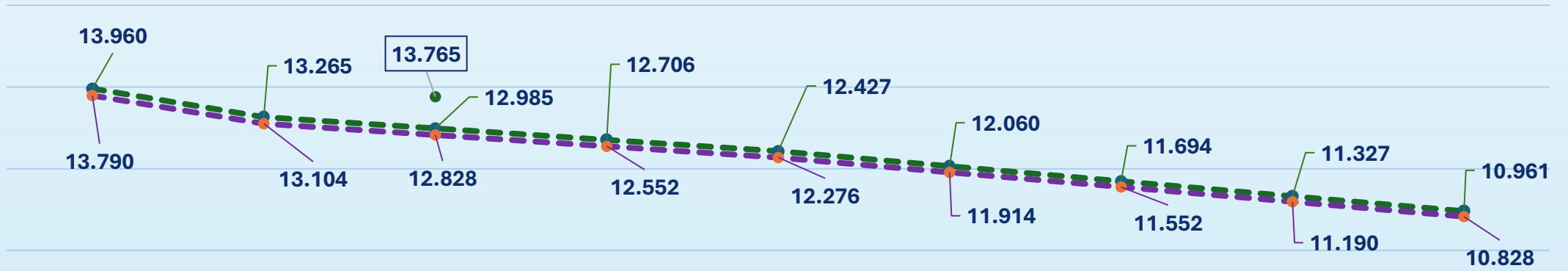


FLEET OPERATIONS EMISSIONS / SEA FLEET

Carbon Intensity indicator (CII)

gCO₂/dwt-nm

IMO - Carbon Intensity Indicator (CII)



CII Rating		
	Rubikon 78	Rubikon 202
2023	C	C
2024	C	D
2025	D*	D

* Potential improvement to C after application of corrections)

2019 2023 2024 2025 2026 2027 2028 2029 2030

—●— IMO CII trajectory - Rubikon 78
 -●- IMO CII trajectory - Rubikon 202
 —●— Attained annual operational CII - Rubikon 78



FLEET OPERATIONS EMISSIONS / SEA FLEET

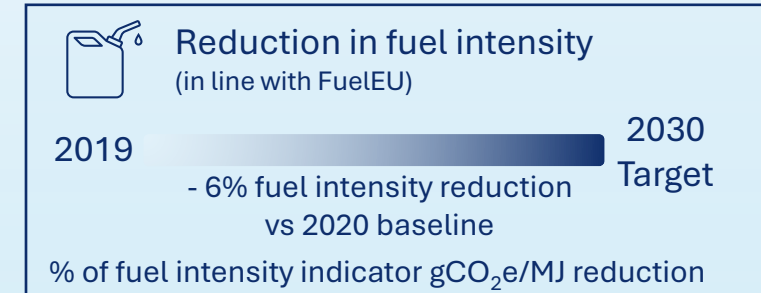
Fuel EU

The FuelEU Maritime framework regulates the greenhouse gas (GHG) intensity of energy used on board vessels, expressed as **grams of CO₂ equivalent per megajoule of energy (gCO₂e/MJ)**. Unlike CII, which measures operational efficiency per transport work, FuelEU focuses on the carbon intensity of the fuel mix itself, covering emissions on a well-to-wake basis and therefore reflecting both fuel type and upstream production pathways.

The chart on [the following page](#) illustrates the **declining GHG intensity trajectory** in line with FuelEU requirements, starting from a **2020 reference baseline** and extending towards 2050. The trajectory reflects progressively stricter reduction requirements over time, with an initial, moderate reduction phase followed by steeper reductions in later decades as lower-carbon and renewable fuels are expected to become more widely available.

In the near term, FuelEU **requires a 6% reduction in fuel GHG intensity by 2030** compared to the 2020 baseline, which is highlighted as Rubikon Group's **2030 fuel-intensity target**. The gradual reduction shown between 2020 and 2030 reflects limited short-term fuel substitution options, while the sharper reductions beyond 2035 illustrate the long-term transition expected under the FuelEU framework.

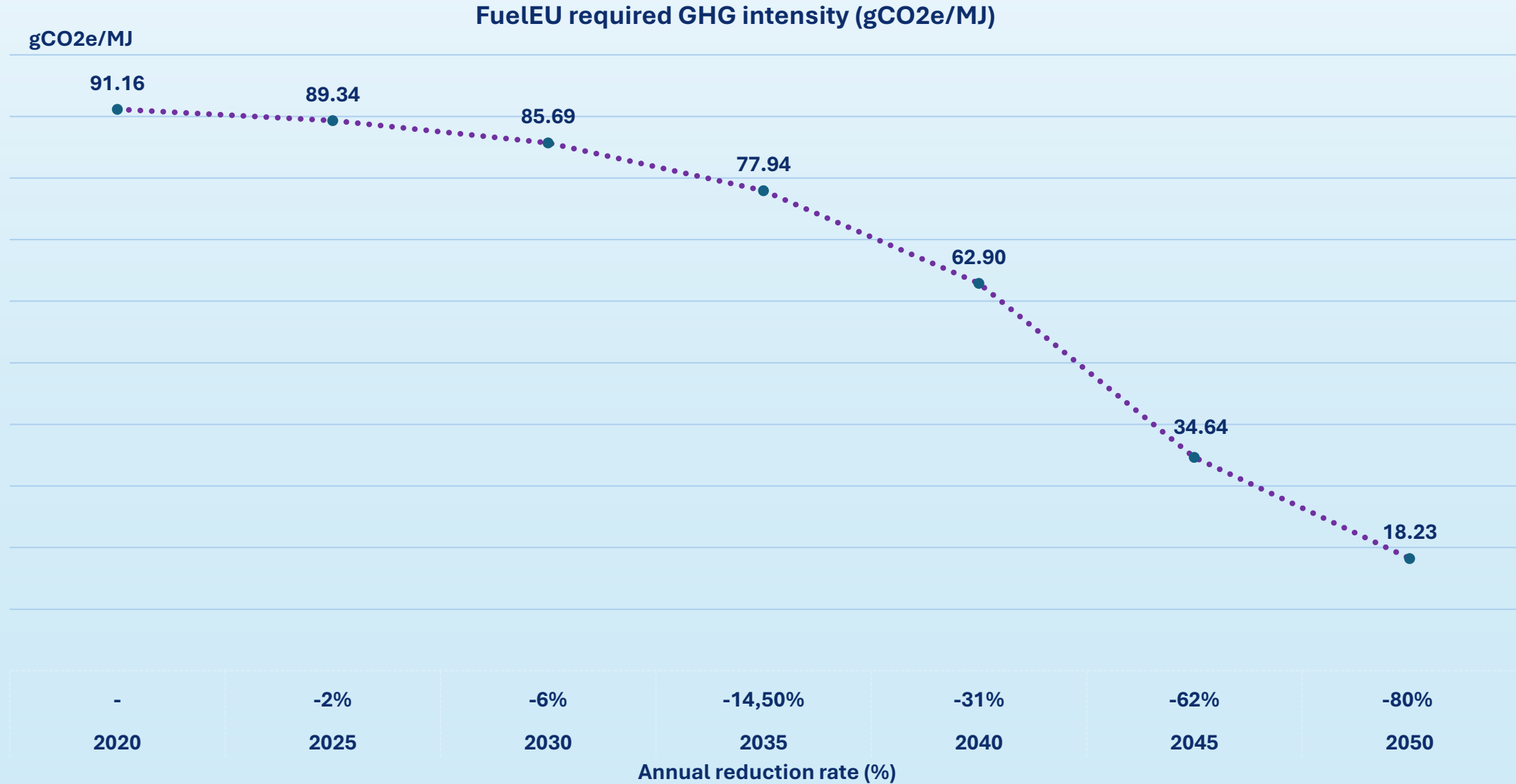
This trajectory provides the reference against which Rubikon Group's **fuel-mix decisions and energy-use strategies** are assessed, ensuring alignment with FuelEU Maritime requirements while distinguishing fuel-intensity compliance from operational carbon-intensity targets under the IMO CII framework.



Year	Reduction (%)	GHG intensity (gCO ₂ e/MJ)
2020	-	91.16
2025	-2%	89.34
2030	-6%	85.69
2035	-14.50%	77.94
2040	-31%	62.90
2045	-62%	34.64
2050	-80%	18.23

FLEET OPERATIONS EMISSIONS / SEA FLEET

Fuel EU



FLEET OPERATIONS EMISSIONS / SEA FLEET

EU Emissions Trading System (EU ETS)

EU Emissions Trading System (EU ETS) requires maritime shipping companies to purchase and surrender EU ETS emission allowances for each ton of reported GHG emissions (CO2 equivalent) in the scope of the EU ETS system.

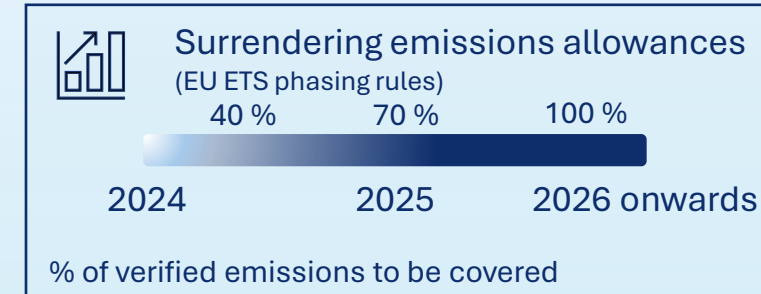
EU ETS has been extended in 2024 to cover CO2e emissions from all large ships (of 5 000 gross tonnage and above) entering EU ports, regardless of the flag.

The objective is to incentivize GHG emissions reduction in the maritime transport sector by including its GHG emissions in the overall ETS cap, which defines the maximum amount of greenhouse gases that can be emitted under the system.

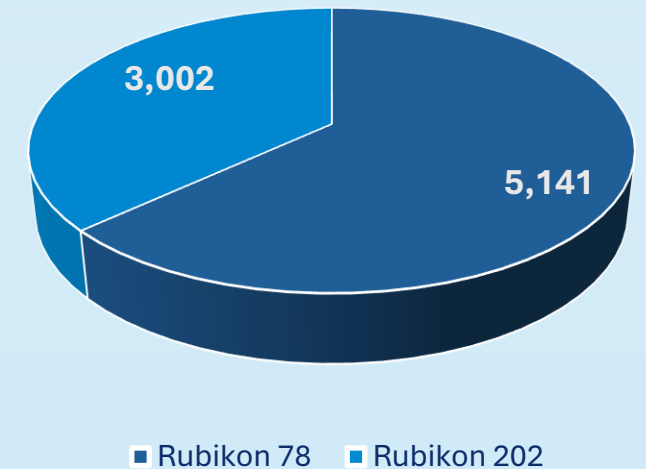
The cap is reduced over the years to ensure that all ETS sectors are aligned with EU climate change goals, including achieving climate neutrality by 2050.

The pricing scheme is based on the provision of other EU laws, such as EU Monitoring, Reporting and Verification Regulation for maritime transport (MRV Maritime Regulation). This Regulation sets the obligations of the companies aimed at achieving precise and verified information about company's carbon footprint.

The data are part of the GHG emissions report which companies must submit to the Commission and the member States (flag States) by 30 April of each year-31 March as of 2025. Emissions reports must also be verified by the independent EU verifiers.



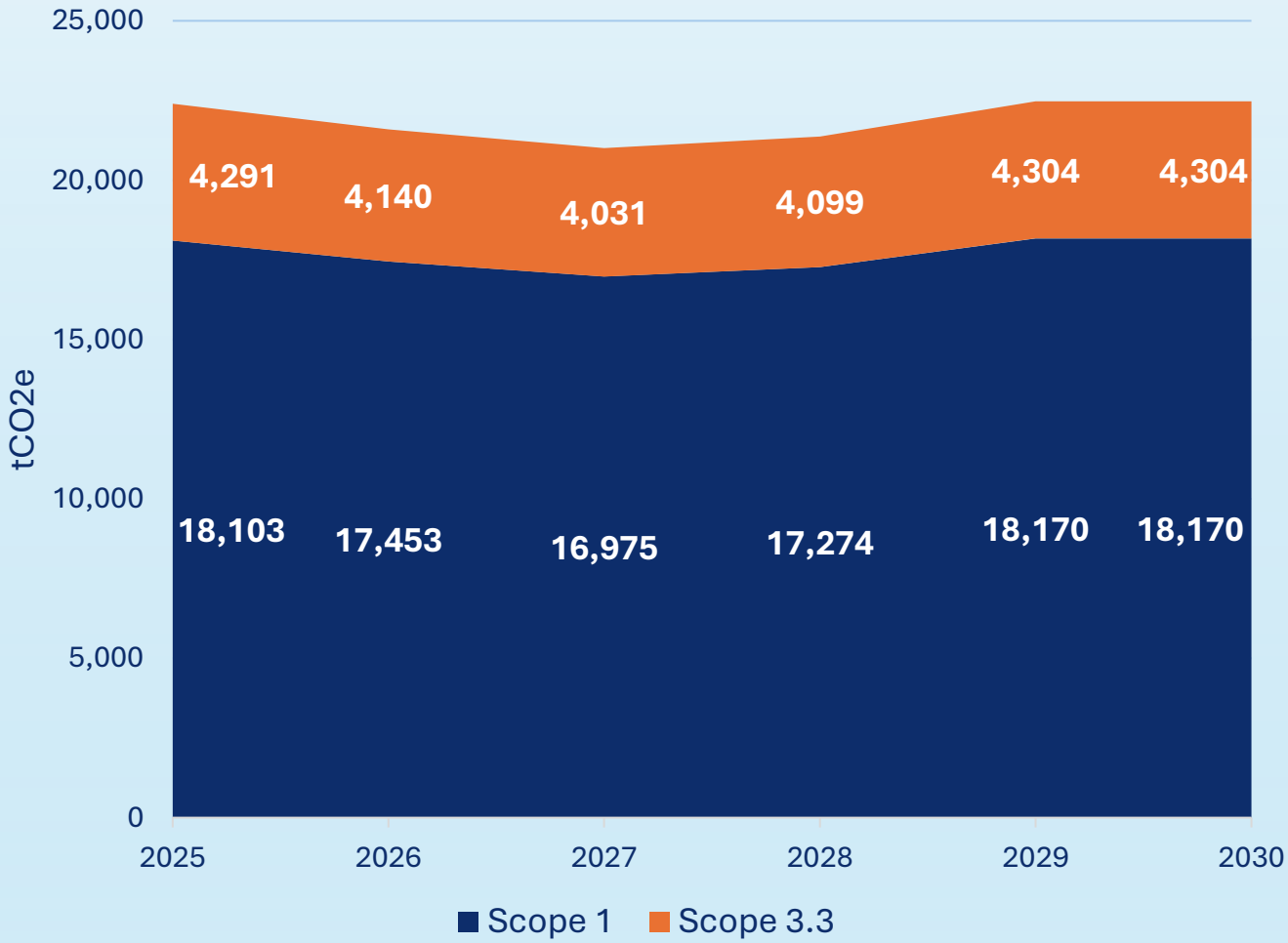
Total EU Allowances (EUA) in 2025:



FLEET OPERATIONS EMISSIONS / SEA FLEET

Business-as-Usual (BAU)

Business as Usual (BAU) Scenario for Sea Fleet



The Business-as-Usual (BAU) scenario illustrates the projected evolution of greenhouse gas emissions from Rubikon Group’s sea-going fleet between 2025 and 2030, assuming **no additional decarbonization measures** are implemented.

Under this scenario, emissions are driven exclusively by changes in fleet utilization and composition predicting acquiring of new vessels with similar efficiency to those owned in the baseline year, while **fuel types, energy sources and operational practices remain unchanged**.

As shown, total emissions comprising **Scope 1 emissions from fuel combustion** and **Scope 3.3 emissions from fuel- and energy-related activities** decline steadily between 2025 and 2027. This reduction reflects a gradual decrease in overall fuel consumption, linked to planned fleet adjustments and the efficiency profile of vessels active during this period.

