



*SOLVANG ASA*

# **CUTTING EDGE SUSTAINABLE SHIPPING**



**ANNUAL REPORT 2021**



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## Our vision

Industry-leading provider of LPG and petrochemical tonnage

## Our core values

Quality  
Enthusiasm  
Friendliness  
Team spirit

## Our main goals:

For our customers:

**Be the preferred carrier of LPG and petrochemicals worldwide**

For our employees:

**Happy, motivated and proactive employees**

For our owners:

**Be profitable in a long perspective**

For the society:

**Be a CSR-leading company**



Letter from CEO Edvin Endresen  
**Dear reader**



Just as we managed to alleviate the pandemic through long-term vaccination efforts, contamination control and quarantine measures, the next crisis hit the world we operate in. War in Europe in 2022, as surrealistic as it may sound, it is now a major part of our daily news stream. In this situation, we in Solvang are mostly affected through our seafarers from both Russia and Ukraine, who experiences serious impact from the conflict. In such a challenging environment, Solvang makes sure that our 1,000 colleagues around the globe remain our principal concern. Our priority proves worthwhile, as continued safe operations completely rely on the resilience of our staff. In addition to all the efforts made on board our ships, our onshore staff dealt with another year of isolation with working from home offices in 2021 just like they did in 2020. I would like to express my sincere thanks and appreciation of their enthusiasm and commitment.

For our LPG carriers, the market has been fairly strong, more or less in line with 2020 for the Solvang fleet. For the ethylene carriers, the year started quite slow, with few cargoes moving. This is the same pattern we have seen over the past years, with a gradual improvement during the year. For 2021 though, the improvement towards the end of the year was better than we have seen in some time, and the fleet is well employed going into 2022.

2021 marks the start of Solvang's most radical environmental project so far. We have joined forces with Wärtsilä to test, develop and install a carbon capture and storage (CCS) system on one of our ethylene vessels. The complete system installation on the vessel is dependent on securing adequate funding, and is planned for late 2023. However, Wärtsilä has already started an on-shore test facility in Norway, where they have installed a full-

« 2021 marks the start of Solvang's most radical environmental project so far

2021, the second year of the pandemic, was as challenging as the first. However, towards the end of 2021 and into 2022, there has been a gradual improvement due to a high level of vaccination among our seafarers and better Covid measures around the world.

scale prototype of a shipboard CCS system. The system is already delivering above expectations. Carbon capture and storage stands out as one of the most promising ways to achieve compliance with global emission caps. If funding is received, Solvang will be among the very first shipowners to implement CCS in live operation.

In line with our environmental endeavours, I am happy to present Solvang's second ESG report as an integral part of our annual report for 2021. The report contains in-depth articles on our role in the global sustainability targets as well as for climate protection. You will also find main figures from our ship monitoring systems, which gauge our environmental footprint, and make continuous improvement possible.

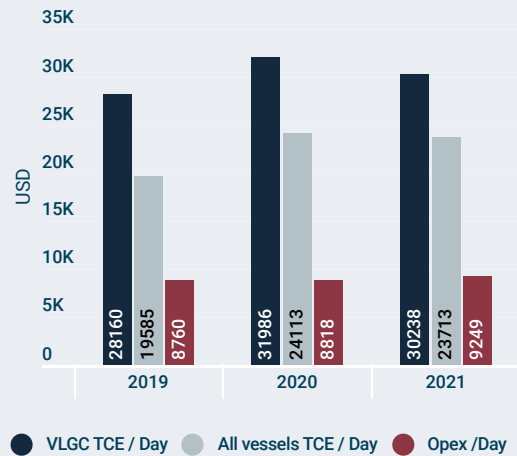
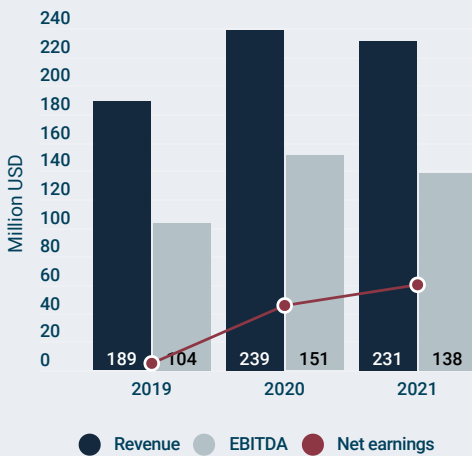
In spite of a challenging and unpredictable global situation, we were able to deliver outstanding performance on all key success factors in 2021; HSE, customer satisfaction, quality, CSR and financial performance. I am particularly pleased with having no LTIs (Lost Time Incidents) for the entire fleet in 2021, for the second year in a row. Not because it looks good on the statistics, but for what it really means; no serious injuries to any of our seafarers. That is a true achievement in the years of 2020 and 2021, when focus on quality and safety was constantly challenged by other factors caused by a global pandemic.

As the world leaves behind a costly pandemic and hopefully arrives at a solution to the devastating war in Ukraine, Solvang's prospects look very strong. Our operations are strong, our markets are good, and our means to succeed are more solid than ever: A resilient, competent and loyal crew, a cost-efficient and flexible fleet, and a proactive approach to the climate changes.

# Key figures 2021

**REVENUE** USD 231 MILLION  
**RESULT (EBITDA)** USD 138 MILLION  
**NET EARNINGS** USD 60 MILLION

**VLGC TCE/DAY** USD 30,238  
**ALL VESSELS TCE/DAY** USD 23,713  
**OPEX/DAY** USD 9,249



## 26 vessels\*

953,998 DWT total



7 Very Large Gas Carriers.



9 Large Gas Carriers



1 Mid-size Gas Carrier



9 Semi-refrigerated Ethylene Carriers

### Employees

Sailing crew ca 1,000  
 On shore Philippines 13  
 On shore Norway 44

### Operation hours

Main engines 151,182 hours  
 Auxiliary engines 343,040 hours  
 Boilers 33,445 hours

### Fuel consumed

Bunker fuel 241,600 tonnes  
 Lube oil 1.6 million liters

### Emissions

CO<sub>2</sub> 753,120 tonnes  
 SOx 1,046 tonnes  
 NOx 15,857 tonnes



**2.13 million nautical miles sailed**  
**99 times around the world**  
**Lifted 5.9 million tonnes cargo**

\* 27 vessels until Clipper Sun was sold in August 2021.

# THIS IS SOLVANG



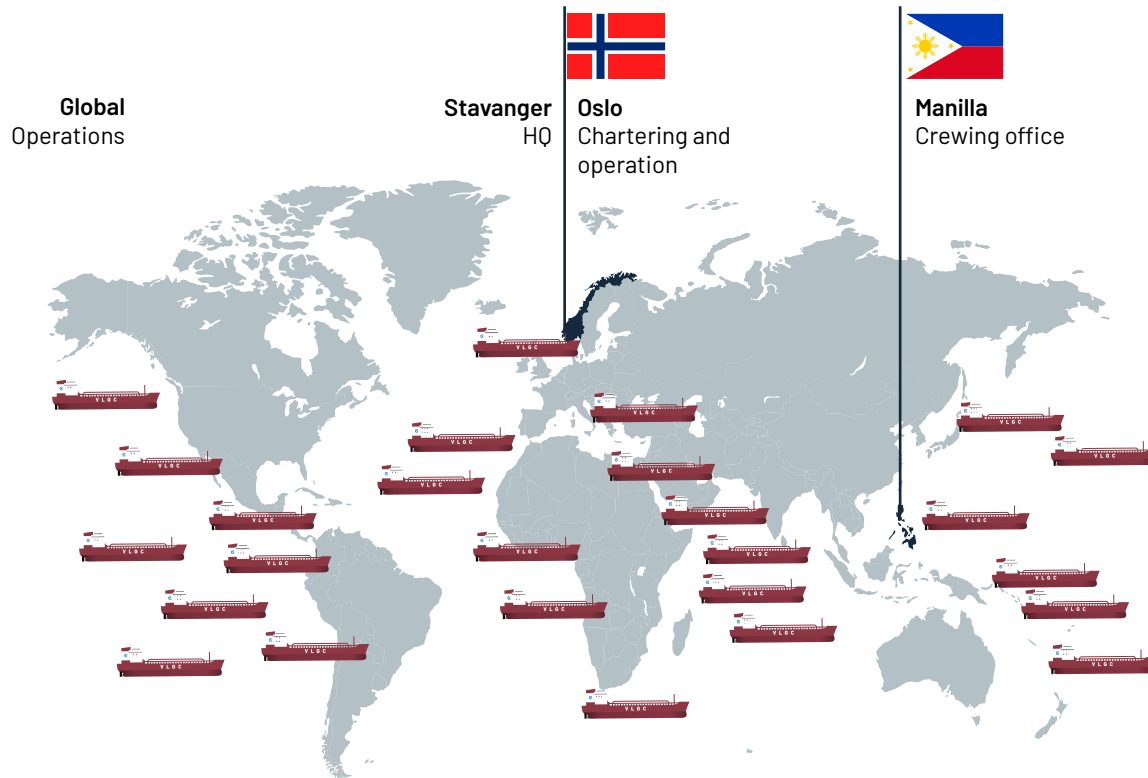
## Industry-leading provider of LPG and petrochemical tonnage

Solvang ASA dates back to 1936. From very modest beginnings, the shipping company has now developed into one of the world's leading transporters of LPG and petrochemical gases. Solvang ASA has its headquarters in Stavanger, with offices in Oslo and the Philippines.

Solvang has a fleet of modern and efficient vessels, all built in accordance with the most up-to-date specifications and fitted with new and efficient technology. Perhaps of greater importance than the modern technology is the way in which the vessels are

operated – the people on-board. Good seamanship represents the very core of our business, and we place a firm focus on this area in the form of education, attitudes and training.

On every single sailing, we are required to demonstrate the full range of our experience and expertise. Our strength lies in reliable, high-quality deliveries. It is our goal to maintain a steady course towards the future, and at the same time make good use of the experience we have gained.