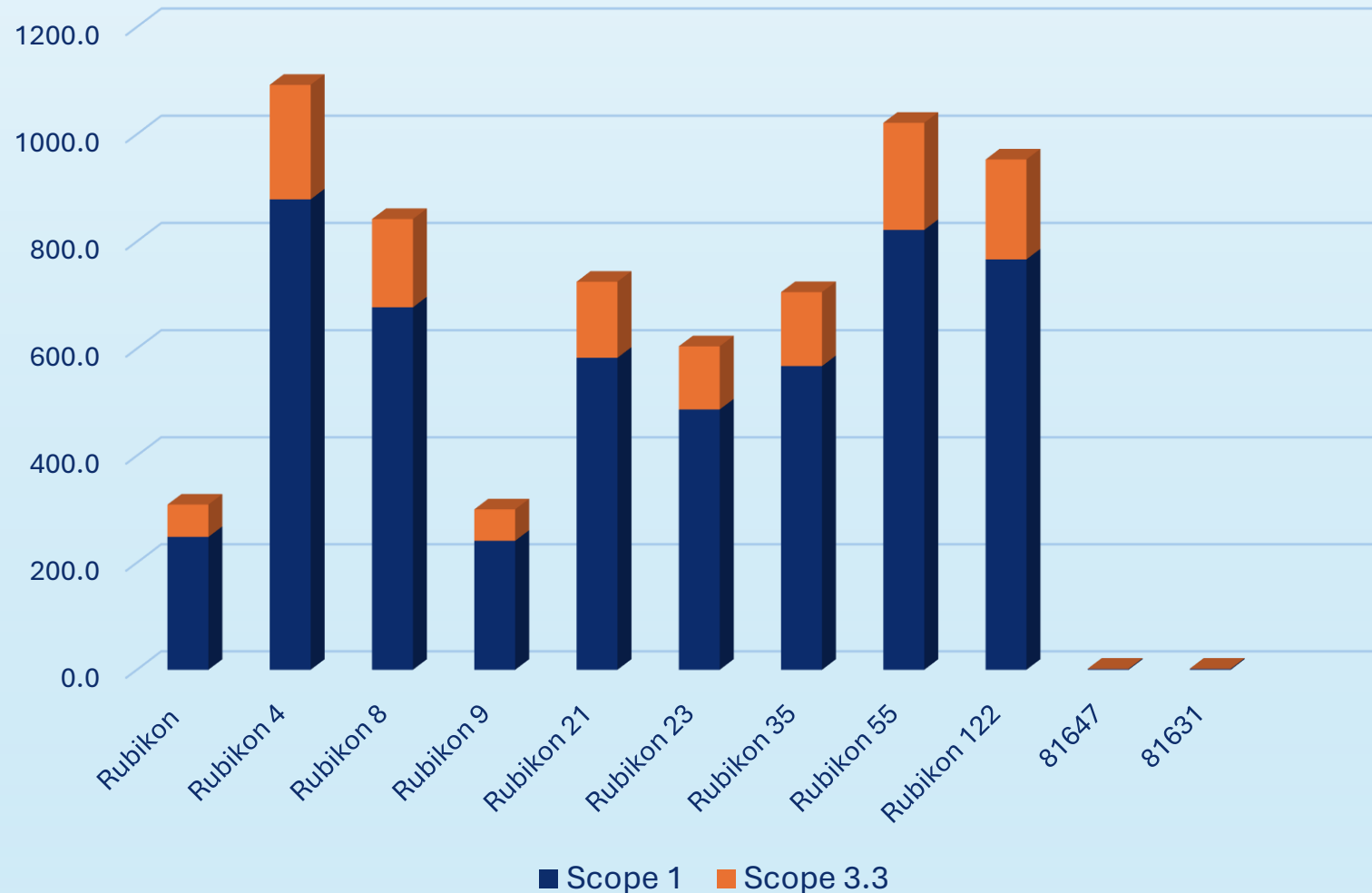
From 2028 onwards, emissions begin to increase as fleet utilization rises and remaining vessels operate at higher activity levels. This upward trend continues into 2029 and stabilizes in 2030, with emissions returning to levels comparable to, or slightly above, those observed at the baseline.

The BAU trajectory demonstrates that **efficiency gains embedded in existing fleet planning deliver only temporary emissions reductions** underscoring the need for a structured and proactive decarbonization strategy.

FLEET OPERATIONS EMISSIONS / INLAND WATERWAY FLEET

Inland Waterway Fleet emissions per vessel (WTW)

Inland Waterway Fleet emissions per vessel (WTW)



Inland waterway fleet emissions are distributed across a larger number of vessels, with no single vessel dominating the overall emissions profile. Differences in emissions between individual vessels reflect **variations in vessel size, engine power, utilization and annual operating hours**, resulting in a heterogeneous emissions distribution across the fleet.

Most inland vessels show **comparable contributions from Scope 1 emissions**, arising from direct fuel combustion, and Scope 3.3 emissions, reflecting upstream fuel- and energy-related activities. The relative proportion between Scope 1 and Scope 3.3 remains broadly consistent across vessels, indicating a similar fuel supply chain impact per unit of fuel consumed.



FLEET OPERATIONS EMISSIONS / INLAND WATERWAY FLEET

Business-as-Usual (BAU)

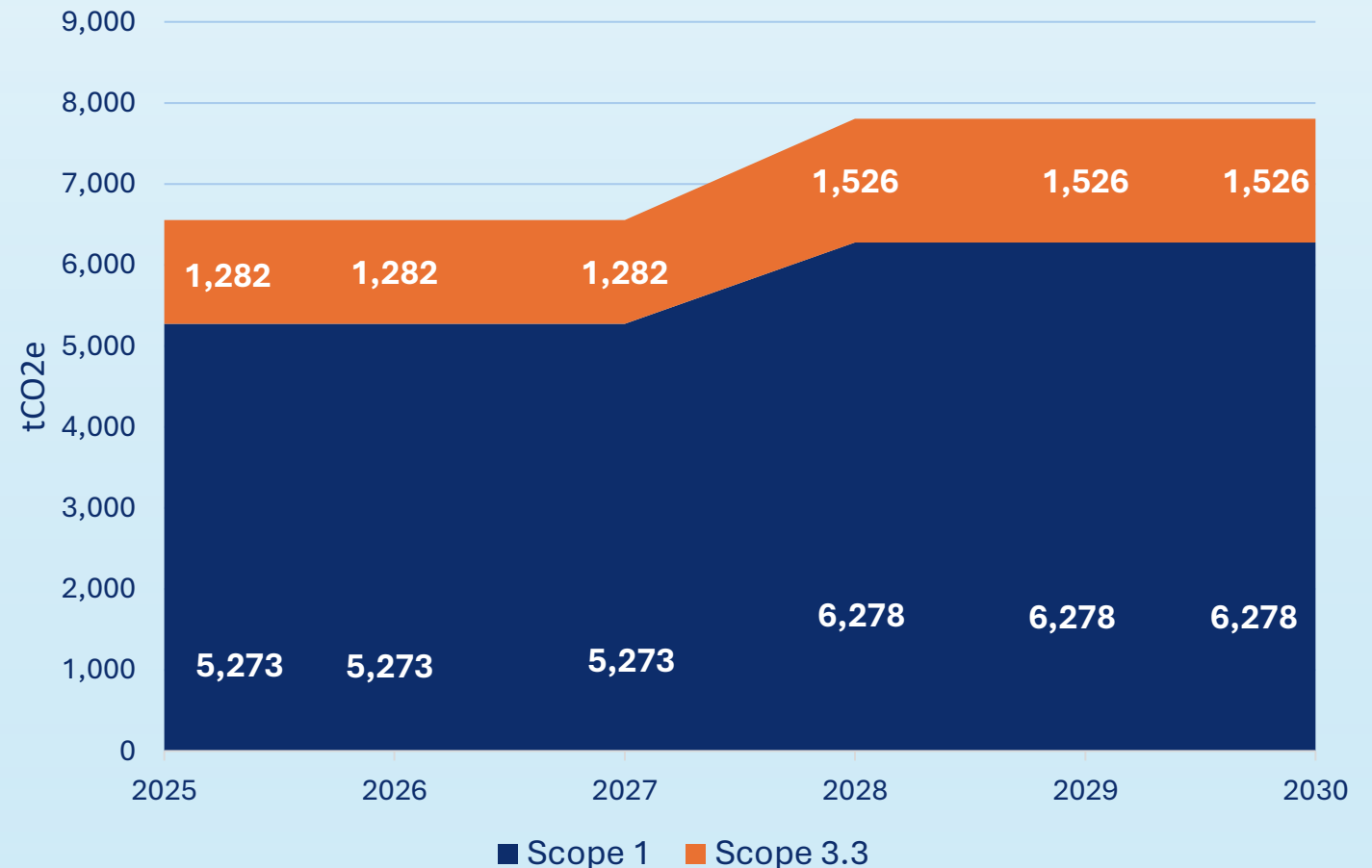
The **Business-as-Usual (BAU)** scenario presents the projected evolution of inland waterway fleet emissions **between 2025 and 2030**, assuming **no additional decarbonization measures** beyond current operating practices. In this scenario, fuel type, engine technology and operational patterns remain unchanged, and emissions are driven by fleet size and fuel consumption.

Emissions remain broadly **stable in 2026 and 2027**, reflecting unchanged fleet composition and operating activity. From 2028 onwards, total emissions increase as a result of the **planned addition of two inland waterway vessels**, with a **combined projected annual fuel consumption of approximately 400,000 liters**.

This **increase is reflected in both Scope 1 emissions from fuel combustion and Scope 3.3 emissions** from upstream fuel- and energy-related activities, which rise proportionally with higher fuel use.

From 2028 through 2030, emissions remain **relatively constant**, indicating that, in the absence of further measures, the **expansion of the fleet establishes a higher emissions baseline that persists over time**.

Business as Usual (BAU) Scenario for Inland Waterway Fleet



1.2

ONSHORE ACTIVITIES EMISSIONS

ONSHORE ACTIVITIES EMISSIONS

Rubikon Group’s onshore activities are primarily centered around its **shipyard and logistics infrastructure**, which supports both inland and sea-going fleet operations. The core of these activities is **Begej Shipyards Group (BSG)** in Serbia, one of the leading inland shipyard operators in the country.

Shipyard operations involve energy-intensive processes (steel fabrication, welding and assembly, painting and coating, heavy lifting and material handling etc.)making **electricity consumption the dominant source of onshore emissions**. As a result, Scope 2 emissions represent a material share of Rubikon Group’s onshore greenhouse gas footprint. In addition, Scope 3 represent a significant contributor mainly in 3.2 Capital Goods & Services category.

In addition to shipyard activities, Rubikon Group operates a **modern inland oil terminal in Ploiești, Romania**, strategically located near major regional refineries and key transport corridors. Acquired in 2025 and **still not operational**, terminal emissions are not part of the onshore activities and Group baseline emissions but are expected to contribute mainly to Scope 2 and 3 emissions in the future.

Together, these shipyard and terminal operations **define Rubikon Group’s onshore emissions boundary** and form a distinct emissions profile compared to fleet operations. While onshore activities contribute a smaller share of total Group emissions, they remain an **important focus area for decarbonization** through energy efficiency, and lower-carbon electricity sourcing.

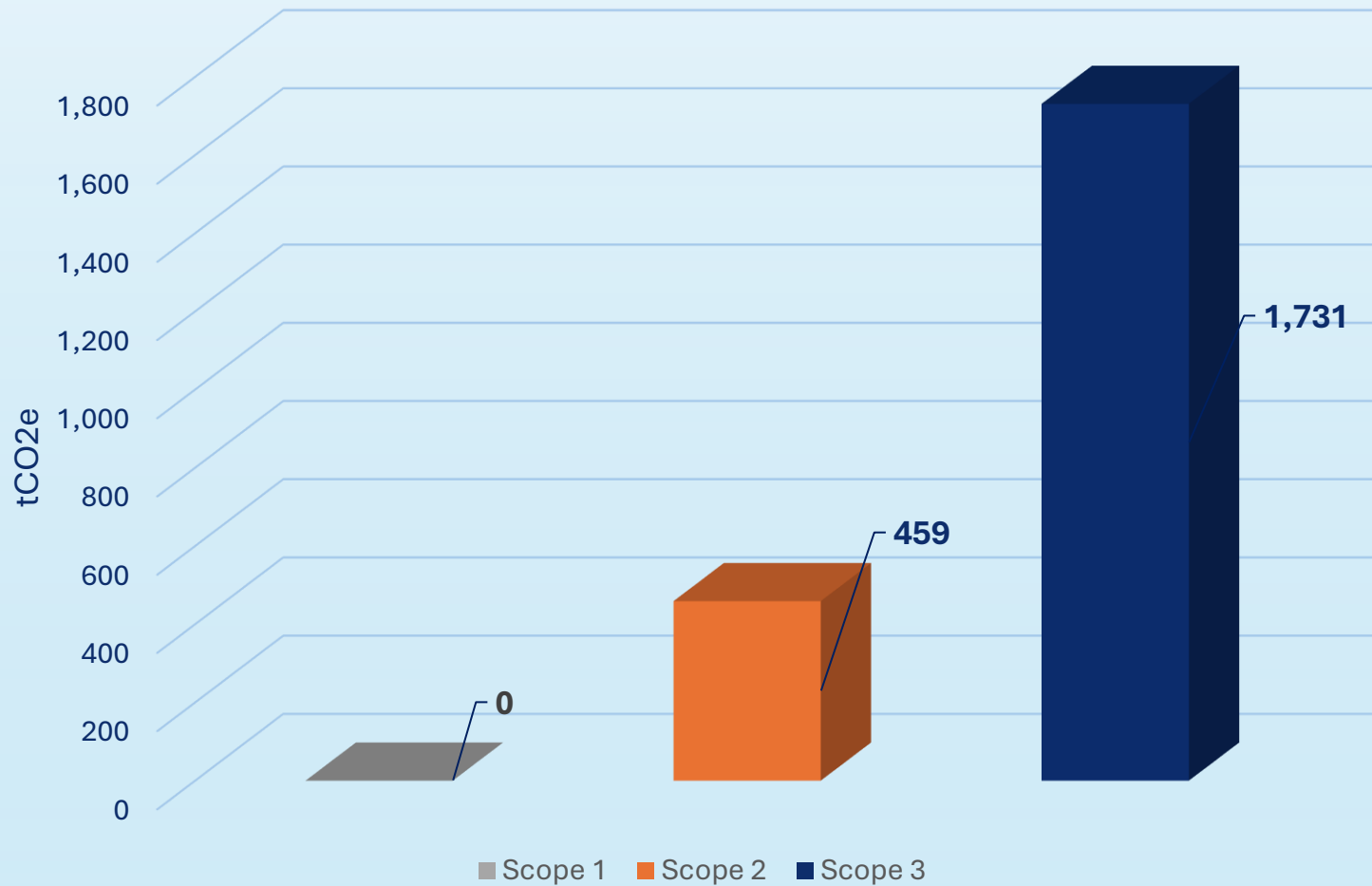
ONSHORE ACTIVITIES EMISSIONS PER SCOPE

Scope 1	No emissions.
Scope 2	Electricity consumption at BSG Shipyards. Consumption in Romania terminal from 2026.
Scope 3	Category 3.1 – Purchased Goods & Services within BSG operations Category 3.2 – Capital Goods & Services within BSG operations Category 3.3 – Fuel and energy related activities consider upstream emissions from electricity consumption Category 3.4 – Upstream transportation and distribution within BSG operations Category 3.5 – Waste generated in operations within BSG operations Category 3.8 – Upstream leased assets consider vehicles and offices used by Rubikon Group Category. 3.9 – Downstream transportation and distribution within BSG operations



ONSHORE ACTIVITIES EMISSIONS

Onshore activities emissions



Onshore activities emissions are dominated by Scope 3, which accounts for the vast majority of total onshore greenhouse gas emissions.

These emissions primarily reflect indirect impacts associated with **purchased goods and services, capital goods, and other value-chain activities** such as acquiring steel profiles, plates, pipes, equipment and waste management with the role of supporting Rubikon Group's onshore operations. More in detail presentation of Scope 3 emissions are already presented within [page 11](#).

Scope 2 emissions arise from purchased electricity used at shipyards, terminals, and other onshore facilities, while Scope 1 emissions are negligible, as onshore operations do not rely on significant direct fuel combustion.



2 DECARBONIZATION AT RUBIKON GROUP

DECARBONIZATION AT RUBIKON GROUP

Decarbonization at Rubikon Group chapter outlines company’s approach to reducing greenhouse gas (GHG) emissions across its operations and defines the decarbonization pathway towards **Near-term goal by year 2030** and **Net Zero goal by year 2050**.

Rubikon Group has also established a comprehensive **ESG Strategy** addressing environmental, social, and governance topics that are material to its operations and long-term business model.

Decarbonization represents a **key environmental topic** within this framework, ensuring consistency between climate actions, and broader corporate sustainability objectives.

The Decarbonization Strategy is **part of the Rubikon Group’s broader ESG framework and aligned with the long-term value drivers**.



Decarbonization strategy builds on the Group’s emissions baseline and focuses on **material emission sources under operational control**, ensuring that reduction efforts are both measurable and achievable.

The scope of the decarbonization Strategy covers **two streams of Rubikon Group’s emissions - fleet operations and onshore activities** which include sea-going and inland waterway vessels, shipyards, terminals and supporting infrastructure.

Streams of Rubikon Group’s emissions



DECARBONIZATION AT RUBIKON GROUP

The **Decarbonization strategy** targets address both intensity-based targets relevant for fleet compliance procedures, absolute emissions reductions for both streams and specific qualitative and quantitative targets for onshore activities.

Type of decarbonization targets



For **fleet operations**, decarbonization is addressed through a **set of quantitative targets** which are further differentiated into:

- 1** Intensity-based targets
- 2** Absolute GHG emissions-reduction targets 

In parallel, **onshore activities** are covered by a **combination of of quantitative and qualitative targets**. These targets are differentiated into:

- 1** Share-based targets
- 2** Qualitative targets 

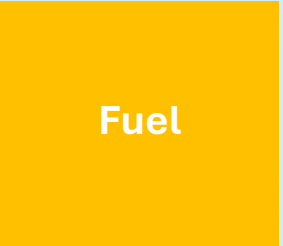
In addition, a **common overarching target** references both streams, ensuring that decarbonization progress is assessed from a holistic, company-wide perspective and reflects the full GHG footprint of the business.

 Absolute GHG emissions-reduction target 

Type of decarbonization measures

Decarbonization measures include a combination of:

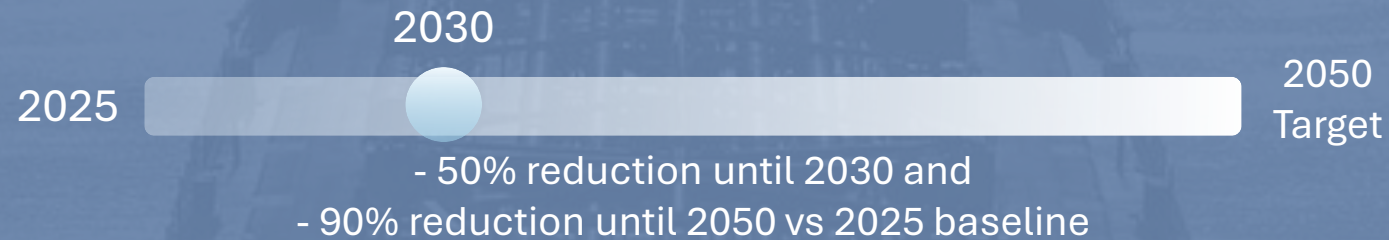
- 1. Fuel-switching and alternative fuel solutions;
- 2. Technical upgrades to vessels and onshore activities; and
- 3. Operational improvements across fleet operations.



Targets



Reduction in absolute GHG emissions



% of absolute GHG emissions tCO₂e reduction



Fleet operations targets

- CII reduction of 17.37% until 2030 vs 2019 baseline
(carbon intensity, in line with IMO)
- Fuel intensity reduction of 6% until 2030 vs 2020 baseline
(in line with FuelEU Maritime)
- Fleet operations emissions reduction of 50% until 2030 vs 2025 baseline
(in line with IMO)



Onshore activities targets

- Achieve 30% share of renewable energy utilization in electricity consumption by 2030 for onshore activities.
- Reach a 30% share of SAF in total fuel supplied to aviation customers by 2030.
- Increase in green steel procurement for shipbuilding



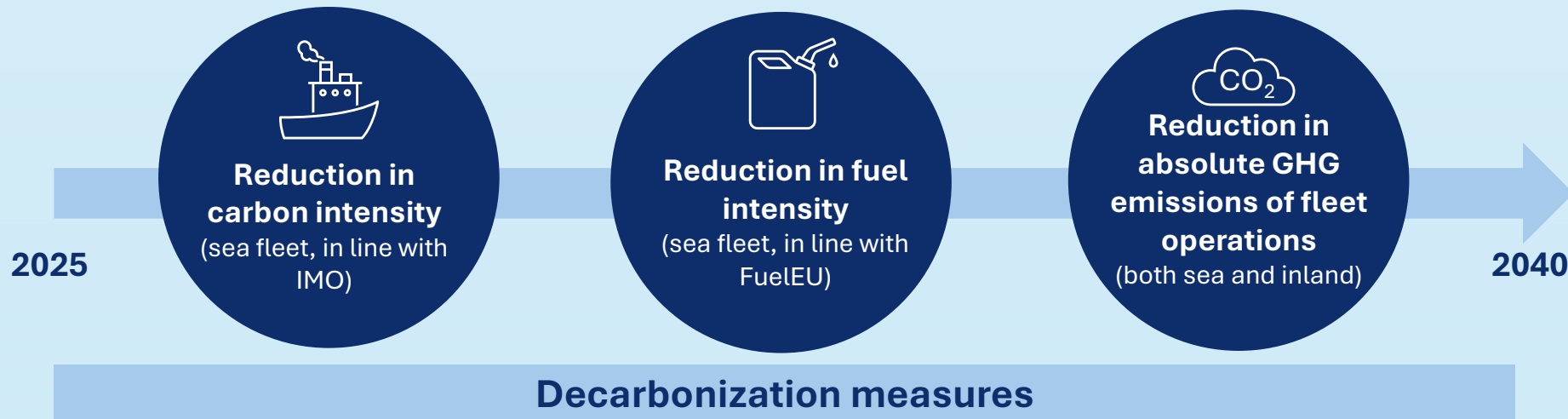
DECARBONIZATION OF FLEET OPERATIONS

DECARBONIZATION OF FLEET OPERATIONS

The decarbonization of Rubikon Group's fleet operations focuses on reducing greenhouse gas emissions from both sea-going and inland waterway vessels while maintaining safe, reliable, and commercially viable operations. The strategy addresses emissions at their source through a coordinated combination of **DECARBONIZATION MEASURES (fuel-switching measures, technical upgrades, and targeted operational improvements)**, aligned with fleet renewal plans and evolving regulatory obligations.

This approach is translated into clear, measurable targets covering both emissions intensity and absolute emissions reductions. **For the sea-going fleet, Rubikon Group targets reductions in carbon intensity in line with IMO requirements, expressed through the Carbon Intensity Indicator (CII), as well as reductions in fuel GHG intensity aligned with FuelEU Maritime.** In parallel, the Group commits to a significant reduction in **absolute greenhouse gas emissions across both sea and inland fleet operations**, ensuring that efficiency gains are matched by a tangible decrease in total climate impact.

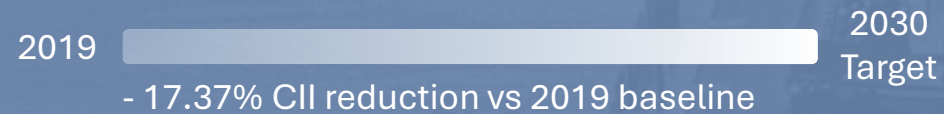
Fleet decarbonization is designed as a **phased pathway toward 2030**, prioritizing measures with the highest emissions reduction potential and strongest regulatory impact particularly technical retrofits and low-carbon fuels while operational measures are used to fine-tune performance, enhance efficiency, and support long-term compliance beyond 2030. Together, these actions form a coherent framework to reduce absolute emissions, improve carbon and fuel intensity, and ensure alignment with IMO and EU maritime climate regulations.



Fleet Operations Targets



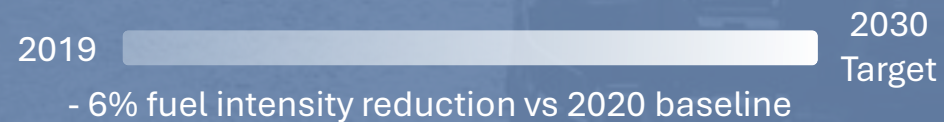
Reduction in carbon intensity (sea fleet, in line with IMO)



% of carbon intensity indicator $\text{gCO}_2\text{e/dwt-nm}$ reduction



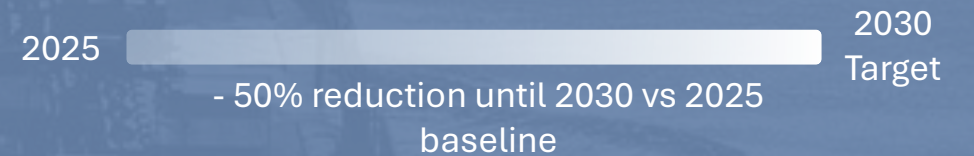
Reduction in fuel intensity (sea fleet, in line with FuelEU)



% of fuel intensity indicator $\text{gCO}_2\text{e/MJ}$ reduction



Reduction in absolute GHG emissions of fleet operations (both sea and inland)



% of absolute GHG emissions tCO_2e reduction






DECARBONIZATION OF FLEET OPERATIONS

It is important to distinguish between emissions reductions achieved through **fleet renewal** and those resulting from **deliberate decarbonization measures**. Efficiency gains associated with planned acquisition of a younger vessels including improved hull design, more efficient engine, and better baseline energy performance is treated as part of Rubikon Group’s **Business-as-Usual (BAU) scenario** , while planned acquiring of a newbuild vessel with wind assisted propulsion system (WAPS) is considered as part of Rubikon Group’s decarbonization measures and strategy.

The Business-as-Usual (BAU) scenario reflects emissions evolution driven by **planned fleet replacement**, such as the substitution of older vessels with younger or more efficient ships of comparable design, while assuming no additional decarbonization interventions. In this context, efficiency improvements that are inherent to replacing an older vessel with a younger one are treated as part of the baseline trajectory and are not considered decarbonization measures.

Decarbonization measures are defined as deliberate interventions that go **beyond standard fleet replacement**, including the deployment of **low-carbon fuels, the installation of efficiency-enhancing technologies on existing vessels, and the acquisition of newbuild vessels equipped with dedicated decarbonization technologies, such as Wind Assisted Propulsion Systems (WAPS)**. This distinction ensures transparent accounting of emissions reductions and provides a robust reference for assessing the incremental impact of Rubikon Group’s decarbonization strategy relative to the BAU pathway.

On following pages, sea fleet and inland waterway going vessels and measures could be differentiated by following symbols:

- Sea fleet 
- Inland waterway fleet 
-  Fuel measures
-  Technical measures
-  Operational measures

Planned Rubikon Group fleet by number of vessels

	SEA FLEET	INLAND WATERWAY FLEET
2025	3	11
2026	2	11
2027	2	13
2028	2	13
2029	2	13
2030	2	13

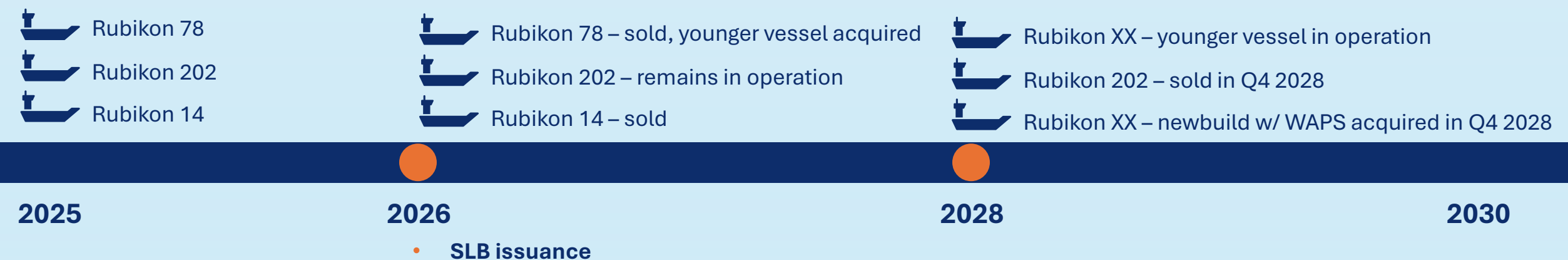
DECARBONIZATION OF FLEET OPERATIONS

In the **baseline year**, Rubikon’s sea-going fleet consists of **Rubikon 78**, **Rubikon 202**, and **Rubikon 14**. Rubikon 14 is a stationary vessel used for storage purposes only and does not form part of regular trading operations. As part of fleet optimization, Rubikon 14 is planned to be **sold in the first half of 2026**, removing a non-operational asset from the fleet structure.

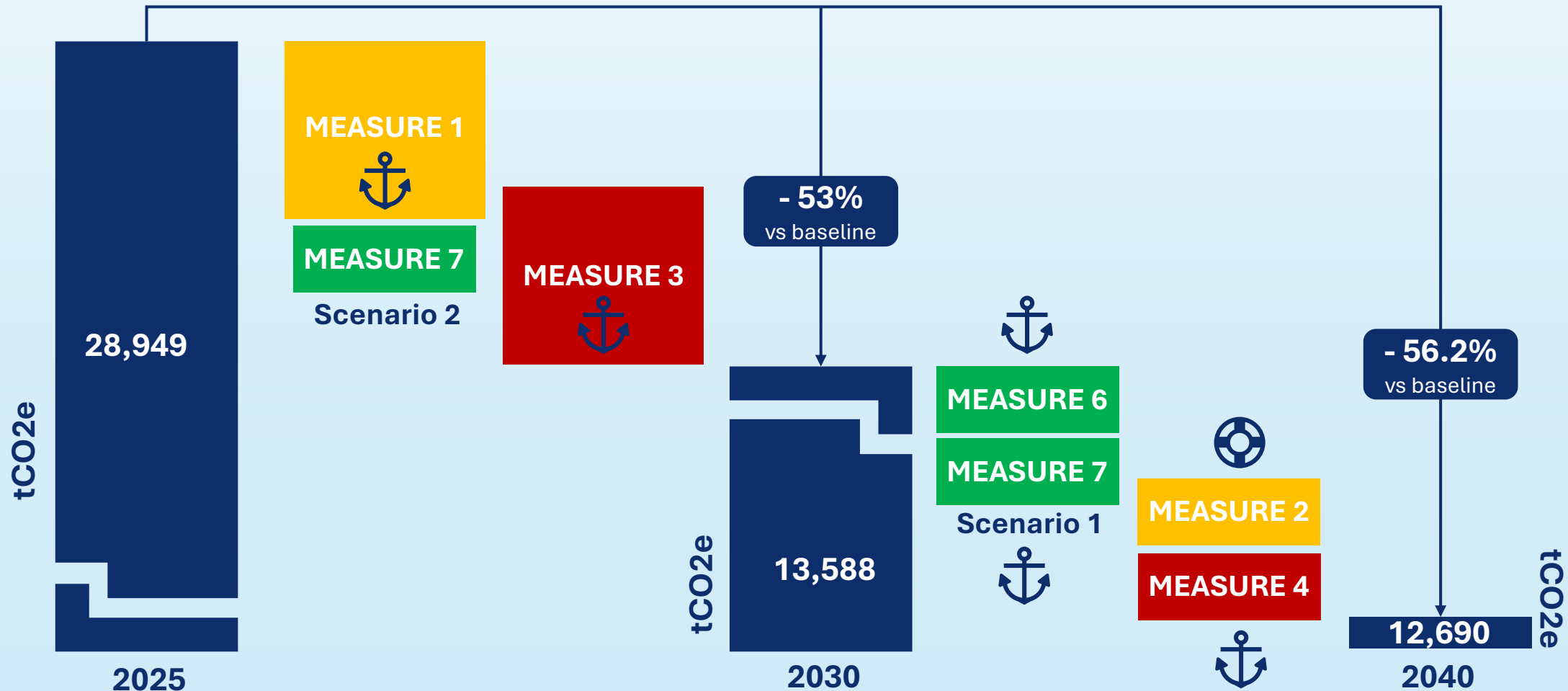
During 2026, Rubikon plans a **phased renewal of its active sea-going fleet**. Rubikon 78 is expected to be sold approximately six months into the year, coinciding with the issuance of a **sustainability-linked bond**. To ensure operational continuity, Rubikon will acquire a **younger vessel of approximately three years of age**, which will enter service in the first half of 2026 and replace Rubikon 78 from mid-year onwards.

Looking further ahead, Rubikon plans a more structural fleet transition in **Q4 2028**, when **Rubikon 202** is expected to be sold and replaced with a **newbuild vessel equipped with Wind-Assisted Propulsion Systems (WAPS)**. The newbuild is planned to commence operations in Q4 2028 and represents a deliberate decarbonization investment rather than a standard fleet replacement, embedding emissions-reduction technology directly into the fleet. This fleet configuration is assumed to remain in place through **2030**.

For the **inland waterway fleet**, Rubikon plans a moderate expansion over the strategy horizon. The current fleet of **11 vessels** is expected to increase by **two additional vessels**, reaching a total of **13 inland vessels by 2030**, reflecting anticipated growth in inland operations. Together, these fleet planning and renewal assumptions define the structural evolution of Rubikon’s fleet over the strategy period and form the basis for emissions projections under both the Business-as-Usual and decarbonization scenarios.



DECARBONIZATION OF FLEET OPERATIONS



- Fuel measures
- Technical measures
- Operational measures

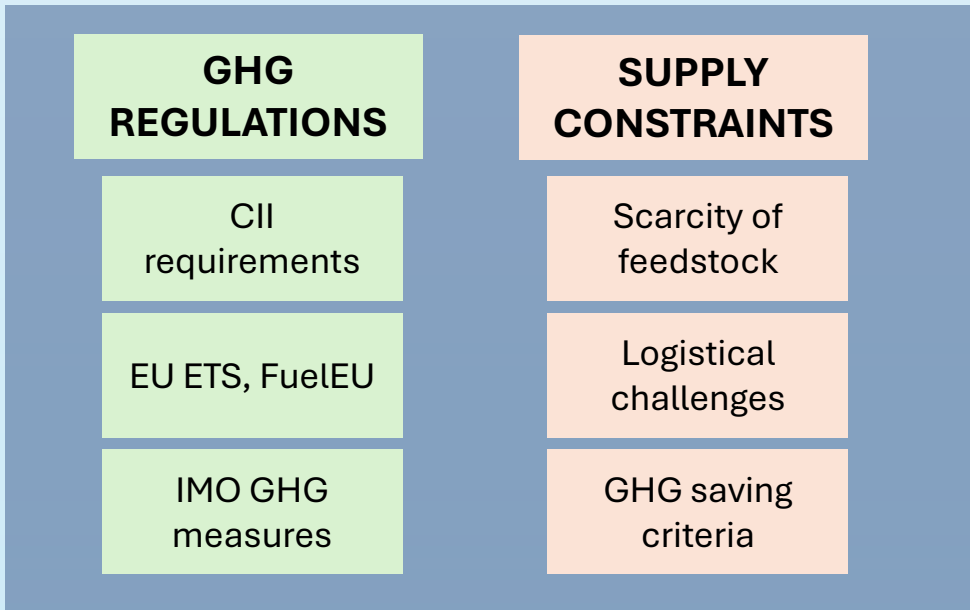
* - Inland Waterway Fleet Technical Measure 5 without significant impact on emissions reduction, omitted from this graph

FUEL MEASURES FOR REDUCING FLEET EMISSIONS

Fuel measures represent a central pillar of Rubikon Group's decarbonization strategy, focusing on reducing greenhouse gas emissions by lowering the carbon intensity of energy used on board vessels. By addressing emissions at their source, fuel measures offer significantly higher abatement potential than operational measures and directly affect both Scope 1 and Scope 3.3 emissions.

Fuel switching enables Rubikon Group to achieve **meaningful emissions reductions** within the existing fleet, without reliance on fundamental changes to transport demand or vessel utilization. These measures are therefore a **key driver of the Group's emissions reduction pathway to 2030** and form the foundation for compliance with evolving maritime climate regulations.

Rubikon Group **has initiated this transition** within its fleet and will progressively expand the use of lower-carbon fuels across sea-going vessels, subject to fuel availability, sustainability certification, and technical compatibility driven by key factors shown in the graph below.