## Long-term shipping partner with all core elements in-house

- Solvang's family control ensures focus on lifetime of assets and long-term investment perspective.
- Competitive finance and insurance, and close relationship with quality yards.
- No third party managers only competing on cost.
- Core competence on construction, technical and maritime operation in-house.
- Strong focus on improving safety and quality of operations – beneficial freight without off-hire.

# Our history

1989 - 2004

Inge Steensland buys 64 percent of the company's share capital. From 1992 the transformation from a shipping investment platform, towards a fully integrated shipping company starts.

2006

A large scale newbuild order placed in South Korea and Germany for 4 ethylene carriers 17,000 cbm, 3 LGC and 2 Panamax VLGCs for delivery in 2007/2008. In total 9 vessels.

2007/2008

Received delivery of 10 newbuildings, 9 constructed and 1 VLGC resale ex-yard.

1936 - 1989

Independent shipping and investment company.

Continuing fleet growth by buying second hand vessels and taking delivery of 5 newbuildings from 1998-2004.

# From the past



# To the future

2050 - Clipper Future

We assume that energy efficiency "from well-to-wake" will become even more crucial, and that all GHG emissions will have to be accounted for.

We will continue to be among the best in our business. All our newbuildings will be as fuel-efficient and green as possible. The vessels will run on GHG-neutral fuels and zero-carbon fuels.

2030

Continued focus on reducing emissions.

The carbon intensity factor is closely monitored to secure full compliance with the IMO reduction target of 40 percent by 2030.

2025

Continue to be an industry-leading provider of LPG and petrochemical tonnage to our clients in the safest, cleanest and most cost-efficient manner.

A modern fleet and highly trained and motivated employees, combined with financial, operational and technical ability, will allow Solvang to pursue this vision and create long-term growth and profitability.



## 2006–2011

Starting to transform the land organization from a small to a medium-size shipping company.

Establishing our vision, values and main goals. Establishing KPI and development of Solvang vessel performance monitoring system.

## 2011

The program “Make our Blue Logo Green” was initiated, entailing Solvang ECO-LPG Carriers:

- Fuel-efficient design
- Compliance with emission regulations.
- Energy efficiency from well-to-wake.
- The question is not which fuel you use, but how you use it
- Operational excellence by continuous improvement.

## 2011

Ordering Clipper Quito and Clipper Posh, 84,000 cbm VLGC with full-scale exhaust cleaning system for delivery in 2013.

## 2013

Delivery of the world’s first ECO VLGC LPG Carrier, awarded as the first ECO-LPG carriers by The Royal Institute of Naval Architects.



## 2020

First ESG report, pulling together the last 15 years of continuous improvement.

## 2021

Solvang launched a vessel-scale carbon capture project in collaboration with Wärtsilä. The system captures CO<sub>2</sub> from main engine combustion before it passes through the exhaust outlets.

## 2017

Delivery of 2 Panamax ECO-LPG carriers.

## 2019

5 newbuildings, 4 ECO Ethylene, and 1 ECO Panamax VLGC. The greenest and most fuel-efficient HFO-fuelled gas carrier in the world.

Retrofit 4 vessels with scrubbers.

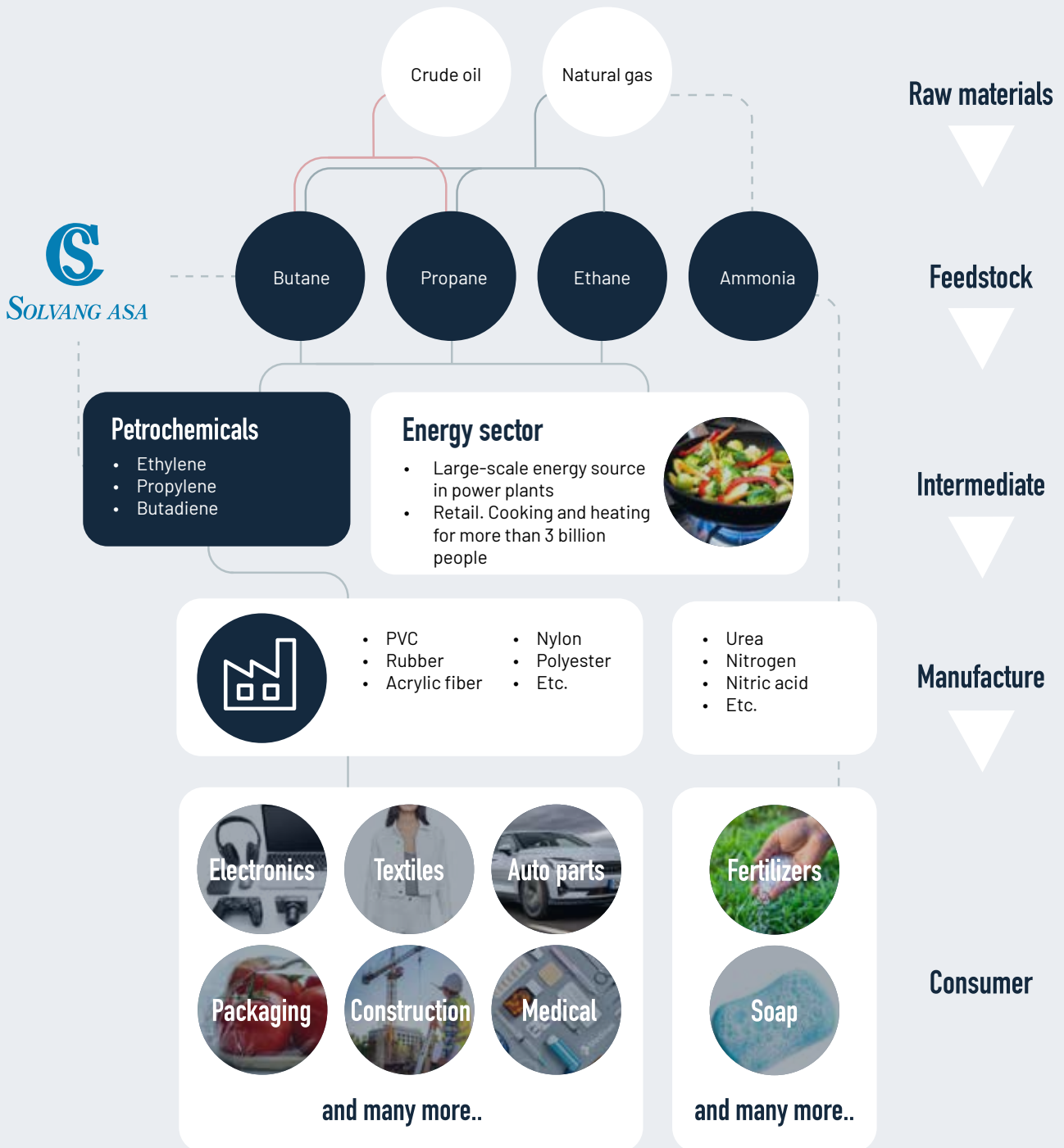
## 2015

Delivery of 3 new ECO LGC (60,000) Gas carriers, Bosphorus max.

Retrofit of EGC on Clipper Harald - combination of scrubber and LP-EGR for emission control (SO<sub>x</sub> and NO<sub>x</sub>).

# OUR CARGO

We transport vital materials for manufacturing products people depend on every day.



# OUR MISSION STATEMENT:

**Solvang aims to be an industry-leading provider of LPG and petrochemical tonnage to our clients in the safest, cleanest and most cost-efficient manner.**

# OUR FLEET



## VERY LARGE GAS CARRIER

This segment consists of eight VLGCs, five of them Panamax size 75,000-80,000 cbm, one 82,200 cbm and two 84,000 cbm.

Name	Built	DWT	CBM
Clipper Wilma	2019	51,144	80,000
Clipper Freeport	2017	50,891	78,800
Clipper Vanguard	2017	50,891	78,800
Clipper Posh	2013	55,047	84,000
Clipper Quito	2013	55,047	84,000
Clipper Victory	2009	54,084	75,000
Clipper Sirius	2008	54,084	75,000
Clipper Sun (SOLD)	2008	58,677	82,200



## LARGE GAS CARRIER

This segment is defined as fully refrigerated LPG ships of 60,000 cbm. We have a total of nine ships in this segment.

Name	Built	DWT	CBM
Clipper Venus	2015	42,543	60,000
Clipper Saturn	2015	42,543	60,000
Clipper Jupiter	2015	42,543	60,000
Clipper Mars	2008	43,544	60,200
Clipper Neptun	2008	43,508	60,200
Clipper Orion	2008	43,475	60,200
Clipper Sky	2004	44,617	59,300
Clipper Moon	2003	44,822	59,300
Clipper Star	2003	44,822	59,300