Source: DNV



FUEL MEASURES FOR REDUCING FLEET EMISSIONS

The use of certified B100 biofuel influences Rubikon Group’s regulatory compliance profile differently across IMO and EU climate frameworks. While design-based regulations such as EEDI and EEXI remain unaffected, biofuel use directly improves operational and fuel-intensity-based indicators by reducing reported lifecycle greenhouse gas emissions.

Under the IMO DCS and CII frameworks, **certified B100 contributes to lower annually reported CO₂ emissions** and improved carbon-intensity performance. At EU level, biofuel use reduces emissions reported under EU ETS and supports compliance with FuelEU Maritime requirements, provided sustainability and greenhouse gas saving criteria are met. The table below summarizes the regulatory impact and associated certification requirements.

	Policy measure	Impact on GHG compliance status from use of biofuels	Sustainability and GHG saving criteria
IMO	EEDI/EEXI	No effect.	/
	DCS (interim approach)	Reduction of the annually reported CO ₂ emissions.	Sustainability: Must be certified and fulfil sustainability criteria set by international certification schemes. GHG saving requirement: Must provide a WtW GHG reduction of at least 65% compared to the WtW GHG emissions of fossil MGO (94 gCO ₂ eq/MJ).
	CII (interim approach)	Reduction of the annually reported CII.	
EU	EU MRV	No effect.	/
	EU ETS	Reduction of the annually reported CO ₂ emissions and required number of EU emission allowances.	Sustainability: Must fulfil sustainability criteria according to EU RED and certified by certification schemes recognized by the EU. GHG saving requirement: Biofuel must be produced with a GHG saving from 50% to 65%
	FuelEU	WtW GHG emissions reduced.	

Source: DNV





FUEL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 1: Biofuel B100

B100 biofuel is a fuel-switching measure that enables immediate **well-to-wake emissions reductions** without requiring major technical modifications to existing engines. As a certified drop-in fuel, B100 can **fully substitute marine diesel oil** in compatible vessels while preserving operational performance.

The emissions reduction potential of B100 depends on the sustainability and greenhouse gas savings of the certified fuel pathway. Rubikon Group therefore uses exclusively certified B100 that meets EU sustainability and traceability requirements, ensuring consistent recognition of emissions reductions under IMO CII, EU ETS, and FuelEU Maritime.

Rubikon Group initiated the use of B100 biofuel in the 2025 baseline year on Rubikon 78 and plans a phased rollout across the sea-going fleet. The decarbonization pathway is assessed through **two implementation scenarios**: one assuming full availability of B100 enabling complete substitution of marine diesel oil by 2029, and an alternative scenario reflecting potential supply and deployment constraints for older vessels.

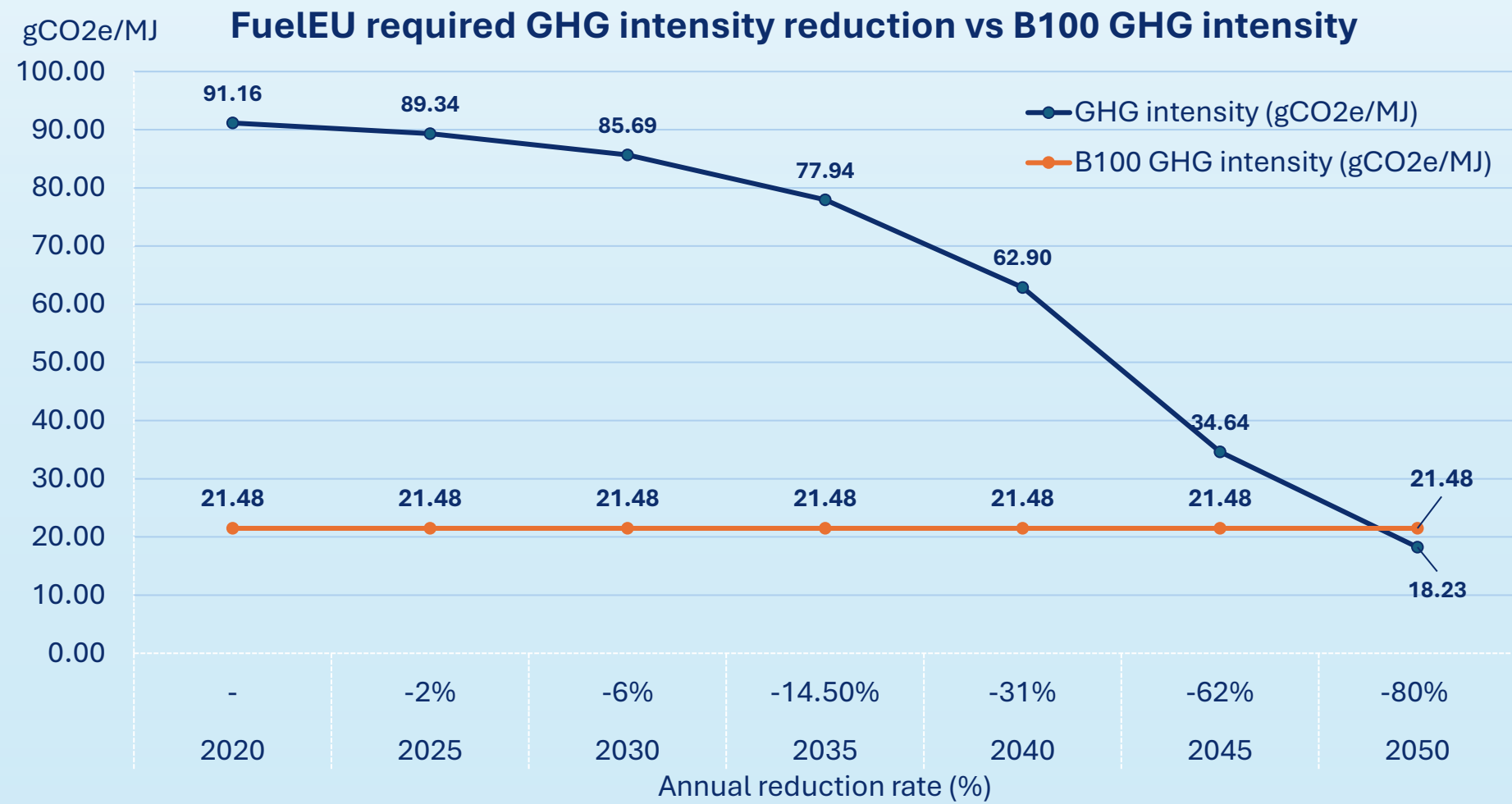
Efficiency gain Up to 100%	Impact
CAPEX 0 USD	EEDI / EEXI 
OPEX 150 – 300%	CII 
Implementation Gradually from 2025 until 2029	EU ETS 
	FuelEU* 
	<small>* - Does not help towards compliance, but can reduce penalty</small>

	Parameter	MGO	B100 Biofuel
Fuel properties	Lower heating value (MJ/kg)	42.7	37.0
	Density (kg/l)	0.86	0.89
CII	GHG emission (total/WTW) kgCO2e/kg	3.206	1.31
EU ETS	TtW GHG intensity (gCO2eq/MJ)	76.23	1.2
FuelEU	WtW GHG intensity (gCO2eq/MJ)	90.77	21.48

Source: DNV, GLEC

FUEL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 1: Biofuel B100



The chart shows that **B100 biofuel consistently outperforms FuelEU Maritime GHG-intensity requirements over the entire compliance horizon**. While FuelEU mandates progressively deeper reductions in well-to-wake GHG intensity toward 2050, the certified B100 pathway remains well below the regulatory thresholds in every milestone year, except in year 2050.

This means that **switching to B100 enables early and sustained FuelEU compliance**, creating a compliance margin that reduces regulatory risk and limits exposure to penalties or flexibility mechanisms.

FUEL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 1: Biofuel B100

Scenario 1: Full B100 availability for all sea going vessels

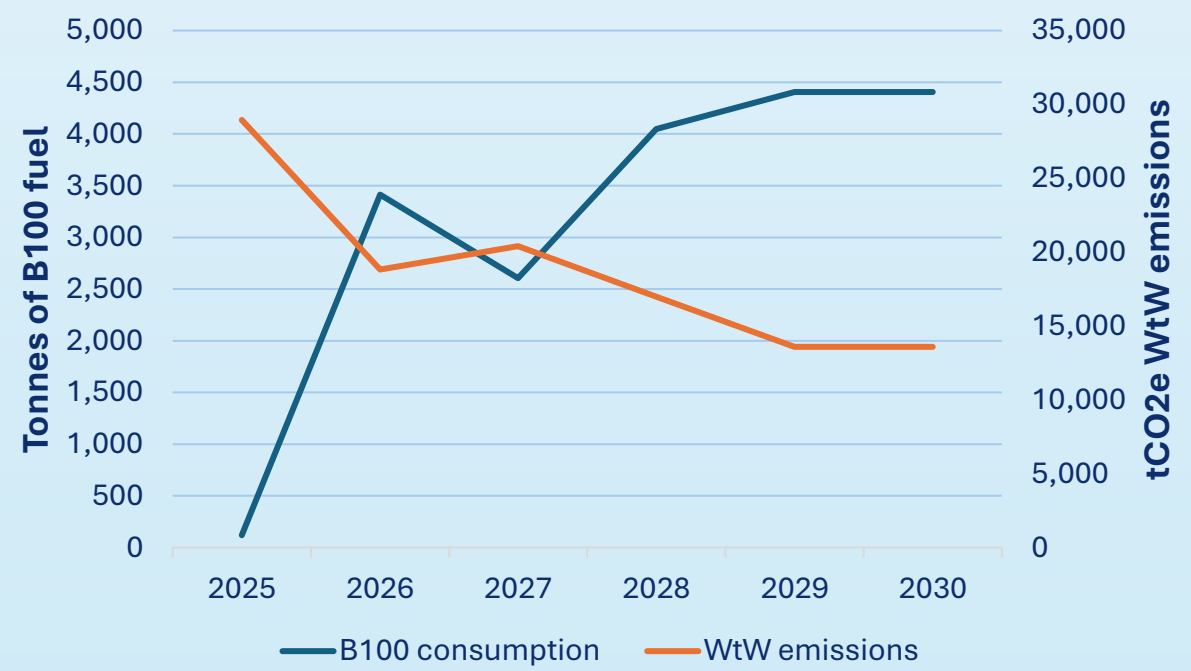
Following an initial pilot deployment in the baseline year, **Scenario 1 assumes uninterrupted access to certified B100 biofuel for both sea-going vessels.** Under this assumption, B100 consumption increases rapidly in the early years, reflecting the transition from limited use on a single vessel to systematic deployment across the sea-going fleet.

The initial scale-up phase is followed by **continued year-on-year growth in biofuel consumption**, with volumes increasing severalfold relative to the baseline. Consumption stabilizes once marine diesel oil is fully substituted and both vessels operate entirely on B100.

As B100 consumption increases, well-to-wake (WtW) emissions decline sharply. The chart illustrates a pronounced reduction during the early implementation phase, driven by the displacement of fossil marine fuels with a certified renewable alternative. As full substitution is reached, emissions reductions level off, indicating that the majority of fuel-related abatement potential has been captured.

This scenario demonstrates the substantial and immediate lifecycle emissions reduction potential of fuel switching to B100, with diminishing marginal gains once full replacement of conventional marine fuels is achieved

Scenario 1: B100 biofuel consumption impact on WtW emissions



FUEL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 1: Biofuel B100

Scenario 2: Constrained B100 Availability with Operational Mitigation

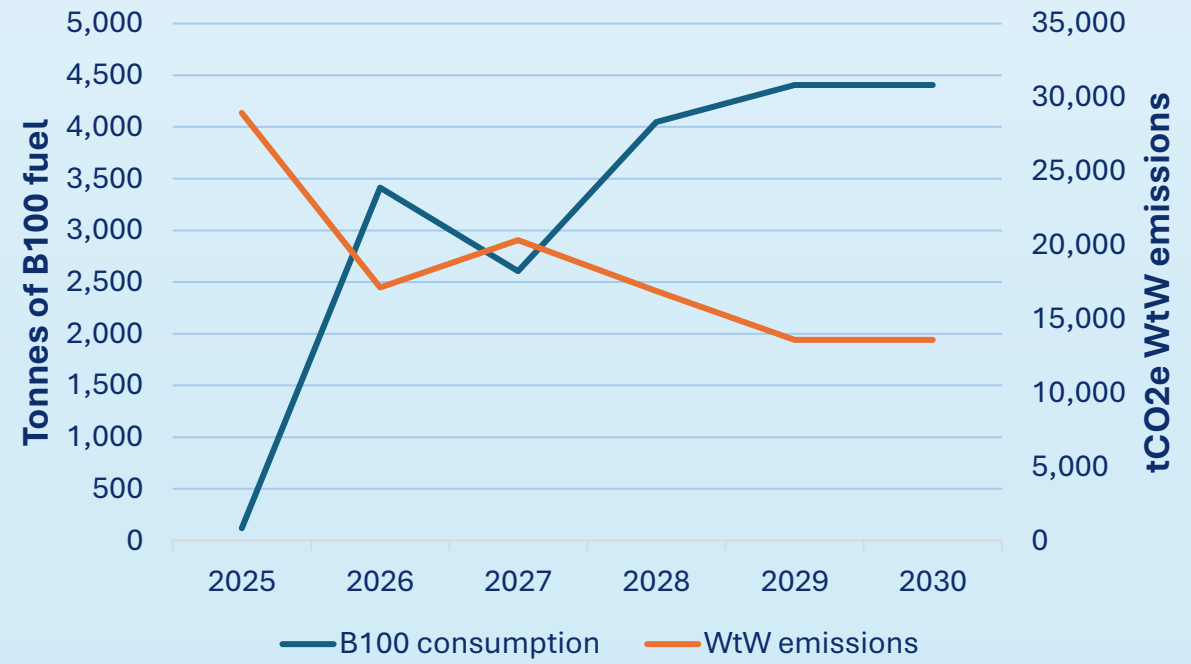
Scenario 2 assumes a constrained rollout of B100 biofuel in the early implementation phase due to limited fuel availability for older vessels. In 2026, **Rubikon 202**, as an 18-year-old vessel, is potentially unable to secure the required volumes of certified B100 biofuel and therefore continues operating on conventional marine fuel. This reflects reduced negotiation leverage with biofuel suppliers, where vessel age and technical characteristics influence fuel supply conditions.

To mitigate the delayed fuel transition and manage regulatory exposure, Rubikon applies **Measure 7: Speed optimization** on Rubikon 202 in 2026, delivering an estimated efficiency gain of approximately **0.5%**. This operational adjustment reduces fuel consumption and associated well-to-wake (WtW) emissions, partially offsetting the absence of biofuel use during this period.

In the context of **FuelEU Maritime**, the reliance on speed optimization serves as a short-term compliance support mechanism, lowering the vessel's WtW GHG intensity where fuel switching is dependent on selection of fleet operator and their commitments.

From 2027 onwards, Scenario 2 converges with the primary decarbonization pathway as B100 biofuel becomes available for Rubikon 202, enabling a renewed increase in biofuel consumption across the sea-going fleet and progression toward full substitution of marine diesel oil by 2029.

Scenario 2: B100 biofuel consumption impact on WtW emissions



FUEL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 2: STAGE V, HVO

HVO (hydrotreated vegetable oil) is a fuel-switching measure that enables immediate **well-to-wake GHG emissions reductions**. HVO can **substitute diesel oil** in compatible vessels while preserving operational performance.

The use of HVO fuel is intended to represent **10% of total fuel consumption in inland waterway fleet from 2035 onwards**. The implementation of HVO fuel is conditional upon the prior implementation of the measure related to the installation of Stage V engines.

The level of decarbonization in inland waterway fleets depends largely on technologies that are not yet widely available or fully developed. Consequently, the range of effective decarbonization levers in this sector is still under development. However, projections and transition scenarios indicate that alternative fuels will play an important role over time, with the use of HVO fuel identified as one of the feasible decarbonization measures.

Efficiency gain
Up to 100%

CAPEX
0 USD

OPEX
150 – 300%

Implementation
Gradually from 2035 onwards

Impact

GHG intensity

Reduction in absolute GHG emissions



	TTW (kgCO2e/l)	WTT(kgCO2e/l)	Source:
HVO	0.0393	0.970	GLEC
Diesel oil	2.513	0.611	GLEC



TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

Technical measures focus on reducing greenhouse gas emissions through targeted upgrades applied to vessels and onboard systems. These measures improve the intrinsic energy performance of the fleet by enhancing propulsion efficiency, hydrodynamics, and auxiliary power management, resulting in **durable and structural reductions in fuel consumption and carbon intensity**.

For Rubikon Group, **technical measures** represent a second **core decarbonization lever toward 2030**, delivering emissions reductions. Their long-lasting impact makes them essential for **closing the gap between projected BAU emissions and Rubikon Group's fleet decarbonization targets**, while supporting compliance with IMO and EU maritime climate regulations, including EEXI, CII, EU ETS, and FuelEU Maritime.

The technical measures identified target both **new investments and retrofittable systems**, addressing the main drivers of fuel consumption across **sea going and inland waterway fleets**.

	SEA GOING FLEET	INLAND WATERWAY FLEET
TECHNICAL MEASURES	Measure 3: Acquiring Newbuild vessel with Wind assisted propulsion (WAPS)	Measure 5: Stage V engine
	Measure 4: Variable engine speed	

TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 3: Acquiring Newbuild vessel with Wind assisted propulsion system (WAPS)

Acquiring a Newbuild vessel with Wind-assisted propulsion systems **reduces fuel consumption and associated greenhouse gas emissions by harnessing wind energy** to provide supplementary thrust during vessel operation. Technologies such as **rotor sails or wing sails** operate alongside conventional propulsion systems, lowering engine load when favorable wind conditions are present.