## MID-SIZE GAS CARRIER

Name	Built	DWT	CBM
Clipper Odin	2005	29,217	38,400

## ETHYLENE/SEMI-REF CARRIER

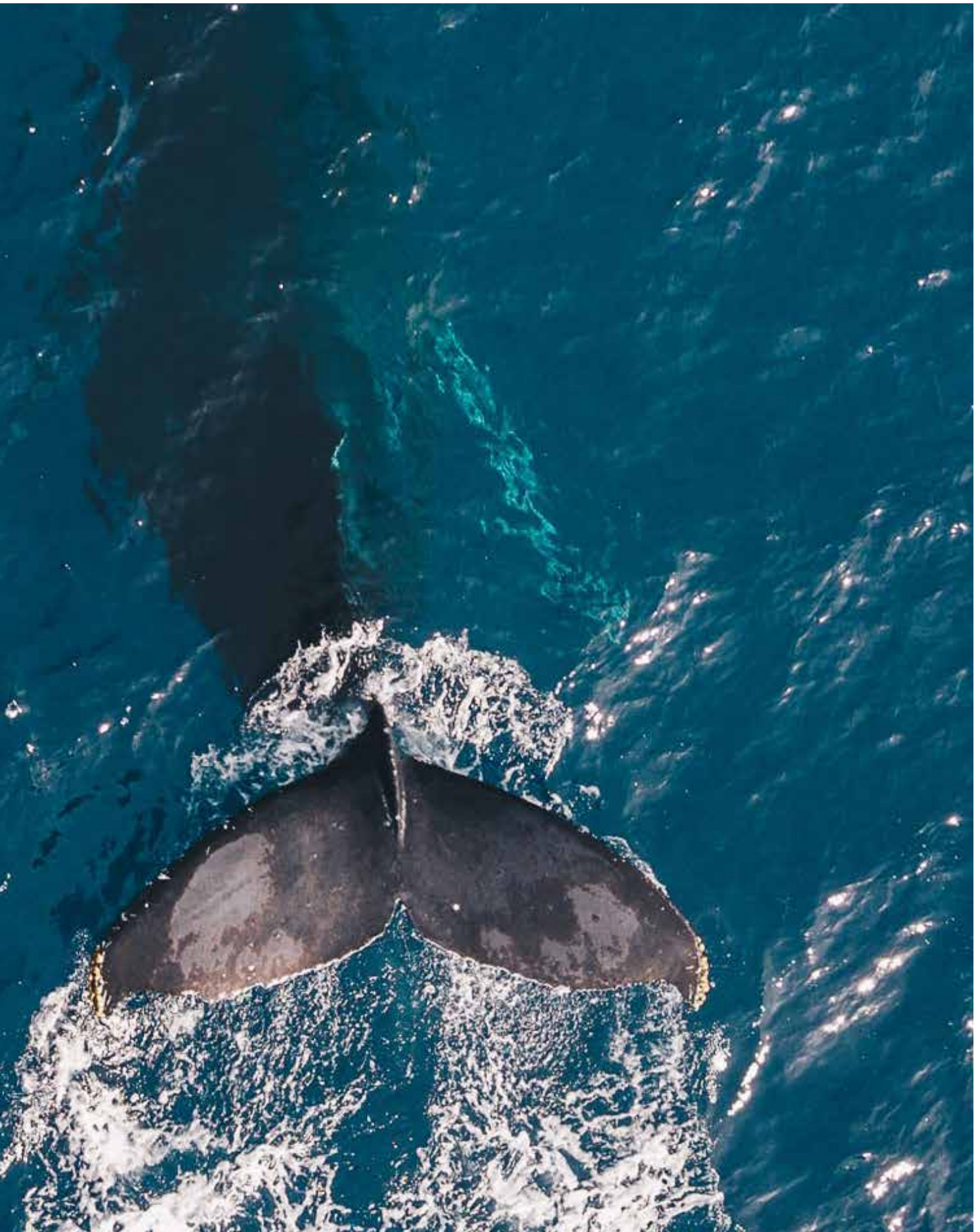
This segment includes semi-refrigerated, ethylene capable ships from 12,600 to 21,289 cbm. We have nine ships in this segment, four of them delivered in 2019.

Name	Built	DWT	CBM
Clipper Eris	2019	18,056	21,289
Clipper Eirene	2019	18,056	21,289
Clipper Enyo	2019	18,056	21,289
Clipper Eos	2019	18,056	21,289
Clipper Hermes	2008	18,884	17,100
Clipper Hermod	2008	18,967	17,100
Clipper Hebe	2007	18,800	17,100
Clipper Helen	2007	18,884	17,100
Clipper Harald	1999	13,780	12,600

# SUSTAINABILITY IN SOLVANG

As an operator in the global deep sea shipping market, Solvang ASA acknowledges the importance of standing behind The United Nations' 17 Sustainable Development Goals (UN SDGs).

In this report we use these "big goals" UN SDGs to contextualize our role in improving sustainable business.



*#industry #insight*

## Deep sea shipping at the crossroads

After solving emissions of sulfur and nitrous oxides, shipping still needs to cut CO<sub>2</sub> more than existing methods and fuels allow for. The time has arrived for a radical solution.

90 percent of all traded goods or an equivalent of 11 billion tons of chemicals, raw materials, food and equipment are being carried over the waves every year, according to OECD figures. This firmly places deep sea shipping in the centre of the world economy, making it indispensable for human welfare and progress around the globe.

Being essential to prosperity and human development, maritime transport simultaneously must deliver emission reductions necessary to keep global warming within the limits of future welfare on earth. Today, global shipping is responsible for about 2.5 percent of global greenhouse gas emissions, according to an IMO GHG study, and it represents 2.0-3.0 percent of fossil CO<sub>2</sub> emissions depending on source and counting method.

Towards the backdrop of an increasing need for deep sea transportation combined with a diminished climate footprint, Solvang advances on a radical technological solution.

### Shifting around emissions

The internationally agreed upon goal of keeping global warming below 2 degrees Celcius relative to pre-industrial times, requires imminent action across all sectors. The International Energy Agency staked out a roadmap for all

sectors to reach zero-emission by 2050. The energy sector already started to phase out coal and reduce emissions from petroleum production, onshore transportation is heavily diverted from petroleum-based fuel, and maritime transport is nudged to shift from heavy fuel oil (HFO) to batteries, e-fuels, biofuels, gases and light distillate fossil fuels.

As the sense of urgency is growing, so does the consciousness of shifting around emissions rather than removing them. By now, the best part of deep sea shipping has managed to catalyze or clean most pollutants from internal-combustion propulsion. NO<sub>x</sub> and SO<sub>x</sub> are being properly removed from the emission cycle, which has clearly been demonstrated by Solvang's gas carriers. The problem is CO<sub>2</sub>, which often has hidden emissions if we do not consider the full well-to-wake perspective. Recently, the renowned magazine The Economist concluded that "the search for no-carbon fuels is futile", because emissions are simply shifted around. When replacing heavy fuel oil with fuels like LNG, LPG, e-fuel, bio-fuel or even batteries, the emissions may be hidden, but they will not disappear. Fuel-cells need hydrogen manufactured through a CO<sub>2</sub>-generating process. Liquefied natural gas (LNG) releases 25 percent less CO<sub>2</sub> than bunker fuel



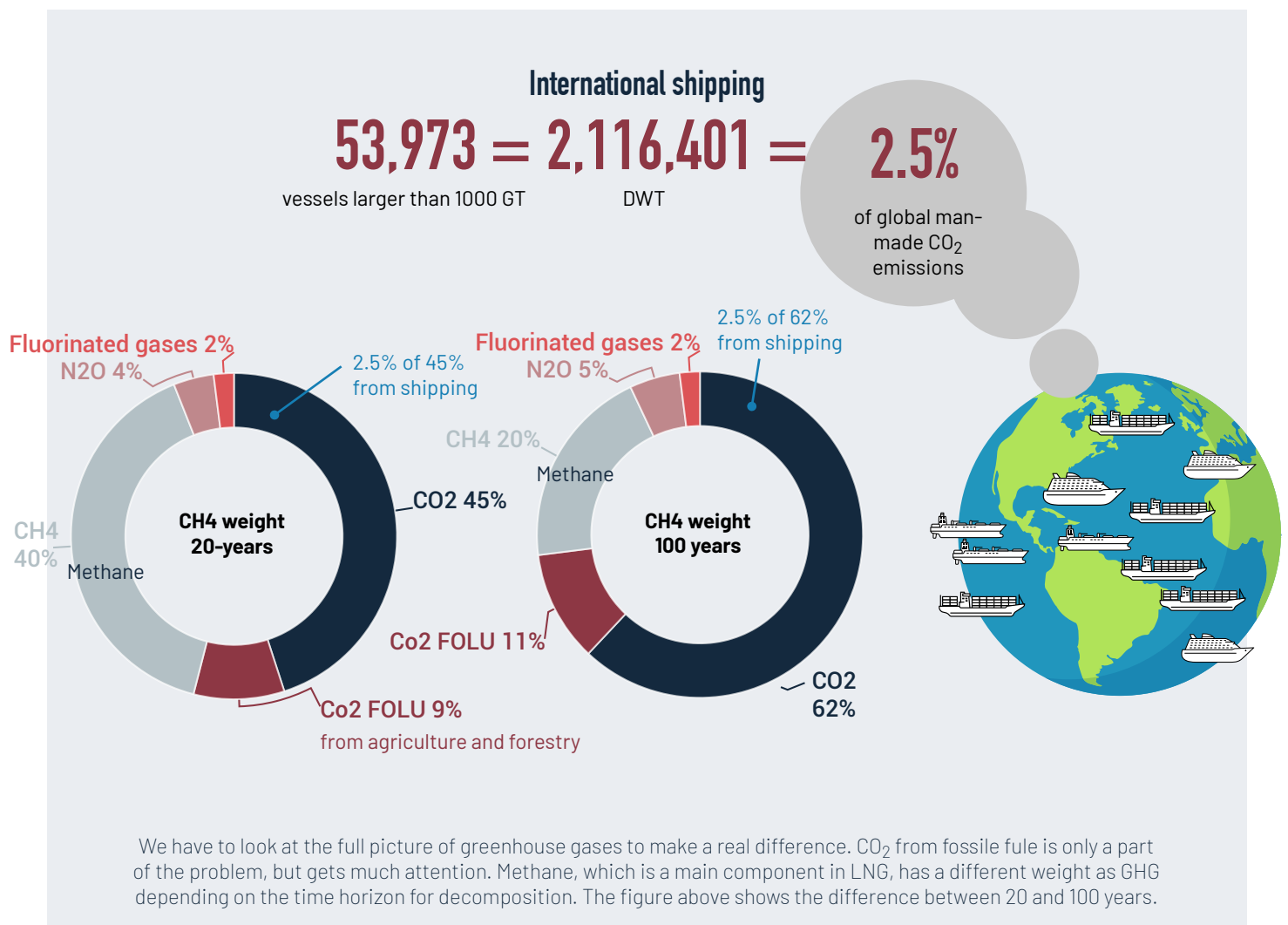
(tank-to-wake), often making it a favorite in climate policymaking. If we apply a well-to-wake perspective including methane slip/emissions during the processing of LNG, and the choice of engine technology, the picture may be very different. See page 30 for more about fuels.