As an operational and technical hybrid measure, wind-assisted propulsion delivers emissions reductions that are directly linked to route characteristics, vessel design, and prevailing wind patterns. The measure **does not eliminate fuel use but reduces overall consumption**, resulting in proportional **reductions in both Scope 1 emissions from fuel combustion and Scope 3.3 upstream fuel-related emissions**.

The effectiveness of wind-assisted propulsion varies by vessel type and operational profile. Expected efficiency savings for a newbuild vessel compared to baseline owned vessels (Rubikon 78&202) **reaches 40% while WAPS directly contributes with approx. 28 – 30%**.

Efficiency gain
15 – 30%

CAPEX
500 – 3,000k USD per vessel

OPEX
2 - 5%

Implementation
W/ Newbuild in 2028

Impact

EEDI / EEXI



CII



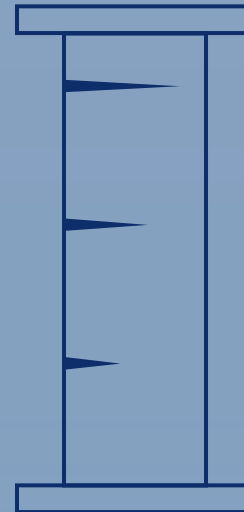
EU ETS



FuelEU*



** - Does not help towards compliance, but can reduce penalty*



Rotor sails are a wind-assisted propulsion technology **selected by Rubikon Group** to support the reduction of fuel consumption and associated greenhouse gas emissions across its fleet.

Based on the **Magnus Effect**, rotor sails consist of vertically mounted, rotating cylindrical structures that generate aerodynamic lift through controlled surface rotation, creating a pressure differential as wind flows around the rotor.

TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 3: Acquiring Newbuild vessel with Wind assisted propulsion system (WAPS)

Vessels with Wind Assisted Propulsion Systems (WAPS) can play an important role in supporting shipowners in meeting current and upcoming greenhouse gas regulatory requirements. By reducing fuel consumption and credited propulsion power, **WAPS influence both operational and design-based compliance metrics across the IMO and EU regulatory frameworks.**

The table below provides an overview of how WAPS impacts key GHG-related regulations, including IMO efficiency indices and EU climate policies, highlighting where WAPS delivers direct compliance benefits and where it supports emissions reductions through lower reported fuel use.

	Policy measure	Impact on GHG compliance status from use of WAPS
IMO	EEDI/EEXI	Supports compliance by lowering the attained EEDI/EEXI through credited wind-assisted power.
	CII	Improves the attained CII by reducing annual fuel consumption, supporting higher CII ratings and lowering the risk of corrective action requirements
EU	EU MRV	No direct compliance effect; fuel savings from WAPS reduce reported CO ₂ emissions.
	EU ETS	Reduction of reported CO ₂ emissions and required emission allowances through lower fuel consumption.
	FuelEU	Reduction of WtW GHG intensity, with additional compliance benefit from WAPS reward factor.

Source: DNV

TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 3: Acquiring Newbuild vessel with Wind assisted propulsion system (WAPS)

The **wind reward factor (fWind)** is calculated based on the ratio between the effective power delivered by the Wind Assisted Propulsion System (PWind) and the vessel’s installed propulsion power (PProp), in line with IMO EEDI calculation guidelines.

PWind is determined according to MEPC.1/Circ.896 using the global wind probability matrix and the WAPS force matrix, while PProp corresponds to the main engine power defined under MEPC.364(79), typically expressed as a percentage of the installed main engine MCR.

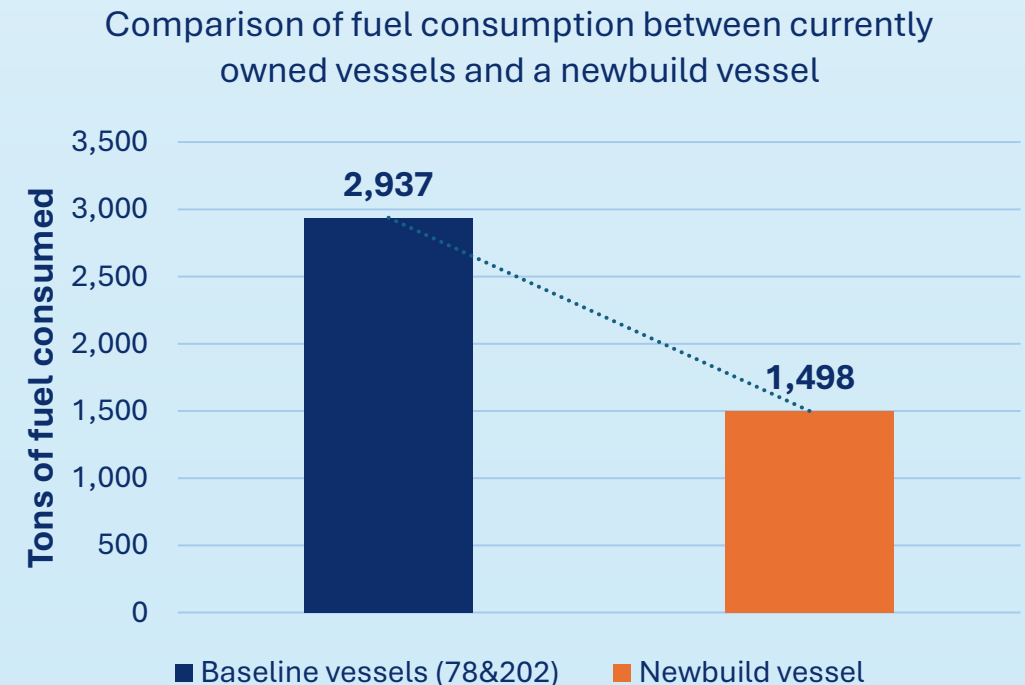
Where these values are not already included in the approved EEDI or EEXI Technical File, the calculation must be verified by the EEDI verifier. Depending on WAPS size and characteristics, the resulting reward factor ranges from 1% to 5% and, when combined with actual fuel savings, provides an additional compliance benefit under FuelEU Maritime.

Reward factor for wind assisted propulsion – WIND (f_{wind})	P_{wind} / P_{prop}
0.99	0.05
0.97	0.1
0.95	≥ 0.15

Source: DNV

The chart compares the annual fuel consumption of Rubikon Group’s baseline vessels with that of a representative newbuild vessel, illustrating the impact of improved vessel design and efficiency, as well as WAPS.

Overall, the newbuild vessel achieves an efficiency improvement of **around 40% compared to the baseline vessels. Wind-assisted propulsion systems (WAPS) contribute a 28–30% reduction alone**, depending on operating profile and wind conditions, highlighting their role as a **key decarbonization measure**.



TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 4: Variable engine speed

Variable engine speed operation is a technical efficiency measure aimed at **reducing fuel consumption and associated greenhouse gas emissions by optimizing engine performance during power generation**. Conventional electrical systems typically operate generators at constant speed, which can result in inefficient fuel use when engines run at partial load. Allowing engine speed to vary enables operation closer to optimal efficiency conditions, thereby reducing fuel consumption.

The emissions reduction potential of this **measure depends on vessel configuration and operational profile**. Variable speed operation can be enabled through electrical system modifications, such as the introduction of DC grids or variable frequency drives. Implementation requires technical modifications to the electrical system and may involve higher capital expenditure compared to purely operational measures. As a result, variable engine speed is assessed as a **technical decarbonization measure** with medium-term applicability, contributing to fuel efficiency improvements and **supporting reductions in both Scope 1 and Scope 3.3 emissions where technically and economically feasible**.

Efficiency gain

1 - 4%

CAPEX

700 – 3,000 kUSD per unit

OPEX

0.2 - 1%

Implementation

2035 - 2040

Impact

EEDI / EEXI



CII



EU ETS



FuelEU*



** - Does not help towards compliance, but can reduce penalty*

Vessel type suitability



Tankers

Small



Medium



Large



Applicability

Newbuilding



Retrofit



Source: DNV

TECHNICAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 5: Stage V

The introduction of **Stage V engines** is a fleet modernization measure focused on reducing **local air pollutants** such as NOx and particulate matter through advanced exhaust after-treatment. While important for regulatory compliance and environmental performance, **Stage V engines do not directly reduce GHG emissions.**

However, Stage V technology represents a **key enabler for future decarbonization**, in particular the use of **hydrotreated vegetable oil (HVO)** and other low-carbon fuels, by ensuring engine compatibility and operational reliability. The deployment of **three Stage V engines is planned from 2029** as part of Rubikon’s inland waterway fleet upgrade.

In parallel, Rubikon is assessing the **installation of onboard solar power systems on inland waterway vessels** to improve energy efficiency and reduce fuel consumption, with implementation envisaged **by 2030**, subject to technical feasibility. Together, these measures establish the technical foundation for deeper decarbonization of the inland waterway fleet.

Efficiency gain
Large air pollution reduction potential

Impact

On pollution ✓

On GHG emissions ✗

CAPEX
350 – 500 kUSD per unit

OPEX
TBD

Implementation
2029 - 2035

Technology	Description	Emission reduction potential (in an ideal upstream chain)		
		GHG/CO2e	NOx	Particulate matters
Stage V, Diesel	Fossil diesel in an internal combustion engine which complies with the emission limits EU Stage V.	0%	82%	92%

Source: CCNR Roadmap reducing inland navigation emissions

OPERATIONAL MEASURES FOR REDUCING FLEET EMISSIONS

Operational measures represent the supporting **third pillar of Rubikon Group’s fleet emissions decarbonization strategy** and focus on reducing emissions through changes in how vessels are operated, utilized, and managed—without requiring major technical retrofits or fuel switching.

These measures target **day-to-day operational decisions**, including speed management, fleet utilization, and onboard energy management practices. As such, they can be implemented in the **near or long term** since they do not require docking, across both sea-going and inland waterway fleets, and typically involve limited capital expenditure.

Operational measures **directly influence fuel consumption and carbon intensity**, supporting compliance with regulatory frameworks such as IMO CII and FuelEU Maritime, while also delivering immediate efficiency and cost benefits. However, their emissions reduction potential is **inherently finite**, making them a critical but transitional lever within the broader decarbonization pathway of Rubikon Group.

For Rubikon Group, **operational measures are primarily treated as fine-tuning actions** that improve consistency and sustain performance improvements, rather than as the main source of emissions abatement. Accordingly, **Rubikon Group’s decarbonization pathway to 2030 prioritizes technical efficiency upgrades and fuel transition measures** as the principal levers for achieving material reductions in absolute emissions (Scope 1 and Scope 3.3), with operational measures implemented in parallel to optimize real-world performance and maximize the benefits of these higher-impact interventions.

OPERATIONAL MEASURES	SEA GOING FLEET
	Measure 6: Autopilot adjustment and usage
	Measure 7: Speed optimization

OPERATIONAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 6: Autopilot adjustment and usage

Autopilot optimization is an **operational efficiency measure** aimed at reducing fuel consumption and associated greenhouse gas emissions by improving course-keeping performance. When correctly configured, autopilot systems minimize unnecessary rudder movements, reducing hydrodynamic resistance and energy demand during navigation.

The emissions reduction potential of this measure depends primarily on correct system settings and consistent operational use rather than hardware upgrades. As most vessels are already equipped with autopilot systems, implementation focuses on optimizing usage practices and aligning crew procedures with fuel-efficient operating modes.

Autopilot optimization is considered a **low-cost, low-complexity** measure that can be deployed in the short term and supports incremental emissions reductions without affecting vessel availability or transport capacity.

Efficiency gain

0.2 – 0.3%

CAPEX

0 USD

OPEX

5,000 USD

Implementation

2030 - 2035

Impact

EEDI / EEXI



CII



EU ETS



FuelEU*



** - Does not help towards compliance, but can reduce penalty*

PID system and track control will generate a very steady course-line



But will use excessive and large-angle rudder movements to achieve this steady course-line

More efficient adaptive autopilot operation allows small deviations to course-line



But will use fewer and smaller-angle rudder movements to maintain the course-line

OPERATIONAL MEASURES FOR REDUCING FLEET EMISSIONS

MEASURE 7: Speed optimization

Speed optimization is a **key operational measure for reducing fuel consumption and greenhouse gas emissions** by aligning vessel speed with operational and logistical requirements. This includes **general speed reduction** (slow steaming), active speed management during voyages, and the application of just-in-time arrival principles to avoid unnecessary waiting and idling.

The effectiveness of speed optimization is **driven by operational discipline** and planning rather than technical modifications. While fuel savings increase as speed is reduced, the feasibility of this measure depends on trade patterns, contractual obligations, and schedule requirements, which may limit the degree to which speed can be adjusted.

Speed optimization **can deliver material emissions reductions** in the short to medium term, but its application must be balanced against commercial considerations, including voyage duration and fleet utilization. As such, this measure is assessed and implemented selectively where operational flexibility allows.