### Shift shortcuts, not CO<sub>2</sub>

There is a growing realization among policymakers and the industry alike, that greenhouse gases don't disappear from the climate account just by removing them from certain distillates or e-fuels. There must be another pathway to eliminate carbon from the energy chain, and that pathway is CCSU – carbon capture, storage and utilization. The energy sector runs intensive research on CCSU for onshore and offshore plants and installations, and some engine manufacturers try to mount it even on heavy duty trucks. Statisticians in IEA and Shell already conclude there is no way around CCS/CCSU, which Solvang fully accedes to. When The Economist calls for "radical thinking", we think shipboard CCS, a technology just entering global shipping – through Solvang.

*There is a growing realization among policymakers and the industry alike, that greenhouse gases don't disappear from the climate account just by removing it from certain distillates or e-fuels.*

At the time of writing, a complete setup of scrubber plus CCS installation already runs on a 1.2 MW full-scale test environment at Wärtsilä's facility in Moss, Norway. If everything goes as planned, the ethylene carrier Clipper Eos will operate with CCS in less than two years. Our solution is being published in peer-reviewed journals, allowing anyone to follow in our wake. Solvang believes carbon elimination is one of the most promising non-nuclear ways to succeed with the roadmap to zero-emission by 2050 – keeping the goal of 1.5-2 degrees global warming within reach.



*Rules and regulations outlook:*

# IMO adds the Carbon Intensity Target

The International Maritime Organization sets out its own decarbonizing strategy for global shipping.

## IMO MARPOL ANNEX VI:

In its ship decarbonization policy, IMO aims to reduce carbon intensity emissions in global waters by 40 percent by 2030 and 70 percent by 2050, compared to 2008. Shipowners will have to adhere to a continuously declining carbon intensity target, with 2019 as a starting point. Each year from 2023, every ship needs to calculate and report its carbon intensity indicator.

## The annual efficiency ratio: AER

There are several ways to calculate a vessel’s carbon intensity indicator, all with pros and cons. At the time of writing, the annual efficiency ratio (AER) is the one we have to comply with.

$$AER = \frac{\text{Total CO}_2 \text{ emissions}}{\text{Deadweight} * \text{Distance sailed}}$$

All fuel consumed by the vessel during the year is being counted, whether spent for deep sea sailing, manoeuvring, port stay, or waiting/idling by all machinery (ME, AE, boiler, incinerator). Without any correction for conditions that we can not control (weather, idling or trading pattern) the AER may vary from year to year for the same vessel.

## NOx and SOx reductions

MARPOL Annex VI regulates NOx emissions from international shipping, defining Tier III controls in Emission Control Areas (ECA), and Tier II controls in other international waters.

As from 2020, MARPOL Annex VI defined a new limit to sulfur content in fuel oil used in ships, marking a milestone to improve air quality, preserve the environment and protect human health. Known as IMO 2020, the rule limits sulfur content in fuel oil outside designated emission control areas to 0.50% m/m (mass by mass).

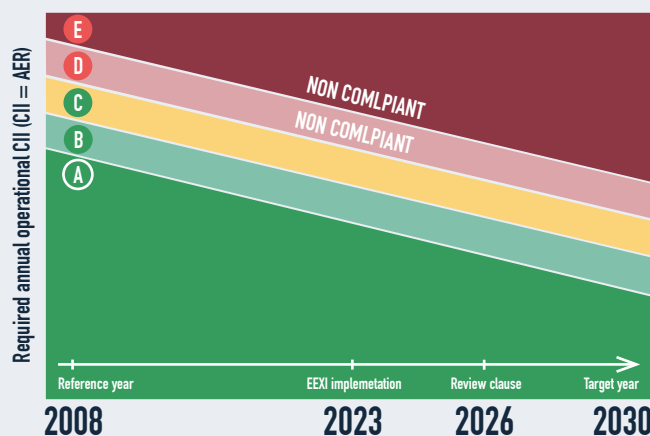
Among Solvang’s 26 vessels, five pass Tier III emission control limits for NOx and SOx, thereby underpinning Solvang’s fuel strategy of exhaust gas cleaning, low-pressure exhaust gas recirculation, and open-loop scrubber, in combination with HFO in a well-to-wake perspective to save the climate.



IMO – the International Maritime Organization – is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO’s work supports the UN sustainable development goals.

[www.imo.org](http://www.imo.org)

## Vessel rating



A vessel rating will be based on reported fuel figures and get a score between A and E, where A is the best, C is in compliance and D and E are non-compliant scores.

*Rules and regulations outlook:*

## Stricter greenhouse gas (GHG) regulations in Europe

The EU prepares to reduce its total GHG emissions by 55 percent by 2030, calling for full decarbonization by 2050. The measures are imminent.

EU's regulation package, The Fit for 55, starts to take effect in Europe from next year, and many details are ready. According to DNV, these are the four proposals to pay particular attention to:

### The European Trading System (ETS) Directive

**FROM 2023:** All intra-EU emissions from shipping will be phased into the present emissions reporting under the EU MRV regulation. The required purchase of CO<sub>2</sub> emission credits will include 50 percent of the emissions for voyages arriving in or departing from the EU. The phase-in period starts with 20 percent in 2023, increasing to 100 percent in 2026.

### FuelEU Maritime Regulation

**FROM 2025:** Energy used on-board by ships will be included in a new well-to-wake GHG footprint regulation. It will cover methane and NO<sub>x</sub> in addition to CO<sub>2</sub>, granting emission credits for energy generated on-board the ship. The GHG footprint should improve by 2 percent in 2025 relative to 2020, and by 75 percent in 2050. The requirements include shore power for stays over two hours for container and passenger vessels.

### Alternative Fuels Infrastructure Regulation

**2025/2030:** EU plans to change an existing directive into a stricter regulation to ensure better supply of LNG by 2025 and onshore electrical power in EU ports by 2030.

### Energy Taxation Directive

**FROM 2023:** EU sets out to remove the tax exemption for conventional fuels used between EU ports, keeping international bunker for extra-EU voyages tax exempt. The new tax rate for HFO will amount to appr. €37 per tonne, while LNG tax will hit €0.6/GJ, a similar level as HFO per carbon intensity. Alternative fuels will be tax exempt for a ten-year period.



### "Fit for 55"

#### The EU's plan for a green transition

As part of the European Green Deal, with the European Climate Law, the EU has set itself a binding target of achieving climate neutrality by 2050.

As an intermediate step the EU has raised its 2030 climate ambition, committing to cutting emissions by at least 55% by 2030.

# Solvang’s roles in the global goals

The Sustainable Development Goals is an urgent call to action for countries and businesses, developed in a global partnership.

The goals recognize that ending poverty and other evils must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Read more on [sdgs.un.org/goals](https://sdgs.un.org/goals)

The UN SDGs cover a wide spectrum of issues. In this report we aim to show how our operations relate to the goals, starting with a broad overview in tables and gradually going into details in the article sections.

Especially relevant goals are covered in articles for detailed insight.

## Our priorities

Our priorities affect our decisions, both when it comes to investments, whom we cooperate with and how we plan and execute our work. It is important to show our stakeholders how we are influenced by these factors, how we think and how our actions impact our surroundings. We are proud of our work and aim to continue this process as a responsible business operator in the global market of shipping.

## Our approach

Our sustainability report refers to the Global Reporting Initiative (GRI) Reporting Standards. We use the GRI index to present our approach and our company’s practices on each of the 17 goals.

## THE GLOBAL GOALS

For Sustainable Development



## Stakeholder groups

### Internal stakeholders

- Shore staff
- Crew
- Owners
- Board of Directors

### External stakeholders

- Customers
- Banks
- Suppliers and contractors
- Government
- Regulatory bodies
- The general public

# Solvang's ESG priorities related to the global goals

This table shows the most important sustainability topics for Solvang. The topics are compared to the UN Sustainability Development Goals (UN SDGs). All SDGs are examined in-depth.

	TOPIC	EXPLAINED	UN SDG
ENVIRONMENT	Emissions to air	Innovative technology for monitoring and reducing emissions. Contributing to a more sustainable future for the maritime industry.	  
	Energy consumption	Developing fuel-efficient vessels and low-energy operations. Providing affordable LPG and petrochemicals to customers.	  
	Spills to sea	Avoiding oil spills and managing waste.	 
	Recycling	Maximizing vessel lifespan and treating the vessels in compliance with regulations and conventions when recycling.	 
SOCIAL	Community engagement	Providing access to LPG as a clean source of energy and ammonia as a potent fertilizer. Supporting the communities where we operate.	  
	Health and safety	Working systematically to ensure the health, fitness and safety for all crew and employees, both at work and home.	
	Employee relations	Providing good working conditions and fair salaries that reflect individual qualifications, regardless of gender. Recruiting, educating and retaining a skilled workforce.	  
	Diversity and inclusion	Managing "happy ships" with happy, motivated and proactive employees. Encouraging diversity and inclusion at work and at home.	 
GOVERNANCE	Governance and compliance	Complying with all relevant laws and regulations.	 
	Anti-bribery and anti-corruption	Mitigating corruption and bribery in all forms. Upholding business integrity in the maritime industry.	 
	Economic performance and benefits	Generating sustainable economic value for our stakeholders.	

# Summary: How Solvang works to reach global goals

## We enable efficient food production



About 90 percent of ammonia produced is used in fertilizers, to help sustain food production for billions of people around the world. Six Solvang vessels transport ammonia worldwide.

Our ethylene fleet transports feedstock for many products, and without the packaging the food losses would be much larger than today.

[READ MORE ABOUT OUR CARGO ON PAGE 10](#)

## We learn every day



The quality of our service is totally dependent on education and training of our seafarers. Solvang is actively supporting the NSA cadet programme in Manila and arranges in-house officer and crew conferences where courses and training are important parts of the programme.

Solvang’s “Living the Vision” programme is an on-the job HSEQ training programme which comes in addition to the flag state’s mandatory training.