Efficiency gain

0.5%

CAPEX

0 USD

OPEX

0 USD

Implementation

2030 - 2035

Impact

EEDI / EEXI



CII



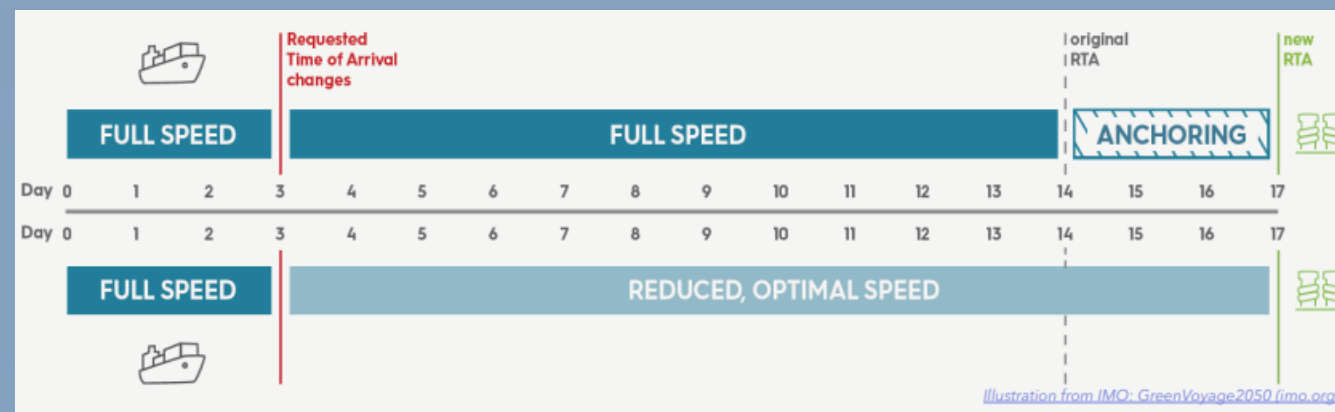
EU ETS



FuelEU*

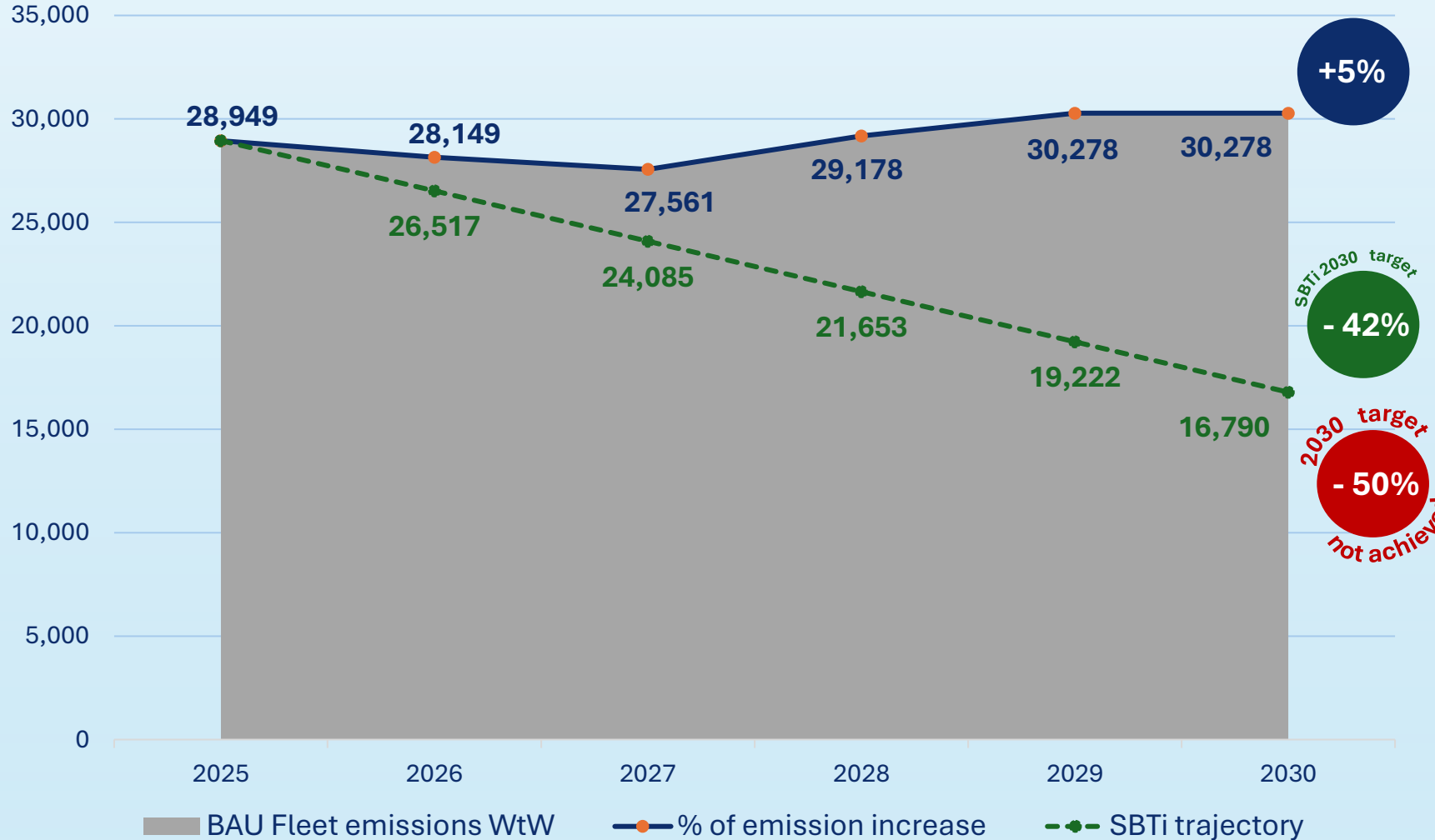


** - Does not help towards compliance, but can reduce penalty*



FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

BAU Fleet emissions WtW tCO2e



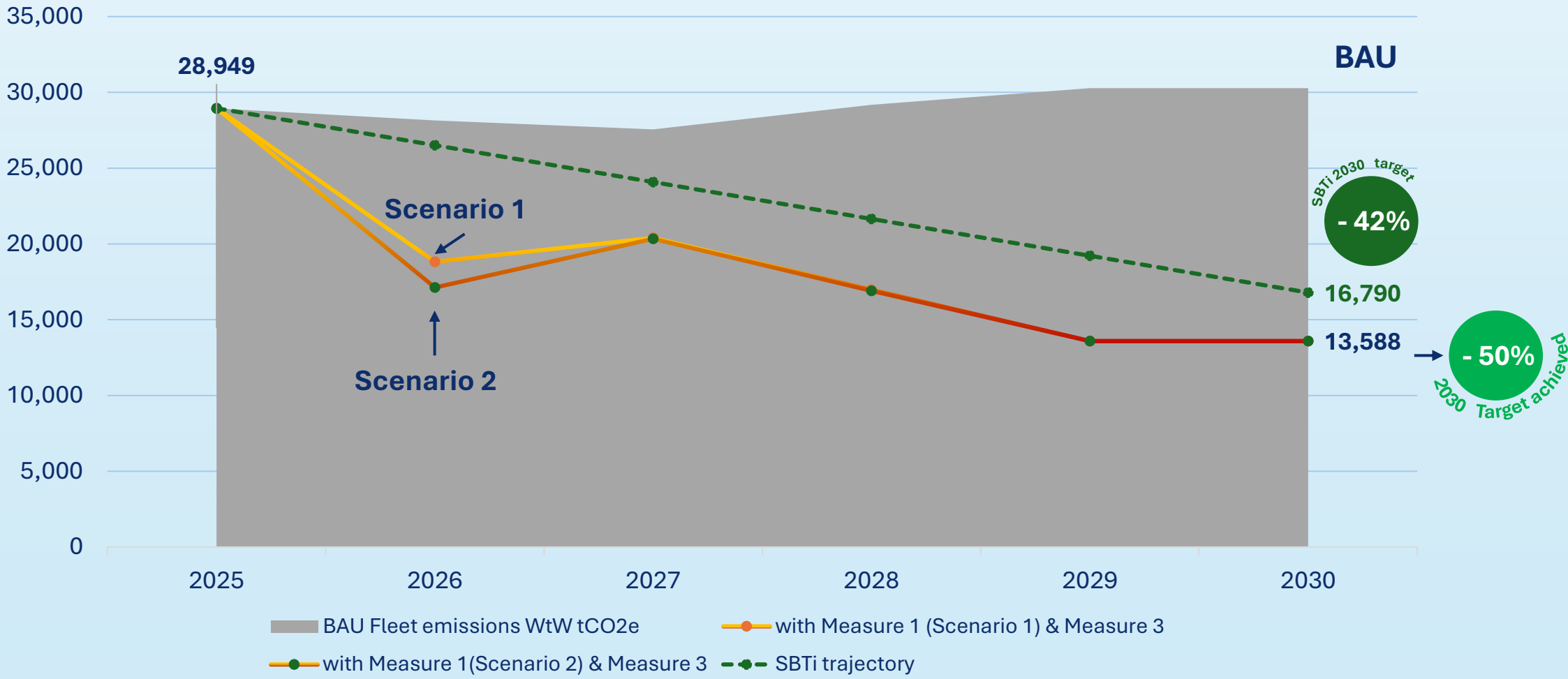
The Business-as-Usual (BAU) well-to-wake (WtW) fleet emissions trajectory for the period 2025–2030 illustrates a scenario in which **no dedicated decarbonization measures** are implemented.

As shown in the graph, WtW emissions **decline between 2025 and 2027**, reflecting efficiency gains associated with planned fleet adjustments and the operational profile of the active vessels during this period. This temporary reduction results in the lowest emissions level in 2027. However, from 2028 onwards, emissions **increase sharply** as BAU scenario predicts acquiring a new vessel, similarly efficient to baseline owned vessels of Rubikon 78&202.

This BAU trajectory demonstrates that **fleet changes alone do not deliver sustained emissions reductions** and does not support alignment with Rubikon Group’s decarbonization targets or with evolving IMO and EU regulatory pathways, underscoring the necessity for **targeted fuel, technical and operational decarbonization measures**.

FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

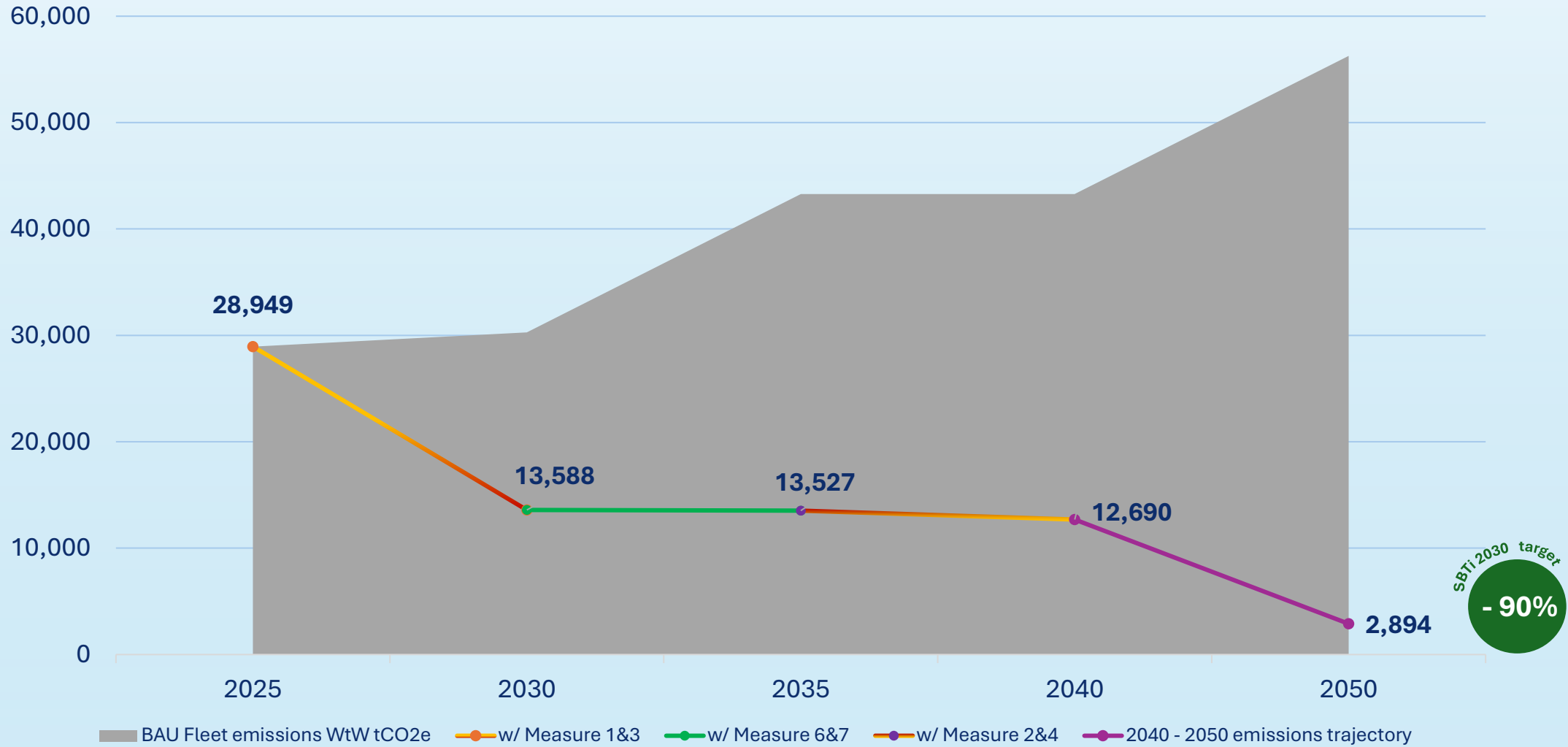
Fleet Decarbonization Pathway until 2030 with Measures 1 (Scenario 1&2) & Measure3*





* - Measures 1&3 are Sea fleet measures ⚓

FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

Fleet Decarbonization Pathway until 2050 w/ all Decarbonization Measures



SBTi 2030 target
- 90%

* - Measures (1,3,4,6 & 7) are Sea fleet measures 
Measures 2 & 5 are Inland Waterway Fleet measures 

FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

2025 – 2030:

Emissions decline sharply from the baseline as **sea-going fleet measures (Measures 1 & 3)** are implemented, primarily driven by fuel switching to B100 biofuel and the deployment of wind-assisted propulsion systems. Measure 1 takes into account Scenario 1, but Scenario 2 would result with similar pathway end in year 2030.

This period delivers the largest absolute emissions reduction and brings fleet emissions down to approximately **13.6 ktCO₂e by 2030**, exceeding the Rubikon's 2030 reduction target.

2030 – 2040:

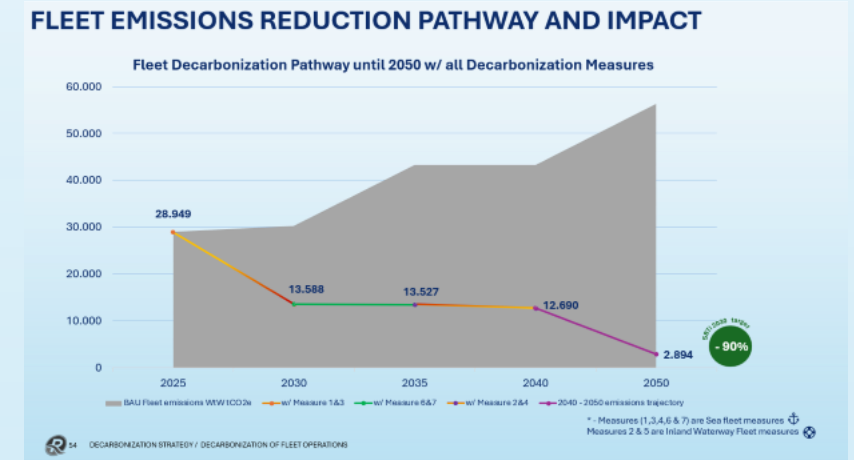
Emissions stabilize as **additional operational (Measures 6&7)** are phased in. These measures further optimize fleet performance and prevent emissions rebound, offsetting activity growth and maintaining emissions at an established low level..

A gradual additional reduction is achieved through combined **sea-going and inland waterway fleet measures (Measures 2 & 4)**. This phase reflects incremental gains from vessel renewal, inland fleet upgrades, and system-level efficiency improvements, resulting in a further decline in absolute emissions to approximately **12.7 ktCO₂e by 2040**.

2040–2050:

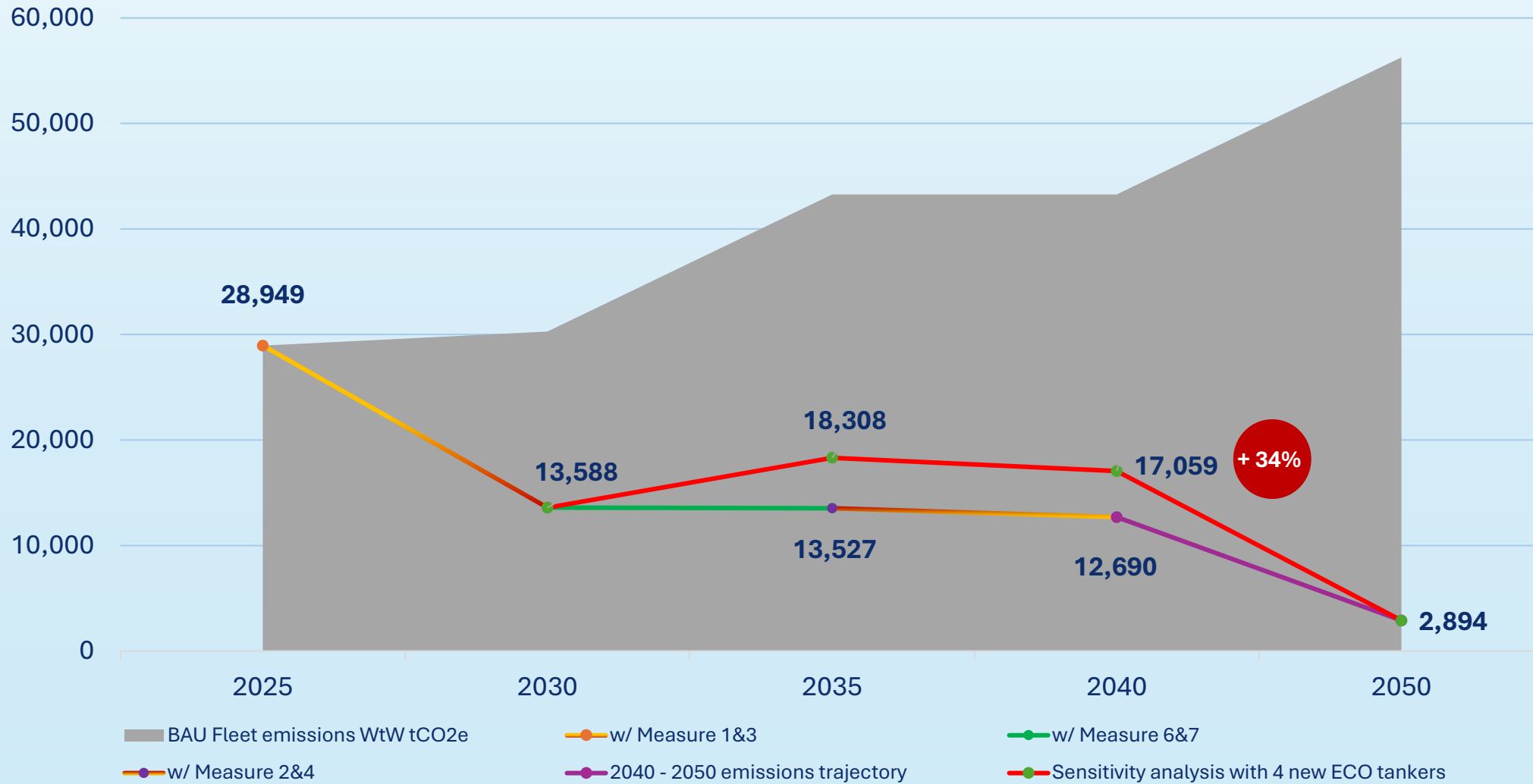
The final segment shows a steep decline toward near-zero emissions between 2040 and 2050, reflecting the limits of technical abatement in a hard-to-abate sector and the increasing role of alternative and low-carbon fuels, **emerging technologies such as fuel cells and onboard carbon capture, and the targeted use of high-quality carbon credits to address residual emissions in line with long-term reduction targets.**


By 2050, emissions are reduced by approximately **90% compared to the baseline**, consistent with a net-zero-aligned pathway for the Group.



FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

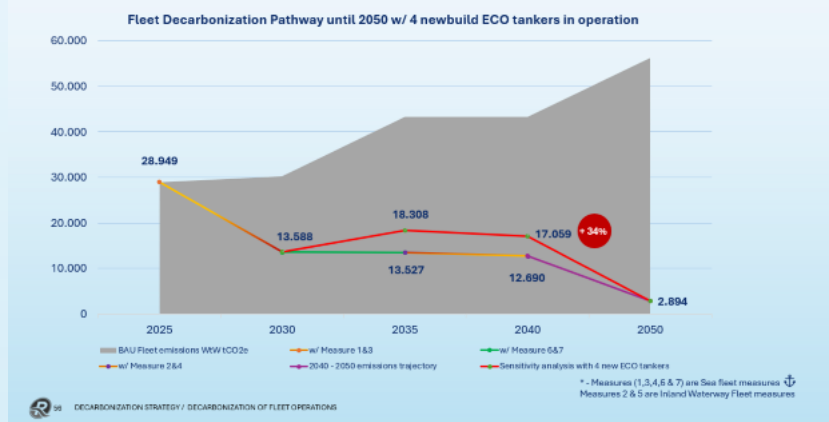
Fleet Decarbonization Pathway until 2050 w/ 4 newbuild ECO tankers in operation



* - Measures (1,3,4,6 & 7) are Sea fleet measures 
 Measures 2 & 5 are Inland Waterway Fleet measures

FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT

FLEET EMISSIONS REDUCTION PATHWAY AND IMPACT



The colored pathways show the emissions trajectory under the decarbonization scenario already developed by Rubikon, which assumes the introduction of **one newbuild ECO tanker** and the **replacement of vessel 78 with a younger vessel in 2026**, combined with a portfolio of **operational, technical and fuel measures**. Under this scenario, fleet emissions decline materially by 2030 and remain broadly stable through 2040, before further reductions towards 2050.