[READ MORE ON PAGE 29](#)

## We care for our people



This statement is supported by our health policy and is one of the main focus areas in Solvang’s “Living the Vision” programme.

Our officers and crew members must have the physical and mental strength to meet challenges that confront them every day. We know a healthy lifestyle contributes to well-being, and therefore it has a high priority at Solvang.

We want all employees aboard our vessels to take care of their bodies and minds. Appropriate ergonomics, sufficient exercise and healthy meals are important for the body’s machinery. For us, health is an important component in ensuring satisfactory performance.

[READ MORE ON PAGES 27-29](#)



## We choose competence



International shipping is male dominated, but Solvang employs people according to knowledge, skills and attitude, not gender.

Women and men have equal opportunities to qualify for all types of jobs and positions, and they have equal opportunities for promotion. Working conditions are deemed to be good. Salaries reflect the individual qualifications, regardless of gender.

## A trustworthy provider



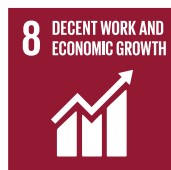
Solvang aims to be an industry-leading provider of LPG and petrochemical tonnage to our clients in the safest, cleanest and most cost-efficient manner.

LPG used in industry and households is one of the cheapest and most basic energy sources available. Propane can be used as cooking fuel or fuel for engines with the same after treatment as ordinary gasoline or diesel.

As part of our industry, Solvang makes a valuable contribution in transporting this energy source around the world.

READ MORE ABOUT OUR CARGO ON PAGE 10

## Focus on «happy ships»



One of Solvang's main goals is to have happy, motivated and proactive employees, and this is not possible without good working conditions.

One of our main goals is to provide profits for our owners. Our employees receive decent salaries. This provides further growth in the country of residence, through spending and taxation.

MLC is an integral part of our quality system, and all our vessels sail under the Norwegian flag (NIS) where the laws and regulations secure compliance with all legal standards.

## Developing eco-friendly vessels



Solvang has a long story for cooperation with both industrial, academic and research organizations and started a programme for green shipping for the future back in 2010.

Solvang is an active partner in Smart Maritime, a Norwegian Centre for Research Based Innovation for improving energy efficiency and reducing harmful emissions.

READ MORE ON PAGES 34 - 43

## Life Cycle Analysis (LCA)



Solvang follows a well-to-wake strategy, which means we avoid exchanging HFO for a distillate bunker fuel when possible. Life cycle efficiency is our pledge. Such a transfer would lead SO<sub>x</sub> and other substances in HFO to be emitted into the atmosphere from other sectors, like coal and oil power plants burning the residuals for power generation.

If a Solvang owned vessel is to be recycled, the vessel will be recycled in compliance with:

- The Hong Kong Convention.
- The guidelines to the Hong Kong Convention to be issued by the International Maritime Organization; and
- The EU Ship Recycling regulation (1257/2013)

READ MORE ON PAGES 16, 31, 43

## Our climate actions



Vessel performance monitoring is a critical tool when assessing the efficiency of Solvang's innovations during commercial operation. In 2008, Solvang initiated the in-house programme for vessel performance monitoring. Since that year, Solvang has collected and reported environmental performance, systematically deploying our findings into continuous improvement of operations into environmental operations, and into newbuildings. Competency, knowledge and Life Cycle Analysis (LCA) are key elements in Solvang's climate actions.

Solvang's full-scale testing of shipboard carbon capture storage and utilization points towards a 70-100 percent decarbonization of the fleet, while keeping HFO as our main fuel.

READ MORE ON PAGES 30-49

## No harm to life in water



As part of our sustainability work Solvang has identified and assessed all effluents to the sea. The effluents are rated as significant or non-significant, and programs for monitoring and controlling are in place. This is an important part of our ISO 14001 certificate and compliance.

Our obvious goals are to reduce operational discharges as much as possible and achieve zero spill caused by accidents.

All vessels have an approved ballast treatment plant and biofouling plan, all discharges from the EGC are measured 24/7, and the EGC has water treatment in open loop.

READ MORE ON PAGE 44 - 47

## No harm to life on land



Exhaust emissions from our engines is the main source of influence on life on land. Our assessments have shown the following significant aspects:

- CO<sub>2</sub> (global warming)
- SO<sub>x</sub> (cloud formation and acid rain)
- NO<sub>x</sub> (cloud formation and acid rain, ground level ozone)
- Particles (visible smoke, health risk)
- THC (global warming, ground level ozone, health risk)
- CO (health risk)

Solvang has established programs for monitoring/controlling and reducing emissions related to all these aspects.

READ MORE ON PAGES 30-43



## Peace, justice and strong institutions



Substantially reduce corruption and bribery in all their forms.

Solvang has introduced “Ethical Guidelines” comprising our core values, responsibility for an ethical and conscientious relationship with stakeholders, and a “Supplier code of conduct” embracing the UN Global Compact.

Solvang is also a member of the Maritime Anti-Corruption Network (MACN) and will comply with the good corporate practices in the maritime industry described in their operating charter.

[READ MORE ON PAGES 51-52](#)

## International shipping



International shipping brings people together from all parts of the world. Solvang is a good example of this.

Run in a good way, international shipping has a lot of positive effects that rarely make the media headlines. Solvang’s goal is not only to be in compliance with rules and regulations, but to contribute to a high standard for quality shipping around the world. The world trade depends on shipping – and we strive to increase our positive impact on our surroundings.

[READ MORE ON PAGES 51-52](#)





*Offshore and onshore employees*

# We care for our people



Our officers and crew members are – and must be – physically and mentally fit to meet challenges that confront them every day.

We know a healthy lifestyle contributes to well-being, and therefore it has a high priority in Solvang. This is supported by our health policy and is one of the main parts in Solvang’s “Living the Vision” programme.

Our target is always that all employees aboard our vessels and in the offices take care of their bodies and minds. Finding a good balance both physically and mentally is vital.

## Sick leave in Solvang 2021

Year	Sea	Office
2021	0.33%	3.50%
2020	0.44%	1.15%
2019	0.25%	2.19%
2018	0.81%	0.49%

## Turnover + retention rate 2021

Year	Sea retention rate*	Office turnover
2021	97.00%	0.00%
2020	99.50%	0.00%
2019	98.00%	0.00%
2018	99.00%	7.30%

\*Retention rate according to BIMCO

### Mental health

Mental health was one of the main topics in our “Living the Vision” programme. in 2021. This was followed up in several meetings during the year as the consequences of the pandemic became evident. Meetings focusing on Shell’s resilience programme Let’s Talk (from Maritime partners in safety) have also been conducted. Online mental training is mandatory for our seafarers who are in quarantine. This is a one-day seminar by NTCM (Norwegian Training Centre Manila) focusing on mental health and what awaits them when they sign on in the current situation.

### Nutrition and exercise

Solvang has a victualling cooperation with the Thome Group, and all our cooks are trained according to an extensive catering programme, which covers menu planning, nutritional elements, etc. Solvang’s goals for health and nutrition on board is described in our Health and Nutrition policy, which provides guidance to all employees on-board Solvang’s vessels on how to choose healthy food. In 2021 we also started the Re:Start program where we focus on Eat-Move-Sleep and Social Relations. This program is meant to create the foundation in the Solvang wellness process and policy.

### Cooperation with Halcyon Healthcare

Solvang has been cooperating with Halcyon Healthcare Clinic in Manila Philippines for premedical (PEME) screening of our Filipino seafarers for more than a decade. Everyone who signs on a Solvang vessel from the Philippines undergoes a NIS (Norwegian) medical check-up. We also cooperate with GARD (our P&I club) for extensive PEMEs for all Filipino seafarers. This is an

extensive health examination which ensures the seafarers’ medical condition and health before signing on. Everyone also complete an individual conversation with medical personnel related to the importance of their diet, nutrition and regular exercise for staying healthy.

In recent years, it has been a challenge for some of our employees that they have a healthy lifestyle on board, but they fail to maintain this when at home. Solvang has the mantra “healthy on board, healthy at home”. This includes follow-up of seafarers on vacation via Halcyon Healthcare Clinic. It has also been a focus area in “Living the Vision” where the seafarers have been challenged to focus on personal goals and make plans to ensure a healthy lifestyle at home between contracts.

### Health insurance and pension

Solvang has comprehensive health insurance for our employees. Norwegian seafarers are covered by Norwegian social security, and all other nationalities are insured through Marine Benefits. This insures the employees and their families and covers doctor visits, sickness, hospitalization. The system is cashless, so the employee books an appointment via the insurance company without paying in advance.

Solvang also has pension plans for all nationalities not covered by a national pension scheme where an amount of their yearly wage is contributed. Our focus is to create a package that secures good health, stability and security for our colleagues and their families.

### Fitness status of Solvang seafarers’ pre-departure health examination

Condition	2021	2020	2019	2018	2017
FIT	99.30%	96.39%	96.70%	98.70%	98.60%
UNFIT	0.60%	2.86%	2.60%	1.00%	0.80%
EXPIRED	0.10%	0.75%	0.70%	0.30%	0.60%



# Living the Vision

Our HSEQ programme “Living the Vision” is one of the most important tools for Solvang to achieve our vision and put our core values to life every day.

In the programme, crew and office staff work together to improve our activities related to health, safety, environment and quality. All employees know they must work hard every day to maintain the standard and achieve the set goals in the company.

The idea has its origins in 2008. It started with the training programme “Safe Sailing” – an initiative to improve the reporting of incidents and accidents in the fleet, further improve our vetting results and reinforce our safety culture based on Maritime Crew Resource Management (MCRM).

After different initiatives following “Safe Sailing”, the benefits of establishing a new platform to unite our HSEQ work were evident. “Living the Vision” was launched in 2013. It started with an overall plan for quarterly focus for HSEQ, specific topics each month and weekly on-board meetings – all followed up by the onshore organization.