The **red line represents a sensitivity analysis** in which Rubikon through envisioned fleet renewal introduces **four newbuild ECO tankers** instead of one from 2030 onwards, while maintaining the same underlying decarbonization measures. This scenario demonstrates the additional emissions reduction potential achievable through accelerated fleet renewal. Compared to the base decarbonization pathway, the four-newbuild scenario delivers **increased emissions between by 2035 and 2040**, maintains a, and converges towards near-zero emissions by 2050.

The analysis highlights two key insights. First, **fleet renewal is a powerful lever** for reducing absolute emissions, particularly in the medium term, as modern ECO tankers deliver substantially lower fuel consumption and emissions intensity than the existing fleet. Second, while operational and technical measures are essential to stabilize emissions and manage regulatory exposure, **the scale and timing of emissions reductions are highly sensitive to the number and timing of newbuild introductions**. This underlines the strategic importance of fleet renewal decisions in shaping Rubikon's long-term decarbonization trajectory and its alignment with IMO and EU climate objectives.



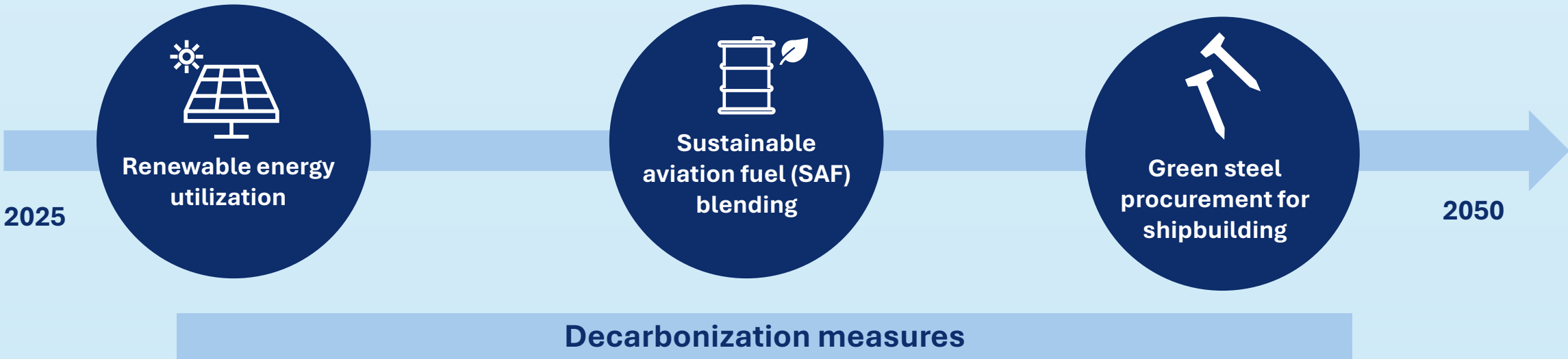
DECARBONIZATION OF ONSHORE ACTIVITIES

DECARBONIZATION OF ONSHORE ACTIVITIES

The decarbonization of Rubikon Group’s onshore activities is focused on reducing **greenhouse gas emissions arising from shipyard operations, material procurement, and future terminal functions**. Current onshore emissions are mainly driven by Scope 3 materials such as steel and equipment, with electricity use forming the largest share of **Scope 2** emissions, while direct emissions (**Scope 1**) remain minimal due to very limited fuel combustion. To address these emissions drivers, Rubikon Group will introduce practical measures that **address both energy use and material-related emissions**.

Solar photovoltaic panels will be installed at the Serbia based shipyards to lower electricity-related emissions and decrease reliance on grid power. In parallel, Rubikon Group plans initiate purchasing EU-certified **green steel**, which will significantly reduce the embedded emissions in shipbuilding materials and reduce potential risks towards emerging carbon tax regulatory mechanisms. Looking ahead, Rubikon Group also plans to develop **sustainable aviation fuel (SAF)** blending capabilities to support future reductions in value chain emissions while helping expand the availability of low-carbon aviation.

Combined together these actions form practical **pathway to reduce absolute onshore emissions**, improve the environmental performance of shipbuilding and logistics operations, and ensure compliance with EU and international decarbonization requirements for shipping.



Onshore Activities Targets



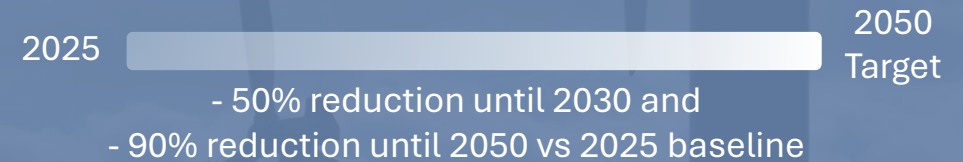
Achieve 30% share of renewable energy utilization in electricity consumption



% of renewables increase in total electricity consumption of onshore operations in MWh



Reduction in absolute GHG emissions (including onshore operations)



% of absolute GHG emissions tCO₂e reduction



Aim to introduce the use of certified green steel sourced from EU-based producers



% of steel sourced from certified green steel producers



Reach a share of SAF in total jet fuel logistics turnover at its terminals



SAF in distribution portfolio (in litres)

TECHNICAL MEASURES FOR REDUCING ONSHORE EMISSIONS

MEASURE 8: Solar PV installation

To reduce Scope 2 emissions and increase the use of cleaner energy, Rubikon Group plans to install **photovoltaic solar panels at its Begej Shipyard**. Solar photovoltaic (PV) with a **total installed capacity of 150 kWp** (kilowatt-peak) will be deployed **in 2027** on the available rooftops within the shipyard complex. These installations **are designed to operate in parallel with the existing electrical infrastructure**, which currently depends entirely on electricity from EPS, of which about 69% comes from thermal power plants. This results in a high-carbon energy profile for the shipyard.

By integrating a rooftop PV system, **the shipyard will be able to offset a substantial share of its daytime electrical load**, particularly during peak operational hours when energy demand is highest and solar generation potential is optimal. This **alignment between production and demand enables direct self-consumption, reduces stress on local distribution assets**, and improves power supply resilience.

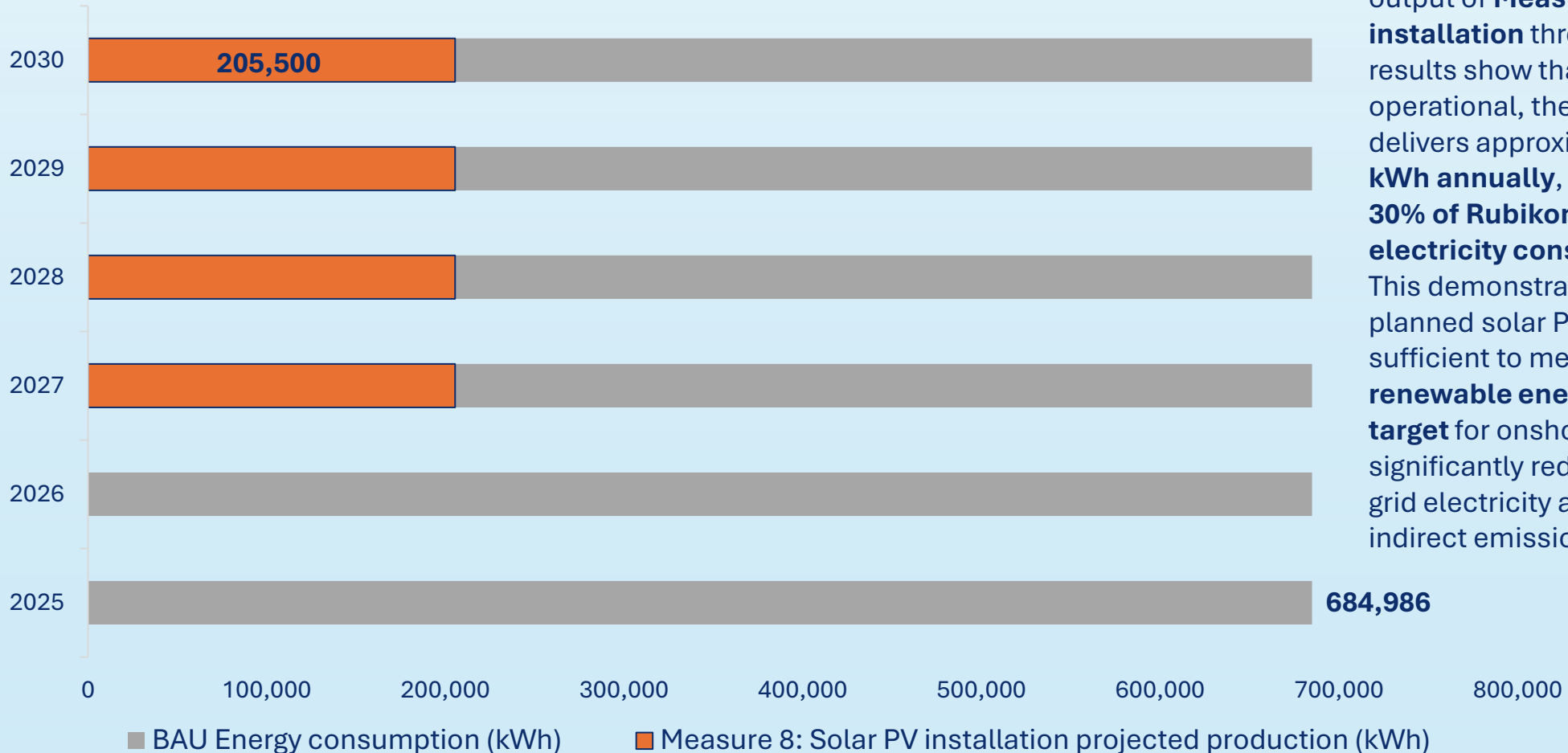
From a financial and operational standpoint, the PV system is expected to reduce dependency on grid electricity, lowering the facility's long-term operational expenditure related to energy procurement. Environmentally, the PV system will cut onshore emissions supporting cleaner shipyard operations as presented [on this page](#).

Installed capacity	150 kWp	Estimated annual savings (If self-consumption $\geq 90\%$ and electricity price 0.12–0.16 €/kWh)	23–33 k€/year
Irradiation assumption	1,250–1,350 kWh/kWp/year	Payback period	4.5 – 7 years
Estimated annual electricity production	188–205 MWh/year	Grid CO₂ factor in Serbia location-based (Source: CADI)	0.670 kg CO ₂ e/kWh
Module rated power	540–590 Wp	Estimated percentage CO₂ reduction	30%

TECHNICAL MEASURES FOR REDUCING ONSHORE EMISSIONS

MEASURE 8: Solar PV installation

BAU Energy consumption vs Measure 8 impact until 2030 (kWh)



The chart compares Business-as-Usual (BAU) electricity consumption with the projected output of **Measure 8 – Solar PV installation** through 2030. The results show that once fully operational, the solar installation delivers approximately **205,500 kWh annually**, covering around **30% of Rubikon’s total electricity consumption**. This demonstrates that the planned solar PV installation is sufficient to meet Rubikon’s **renewable energy utilisation target** for onshore operations, significantly reducing reliance on grid electricity and lowering indirect emissions.

30%
2030 Target achieved

FUEL MEASURES FOR REDUCING ONSHORE EMISSIONS

MEASURE 9: SAF integration in jet fuel logistics

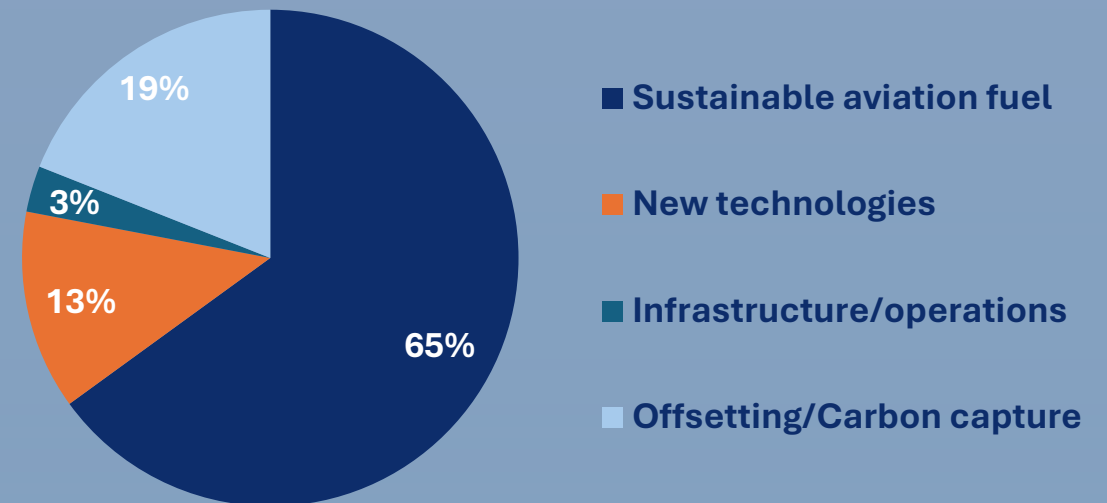
Rubikon Group plans to establish **sustainable aviation fuel (SAF) blending capabilities** at its terminal in Ploiești, Romania, to support the supply of low-carbon aviation fuels across Southeastern Europe. SAF is a drop-in fuel compatible with existing aircraft and infrastructure and can deliver **up to 80% lifecycle CO₂ reduction** compared to conventional jet fuel.

Between 2025 and 2027, Rubikon will implement a **SAF Readiness Program**, including tank conversions for SAF blends, installation of ASTM-compliant filtration and blending systems, implementation of quality-control procedures, and the acquisition of **ISCC EU and JIG certifications**, alongside the establishment of supply partnerships serving major Romanian airports. In line with **IATA guidance and GHG Protocol principles**, SAF-related emissions benefits are attributable to **airlines or end customers**, subject to certified chain-of-custody systems and avoidance of double counting. Rubikon's role is therefore that of a **strategic enabler of SAF deployment**, strengthening its market positioning and supporting customer decarbonization and regulatory compliance rather than delivering direct emissions abatement within the Rubikon Group's own footprint.

The International Air Transport Association (IATA) has estimated that sustainable aviation fuel (SAF) **could deliver about 65% of the emissions cuts needed for aviation to reach net-zero by 2050**. Reaching this level will require a huge scale-up in SAF production.

The fastest growth is expected in the 2030s, when worldwide policy support strengthens, SAF becomes cost-competitive with fossil kerosene, and credible carbon-offset options decline, **making low-carbon fuels essential**.

CONTRIBUTION TO ACHIEVING NET ZERO CARBON IN 2050



OTHER MEASURES FOR REDUCING ONSHORE EMISSIONS

MEASURE 10: Green steel procurement for shipbuilding

It is envisaged to establish cooperation with certified producers of green or low/carbon steel, with the aim of supporting the future construction of inland vessels using lower-emission materials. **Green steel** refers to steel production that is achieved with minimal or no negative impact on the environment, using **sustainable technologies and renewable energy sources**.

Green steel is produced by **replacing coal with hydrogen**, which cuts CO₂ emissions during iron reduction. Using renewable energy sources like solar, wind, or hydropower further reduces the carbon footprint of steel production. Additionally, recycling existing steel lowers the need for new raw materials and significantly decreases overall emissions.

Shipbuilding steel must meet strict quality standards to handle hull and cargo loads and ensure seaworthiness. These standards are set and enforced by IMO regulations, IACS requirements, and individual classification societies.

International shipping could avoid 776 Mt of CO₂ emissions from 2024–2050 by gradually switching to **lower-carbon hot rolled steel**, which makes up over 80% of steel used in shipbuilding.

The analysis follows SBTi steel sector guidance, which currently applies to hot rolled steel. Using forecasts for new ship construction aligned with IMO climate goals, it estimates the emissions savings achievable **if most hot rolled steel is produced with significantly lower embodied carbon**.

Emissions forecast and SBTi reduction targets for hot-rolled steel in shipbuilding



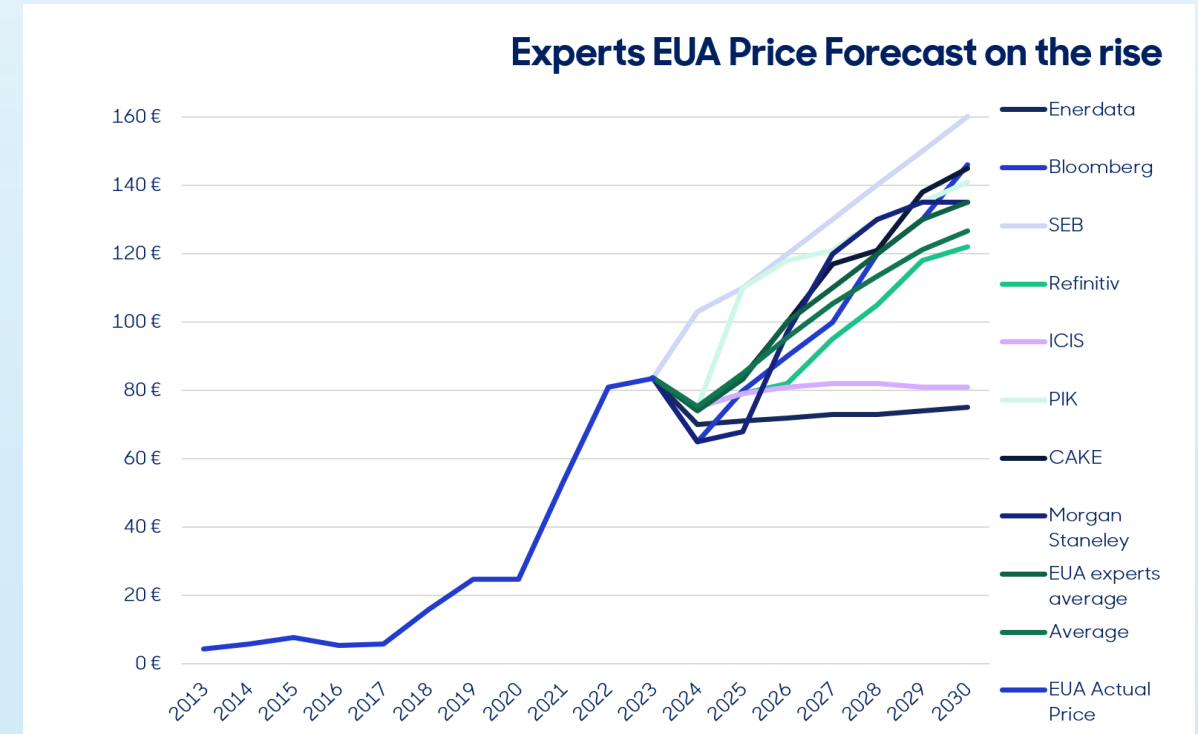
OTHER MEASURES FOR REDUCING ONSHORE EMISSIONS

MEASURE 10: Green steel procurement for shipbuilding

The evolving **EU carbon pricing framework** is materially changing the cost and risk profile of steel procurement for shipbuilding and infrastructure projects. The gradual tightening of the **EU Emissions Trading System** and the introduction of the **Carbon Border Adjustment Mechanism** extend carbon costs beyond direct emissions and into the upstream supply chain of carbon-intensive materials such as steel.