Since then, “Living the Vision” has been developed and fine-tuned along the way. Ship visits, surveys and interviews are used regularly to monitor the programme and get input. The seafarers also give monthly input on what the onshore organization should do to improve on each topic. The onshore organization gives feedback through the monthly newsletter on each topic. In addition, the office staff review the seafarers’ input in quarterly meetups where they give direct feedback and plan the meeting content for the upcoming three months.

## The working process of “Living the Vision”

Living the Vision has 12 “fixed” topics each year which are selected in December. Still, we have the opportunity to rearrange and replace topics if necessary – if something comes up and we want extra attention on a specific topic. This proved beneficial when the pandemic brought unforeseen consequences necessary to deal with in “Living the Vision”.

In recent years, the seafarers have had 3 meetings on each topic.

The seafarers decide ship-specific actions for improvements each month and share these across the fleet. Organizational learning is ensured through the monthly “Living the Vision” newsletter. The recent years, we have also incorporated content from Shell’s programme for Maritime Partners in Safety, including Reflective Learning and Resilience, into “Living the Vision”.



Energy sources vs. climate

# How to approach fuels

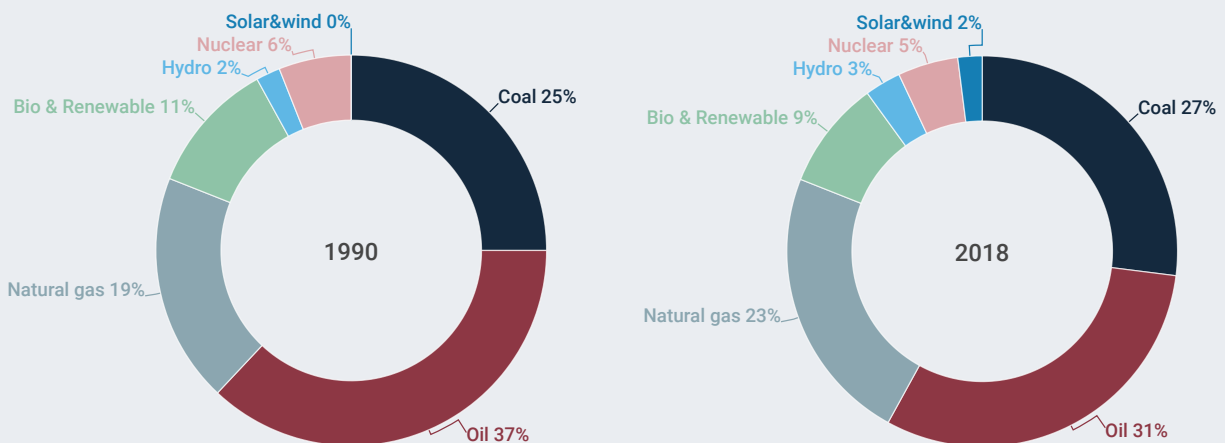


Assessing conventional fuel vs. alternative fuels in deep sea shipping needs a well-to-wake approach.

In 1990, the global energy mix consisted of 81 percent coal, oil and natural gas combined. In 2018, after total usage increased by 60 percent from 1990, fossil sources still made up 81 percent of the total. In deep sea shipping, the

picture is largely similar: HFO with scrubber or low-sulfur VLSFO continue to be the main fuels, yielding steadily lower emission figures per cargo and tonne.

## The global energy mix 1990 - 2018



The global energy mix (Ill. dr. Elizabeth Lindstad, SINTEF)

## Well-to-wake

Comparing residual fuel oil with highly processed eco-alternatives such as hydrogen, synthetic e-fuels or electricity, needs a life cycle approach. In a well-to-wake (WTW) perspective, the life cycle of energy from input at the WTW chain, through to output at propeller, is being considered. Nonetheless, current IMO regulations apply a tank-to-well perspective, benefiting fuels with low emissions in the power generation phase and high losses and emissions in the processing phase.

## Fuel tomorrow

Electricity is an example of clean energy with dirty sources. The world's biggest source of electricity is coal, which loses more than half of its energy in the process. When the resulting electric power is being used in maritime transport, the shipowner is entitled to claim emission-free operation. Similar breaches of logic appear when assessing bio-energy or natural gas, or electro-fuels

synthesized from hydrogen and captured carbon by use of non-renewable electricity.

In the case of oil, only 10 percent of the source energy is wasted in refining and transforming the energy, according to the International Energy Agency IEA.

Possible future fuels can be divided into the following groups:

- Conventional fossil fuels; HFO, VLSFO, MGO, LNG and LPG (with or without CCS)
- Biofuels
- Hydrogen and ammonia (conventional and E-fuels)
- Synthetic e-fuels (gaseous or liquid fuels produced from hydrogen and carbon captured by using renewable electricity)
- Electric power from batteries charged from the grid

## Conventional fossil fuels

Conventional fuels will probably be a part of international deep sea shipping for many years.

## Biofuels

Biofuel may replace conventional fossil fuels with only minor modifications to the engine and fuel systems. When assessing the emissions from well-to-wake, fuel from a clean biological source may reduce greenhouse gas emissions by 75-80 percent compared to marine gas oil (MGO). However, this requires correct use of engine technology and clean sourcing.

The well-to-wake approach is crucial when assessing the total GHG emissions. For example, biofuel from palm oil may increase the overall GHG emissions with up 200-300 percent.

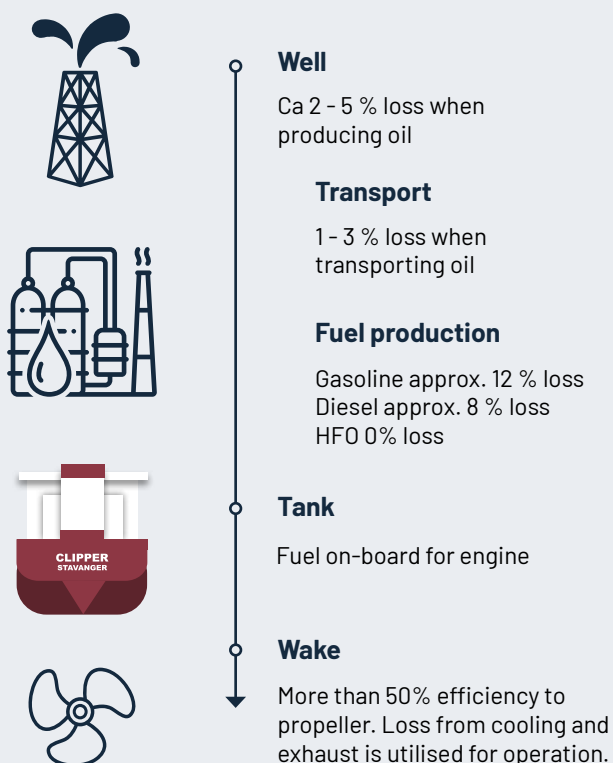
## GHG-neutral e-fuels, ammonia & hydrogen

Electro-fuels represent an artificial fuel type processed from GHG-free electricity, water and air. E-fuels may be e-diesel or e-LNG with the same properties as the standard fossil counterpart. Ammonia and hydrogen are other potential GHG-free e-fuels, assumed being processed by renewable electricity or fossil fuels with CCS (carbon capture and storage).

Ammonia-based propulsion remains under development, dealing with substantial safety and technical issues. The target for operation is scheduled 2024/25.

Another option is to modify an engine designed for dual-fuel LPG into running on ammonia. The setup requires a NOx handling system like SCR (selective catalytic reduction) or EGR (exhaust gas recirculation), as well as a system for handling ammonia slip. This would foreseeably take some sort of a scrubber, and the whole setup would

## Energy loss from well-to-wake



**Our goal is to minimize total energy loss from well-to-wake.**

roughly double the size of the fuel tanks. Hydrogen and ammonia have totally different properties and challenges. But the big challenge with all e-fuels is the large energy losses during production and the massive global lack of GHG-neutral electricity from renewable sources to produce e-fuel. See the figure on the next page.

### Decreasing GHG footprint

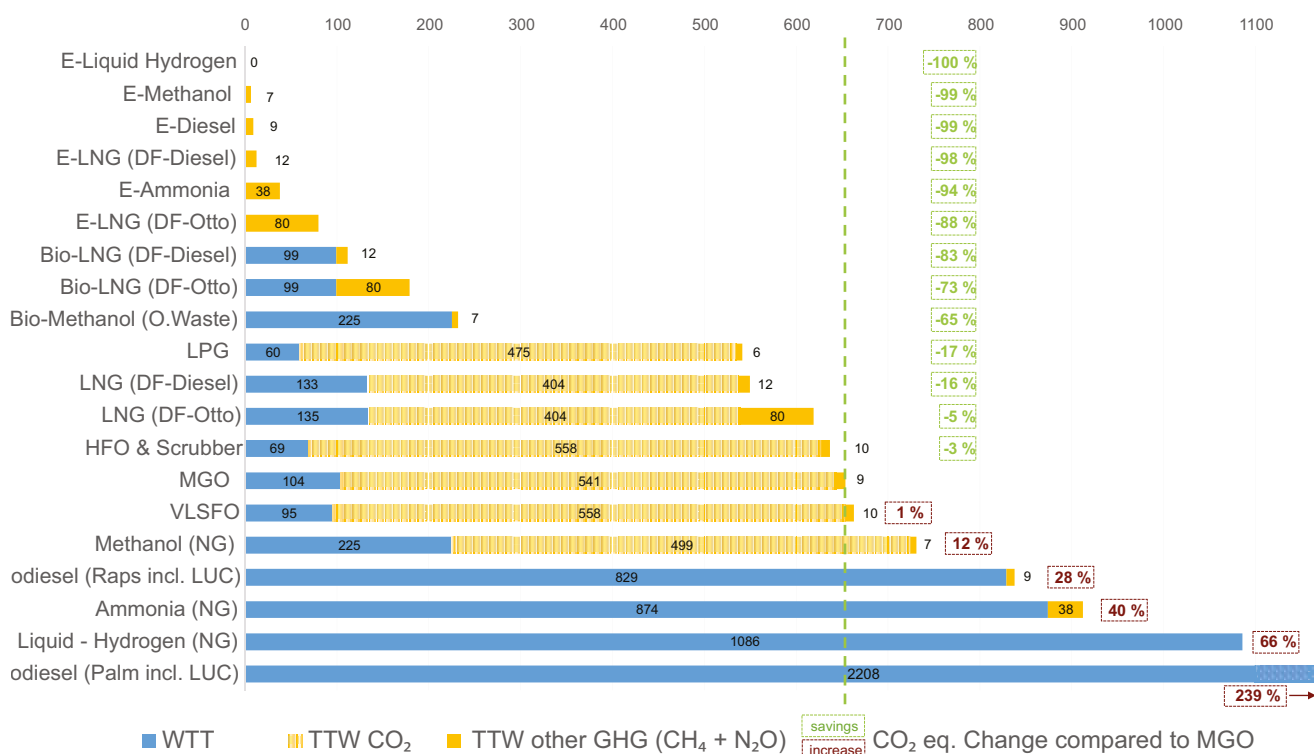
By optimizing operations, hull and machinery within a framework of HFO, scrubber and exhaust gas recirculation, Solvang’s vessels match the strictest IMO and EU regulations. If the planned carbon capture, storage and utilizations program gets implemented, the deep sea fleet of Solvang will have a GHG footprint close to zero in a well-to-wake perspective.

This proves the fact that engine technology is more important than fuel. According to Solvang’s strategic analysis, changing to alternative fuels may actually increase GHG emissions rather than reducing them.



### Well-to-wake fuel emissions

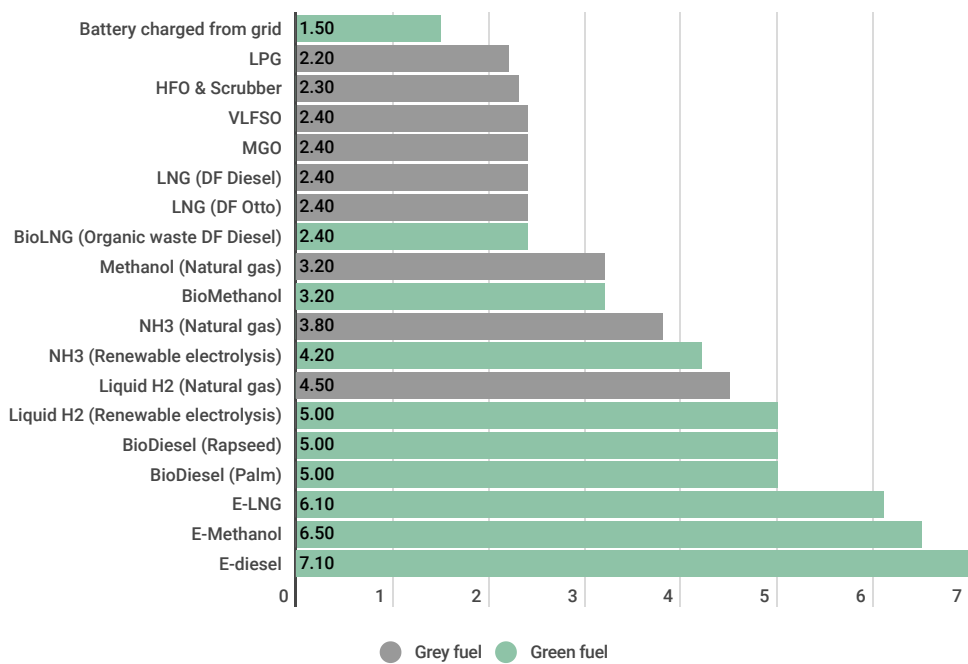
in gram CO2 per kWh - GWP100







### Total energy input WTW / Delivered propulsion energy



All e-fuels have a large energy loss during production. The global lack of GHG-neutral electricity from renewable sources also make e-fuels unfit for deep sea shipping today.

# Reducing our environmental impact



All human activity has an impact on life on land and in the sea. Our goal is to minimize operational and indirect emissions, and strive for zero spills to the environment.

## Environmental aspects for vessels

CO<sub>2</sub>: Global warming  
 SO<sub>x</sub>: Cloud formation and acid rain  
 NO<sub>x</sub>: Ground level ozone  
 PM/HC/CO: Health risk/visible smoke



▶ Garbage/waste



### Contributors for possible interactions for life in sea

- Ballast water
- Biofouling
- Anti-fouling release
- Scrubber washwater
- Bilge water
- Sewage
- Organic waste

Noise  
 Lights  
 Waves

*Our environmental footprint depends on operation and maintenance of the equipment on board.*

As part of our environmental certification ISO 14001, Solvang has established an overview of our environmental footprint to sea and land, and rated our impact as “significant” or “non-significant”. All classified as “significant” have programs for controlling/monitoring and reducing our impact.

To reduce our environmental footprint, we need to deal with all important aspects – preferably at the same time. In fact, reduction of one parameter very often implies an increase in other aspects – which makes this quite challenging. Therefore, the vessels’ design will be a compromise between different aspects. Most of the environmental aspect are also covered by rules and regulations.

Our environmental footprint depends on operation and maintenance of the equipment on board. Wrong operation or poor maintenance can result in emissions far above the expected levels.



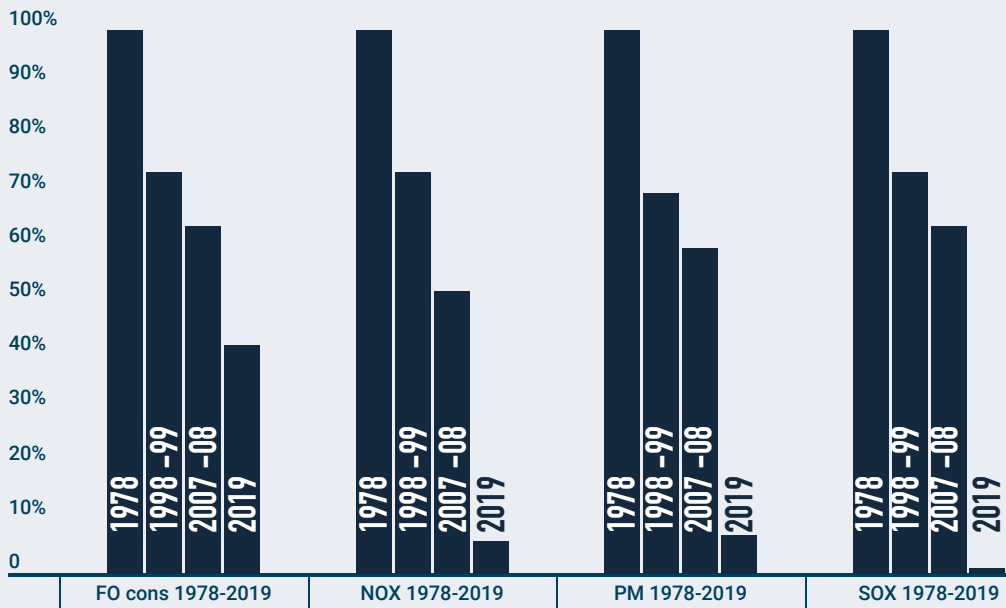
### **SDG12 measures against direct emissions:**

- ISO 14001 certification for securing continuous improvement
- Garbage management plan
- Environmental evaluation of new products
- Environmentally friendly technology
- Optimal operation to reduce consumption
- Maintenance according to the vessel's maintenance systems (PMS)
- Collaboration with suppliers and customers to improve environmental performance

### **SDG12 measures against indirect emissions:**

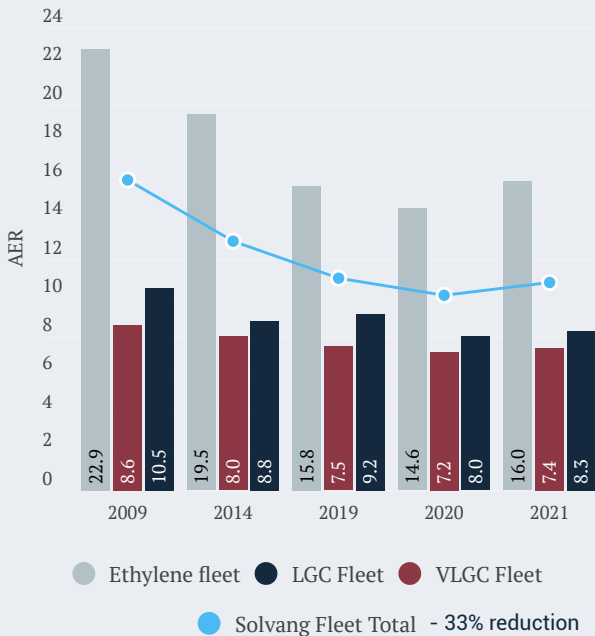
- Involvement and accountability for all employees on-board and ashore to minimize emissions
- Optimized transactions related to travels, procurement, shipments and maintenance

### What have we achieved?

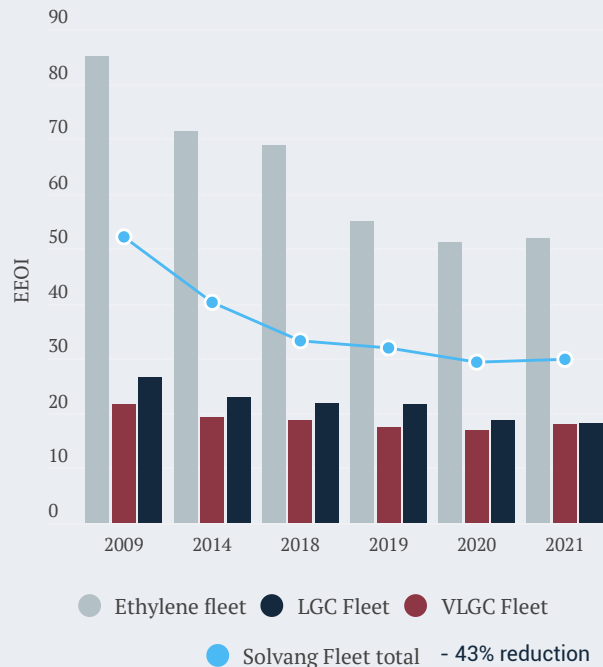


Reduction of our environmental footprint is a continuous process, which requires reliable performance data from the vessels. Since 2008, Solvang has systematically recorded vessel performance data and used this for benchmarking sister vessels, develop best operational practices and feed this into the design of our newbuilt ECO-LPG carriers (first delivered in 2013).