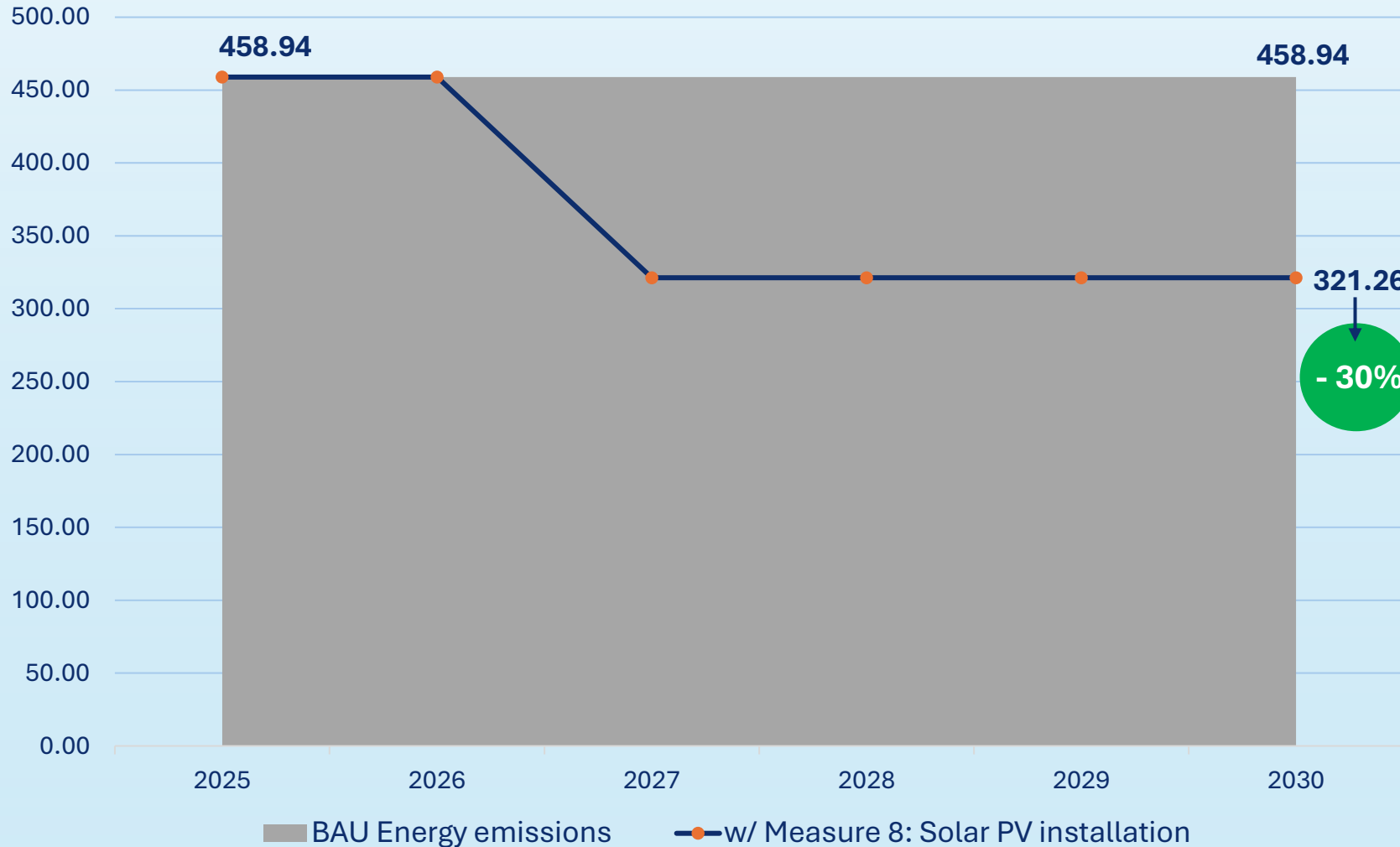
Under **EU ETS**, steel producers face rising carbon prices as free allowances (EUAs) are phased out, which is expected to be increasingly passed through into steel prices. In parallel, **CBAM** will impose a carbon cost on imported steel based on its embedded emissions, eliminating the price advantage of high-carbon production routes outside the EU. As a result, procurement of conventional steel is exposed to **structural cost escalation, price volatility, and regulatory uncertainty**, particularly for long-term shipbuilding programs.

From a **risk-mitigation perspective**, Rubikon's goal to source certified green or low-carbon steel provides several strategic advantages. It reduces exposure to future carbon price increases, limits CBAM-related adjustment costs, and improves cost predictability over the lifecycle of ship construction projects. In addition, green steel procurement strengthens regulatory alignment with EU climate policy, lowers embedded Scope 3 emissions, and supports compliance with emerging climate-related disclosure and due-diligence requirements.



ONSHORE EMISSIONS REDUCTION PATHWAY AND IMPACT

BAU Energy emissions vs Measure 8 impact (tCO2e)



The chart compares **Business-as-Usual (BAU) onshore energy emissions** with the impact of **Measure 8 – Solar PV installation** over the period **2025–2030**.

Under the **BAU scenario**, onshore energy-related emissions remain **flat across the period**, indicating that without intervention there are no structural changes in electricity sourcing or energy efficiency at the shipyard and terminal operations.

With the **installation of a solar PV system**, emissions show a **step-change reduction starting in 2027**, reflecting the commissioning of the PV plant and the displacement of grid electricity with on-site renewable generation. After this initial drop, emissions remain **consistently lower through 2030**, demonstrating that the measure delivers **permanent and stable emissions reductions, as well as achieving 30% reduction target**.



TOTAL GROUP DECARBONIZATION PATHWAY

TOTAL GROUP DECARBONIZATION PATHWAY

Methodology Approach

In developing Rubikon Group's decarbonization pathway, we referenced methodologies and guidance published **by the Science Based Targets initiative (SBTi)** to ensure consistency of the scenario with internationally recognized, science-based climate targets.

The pathway was developed with reference* to the **SBTi cross-sectoral decarbonization pathway**, which was used as a methodological point of reference for shaping the emissions reduction trajectory. Furthermore, we applied relevant SBTi target-setting tools:

- **The SBTi Near-Term Target Setting Tool** (*used to set near-term targets to 2030*)
- **The SBTi Net-Zero Target Setting Tool** (*used to set the long-term targets to 2050*)

*The Intergovernmental Panel on Climate Change's (IPCC) Special Report on Global Warming of 1.5°C (SR15, 2018), was widely accepted as a warning that we must **limit global temperature rise to 1.5°C above pre-industrial levels** and reach net-zero carbon dioxide (CO₂) emissions by 2050 for the best chance of avoiding catastrophic climate breakdown.*

More recently, the IPCC's Sixth Assessment Report (2021) has confirmed that climate change is already affecting every region on Earth, its impacts increasingly visible in the form of extreme weather, worsened droughts and heightened risk of forest fires.

Source: SBTi Corporate Net-Zero Standard V1.3

SBTi tools provide GHG emissions reduction projections aligned with scientific 1.5°C pathway (consistent with the Paris Agreement's climate goals).

TOTAL GROUP DECARBONIZATION PATHWAY

Methodology Approach

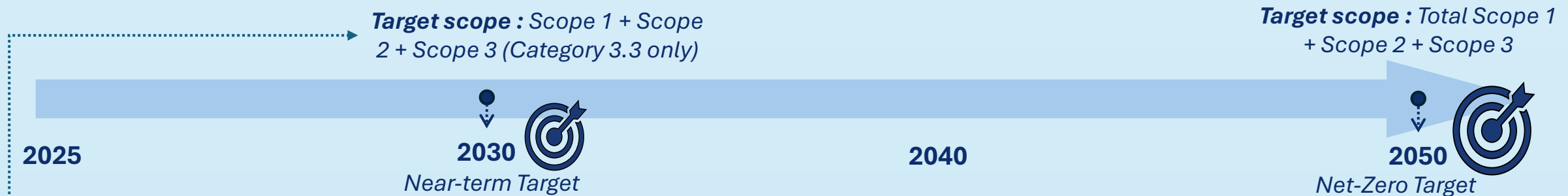
Near-term target methodology:

For the near-term target until 2030, emissions from Scope 1, Scope 2, and Scope 3 (Category 3 only) were included, in alignment with the SBTi well-to-wake requirements for transport-related emissions. Other Scope 3 categories were excluded because their decarbonization pathways have not been validated by SBTi, and the target follows SBTi-defined science-based transition pathways consistent with a 1.5 °C climate trajectory.

Net-Zero target methodology:

For the Net-Zero target to 2050, total emissions across Scopes 1, 2, and 3 were included, in line with SBTi long-term target-setting requirements and the projections generated using the SBTi long-term target-setting tool.

Although still not validated, Rubikon Group intends to fully align its future disclosures with SBTi requirements and pursue formal target validation in the coming periods, further reinforcing the credibility, transparency and science-based alignment of its decarbonization strategy.

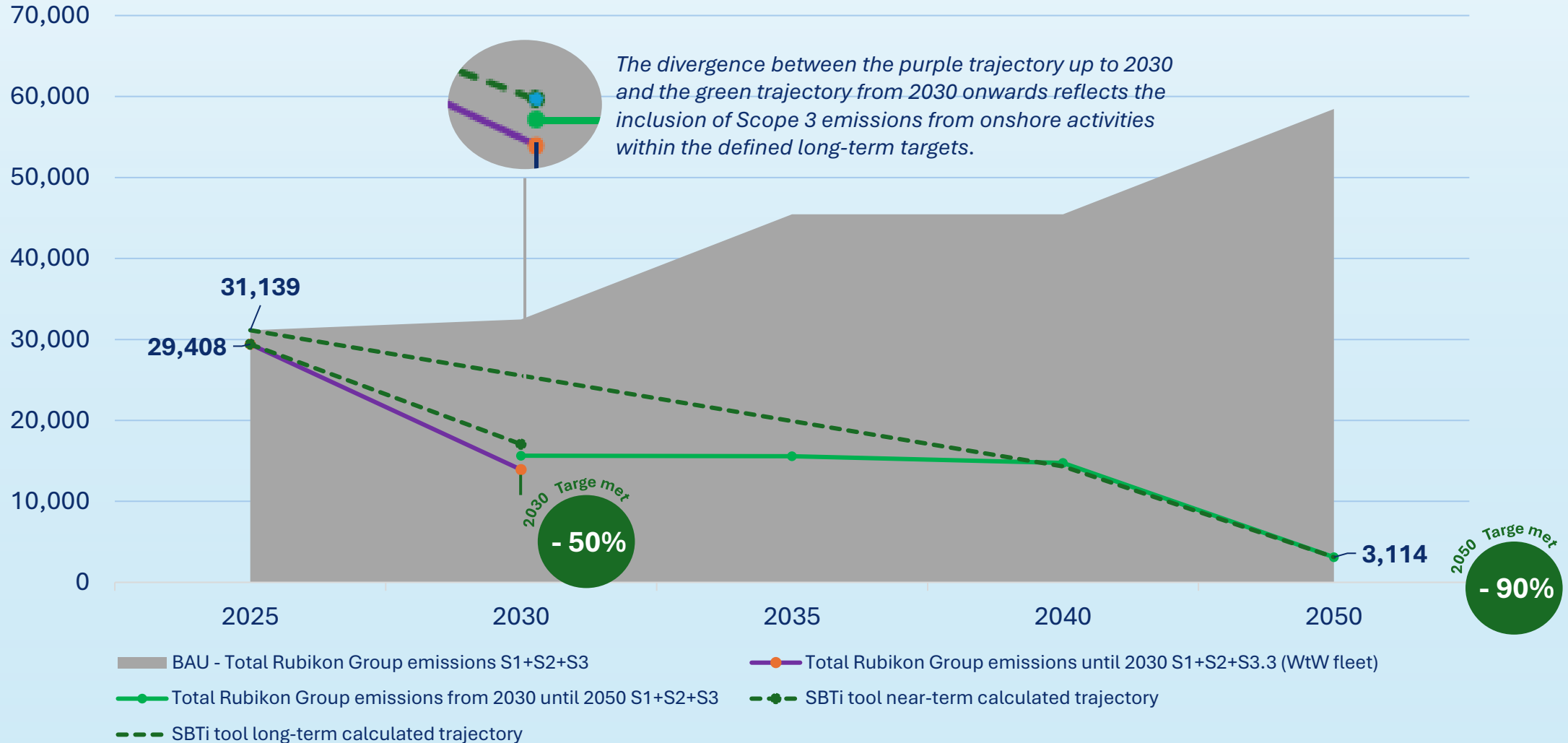


SBTi: For all transport-related emissions across all sectors, companies shall set targets over these emissions on a well-to-wheel (WTW) basis in their GHG inventory (*well-to-wake* for aviation and *maritime transport*).



TOTAL GROUP DECARBONIZATION PATHWAY

Total Rubikon Group Decarbonization Pathway from baseline 2025 until 2050



TOTAL GROUP DECARBONIZATION PATHWAY

The chart presents Rubikon Group’s decarbonization pathway from the 2025 baseline through 2050, comparing the **Business-as-Usual (BAU) emissions trajectory** with Rubikon’s **targeted decarbonization pathway** and **SBTi-aligned reference trajectories**.

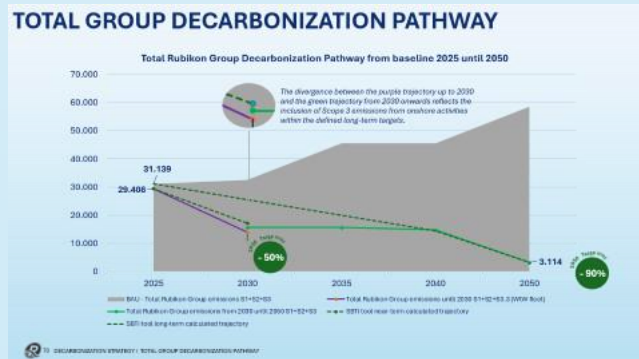
The **grey area** represents the BAU scenario for total Group emissions (Scope 1, Scope 2 and Scope 3), under which emissions increase substantially over time due to higher activity levels and the absence of dedicated decarbonization measures.

The **purple line** shows Rubikon’s total emissions trajectory **up to 2030**, covering Scope 1 and Scope 2 emissions as well as Scope 3.3 emissions from fleet fuel use (well-to-wake). Under the defined package of operational, technical and fuel measures, Rubikon achieves a **significant reduction in absolute emissions by 2030, reaching the stated near-term target**.

From 2030 onwards, the pathway transitions to the green line, reflecting Rubikon’s total Group emissions with an expanded Scope 3 boundary that includes onshore activities, in line with the defined long-term target boundary. Despite this broader scope, emissions continue to decline through 2040 and towards 2050, driven by the progressive deployment of technical and fuel-related measures, and, in the later years, by the targeted use of **high-quality carbon credits to address residual emissions in a hard-to-abate operational context**.

The dashed lines represent the SBTi tool near-term and long-term reference trajectories, providing an external benchmark for alignment with science-based pathways. **Rubikon’s decarbonization trajectory broadly tracks these reference pathways, demonstrating consistency with a science-based approach while reflecting the Group’s specific operational and asset profile.**

Overall, the chart illustrates that while BAU emissions would rise significantly, Rubikon’s integrated decarbonization strategy enables the Group to **achieve its 2030 target** and maintain a credible long-term pathway aligned with IMO and EU climate objectives, even as the scope of accounted emissions expands and residual emissions are managed through a combination of abatement and carbon credit use.



TOTAL DECARBONIZATION PATHWAY

Sustainability-linked bond performance target

For purposes of our sustainability-linked bond framework, we have defined our total absolute GHG target for the Group as a 45% reduction. Our decarbonization pathway leads us to a reduction of 50% in fleet and electricity by 2030 when compared to the 2025 baseline, but in order to provide a buffer for the purposes of the bond, we have set a more conservative goal of 45% reduction. This remains in line with the target of 42% reduction for the industry. The selected target was informed by publicly available science-based decarbonization pathways, including **trajectories from the SBTi tool 42% by 2030** compared to the baseline year, Rubikon Group has deliberately adopted a more ambitious reduction target that exceeds this threshold.