### Solvangs Annual Efficiency Ratio development (AER)



### Energy Efficiency Operational Indicator (EEOI)



The AER increase in 2021 is mainly due to idling and shorter travelled distance. Meanwhile, the EEOI only reflects vessel sailing time. Read more on page 18 and under Solvang in 5, 10, and 30 years.

The sale of Clipper Sun in August 2021 increases both AER and EEOI fleet average. For VLGC the sale decreased the AER and EEOI values.

## Taking care of the vessel

Our environmental footprint depends on operation and maintenance of the equipment on-board. Wrong operation or poor maintenance can increase emissions far above the expected levels.

### Variables

- Continuous improvements, increased knowledge
- Maintenance
- Retrofits and technical improvements
- Optimal speed and route
- Cooperation between ship master, customers and organization

## Ship recycling

With Solvang maintenance level, the technical lifetime of a Solvang vessel is more than 30 years. This is ensured by the continuous maintenance and CAP program (Condition Assessment Program), for all Solvang vessels from 15 years and older.

The majority of Solvang customers prefer newer vessels, therefore the commercial lifetime in our trade very often is limited to around 20-25 years. This means that the vessel still has long technical lifetime left in other markets.

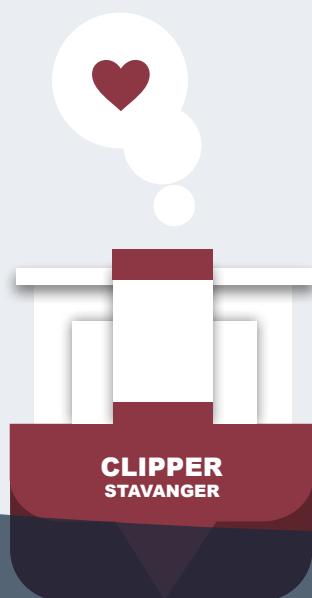
It is therefore unlikely that our older vessels will be sold for recycling but will continue to trade for many years.

If a Solvang owned vessel is to be recycled, the vessel will be recycled in compliance with:

- the Hong Kong Convention.
- the guidelines to the Hong Kong Convention to be issued by the International Maritime Organization; and
- the EU Ship Recycling regulation (1257/2013)

Any vessel owned by Solvang which is taken out of service for dismantling while in its ownership or which is sold to an intermediary with the intention of being dismantled, is recycled at a recycling yard which conducts its recycling business in a socially and environmentally responsible manner in accordance with the rules and regulations listed above.

No vessel may be scrapped or dismantled by Solvang unless an Inventory of Hazardous Material or equivalent documentation for hazardous materials on board, has been established for such vessel.



# 95% cut by 2050

Total annual GHG emissions  
compared to 2008 on Solvang  
vessels with CCS installed



# Offshore carbon capture getting ready



Solvang's full-scale testing of shipboard CCSU points towards a 70-100 percent decarbonization of the fleet, while keeping HFO as our main fuel. Advantages include low price, good availability and low emissions.

The United Nations' schedule to achieve net-zero emissions by 2050, calls for carbon capture, storage and utilization (CCSU) across sectors. This according to the International Energy Agency IEA and Shell Global, maker of the latest roadmap to decarbonize the energy sector. The assumption is that CO<sub>2</sub> input from raw energy sources will inadvertently discharge along the well-to-wake chain. Either from combusting residual oil, during refinement of low-carbon fuels, or by incinerating coal to make power for electro-fuels.

In principle, only a net reduction of energy consumption would provide meaningful emission cuts, which is highly unrealistic in the growing world economy. Another non-viable solution is nuclear energy. Electro-fuels from renewable sources, although carbon-free, are widely thought to remain unavailable to deep sea transport for some time.

## From lab to vessel

All aspects of climate and economy taken into account, capture and storage emerge as a realistic option for handling CO<sub>2</sub> in deep sea shipping. Without carbon capture, there is only a 10-15 percent potential reduction in GHG emissions from fossil fuels like MGO, VLSO, LPG, LNG and HFO. This is why Solvang set about to develop shipboard CCSU, which could reduce CO<sub>2</sub> emissions by 70-90 percent.

In 2021, Solvang launched a vessel-scale carbon capture project in collaboration with exhaust gas cleaning producer Wärtsilä. The system captures CO<sub>2</sub> from main

engine combustion before it passes through the exhaust outlets. Inside the smokestack, a complex carbon separation process takes place, resulting in liquid CO<sub>2</sub> being transferred to deck tanks.

A complete setup of scrubber plus CCS installation already runs on a 1.2 MW full-scale test environment at Wärtsilä's facility in Moss, Norway. The system has been tested with up to 60 percent carbon capture on some engine loads, which has never been done before. The captured CO<sub>2</sub> shows pure quality with little or no contamination, according to technologists.

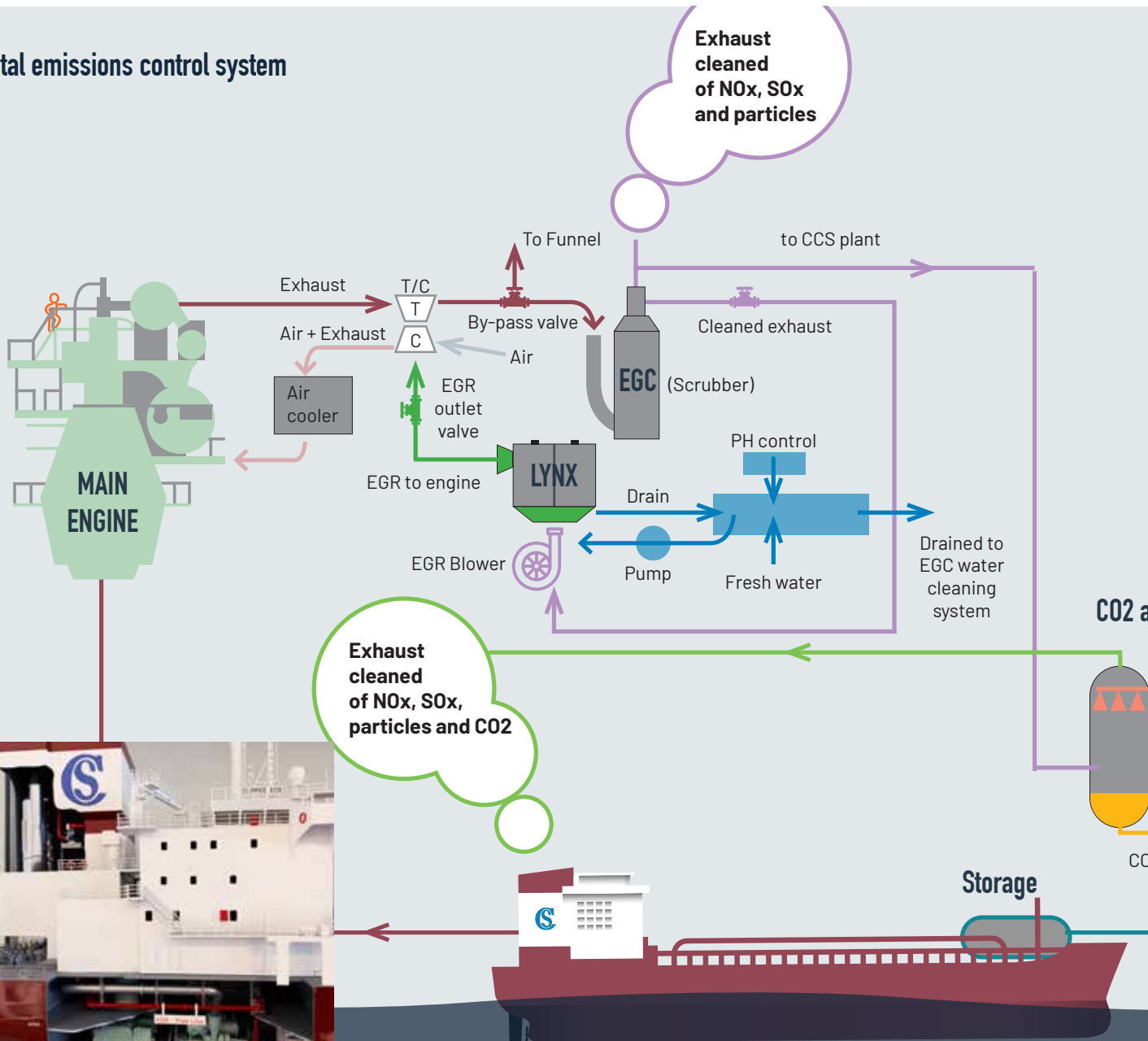
## Reuse of CO<sub>2</sub>

If adequate funding is received, an upscaled solution will be installed on ethylene carrier Clipper Eos, where it will serve the 7 MW main engine. By mid-year 2022, an electrostatic filter will be installed in Eos' exhaust gas cleaning system, a first-time experiment in ship engine history.

If everything succeeds, technically and financially, carbon absorber and stripper units will be installed towards the end of 2023, as well as modification of liquefaction systems to cater for deck tanks. The following two years, a complete CCS setup will operate alongside the existing scrubber and exhaust gas cleaning systems on-board Eos, providing a steady stream of live data.

"CCS is something we can do within a few years. When the world has sufficient green energy, the captured CO<sub>2</sub> can be transformed into electro-fuel," states Mr. Tor Øyvind Ask, fleet director at Solvang.

### Total emissions control system



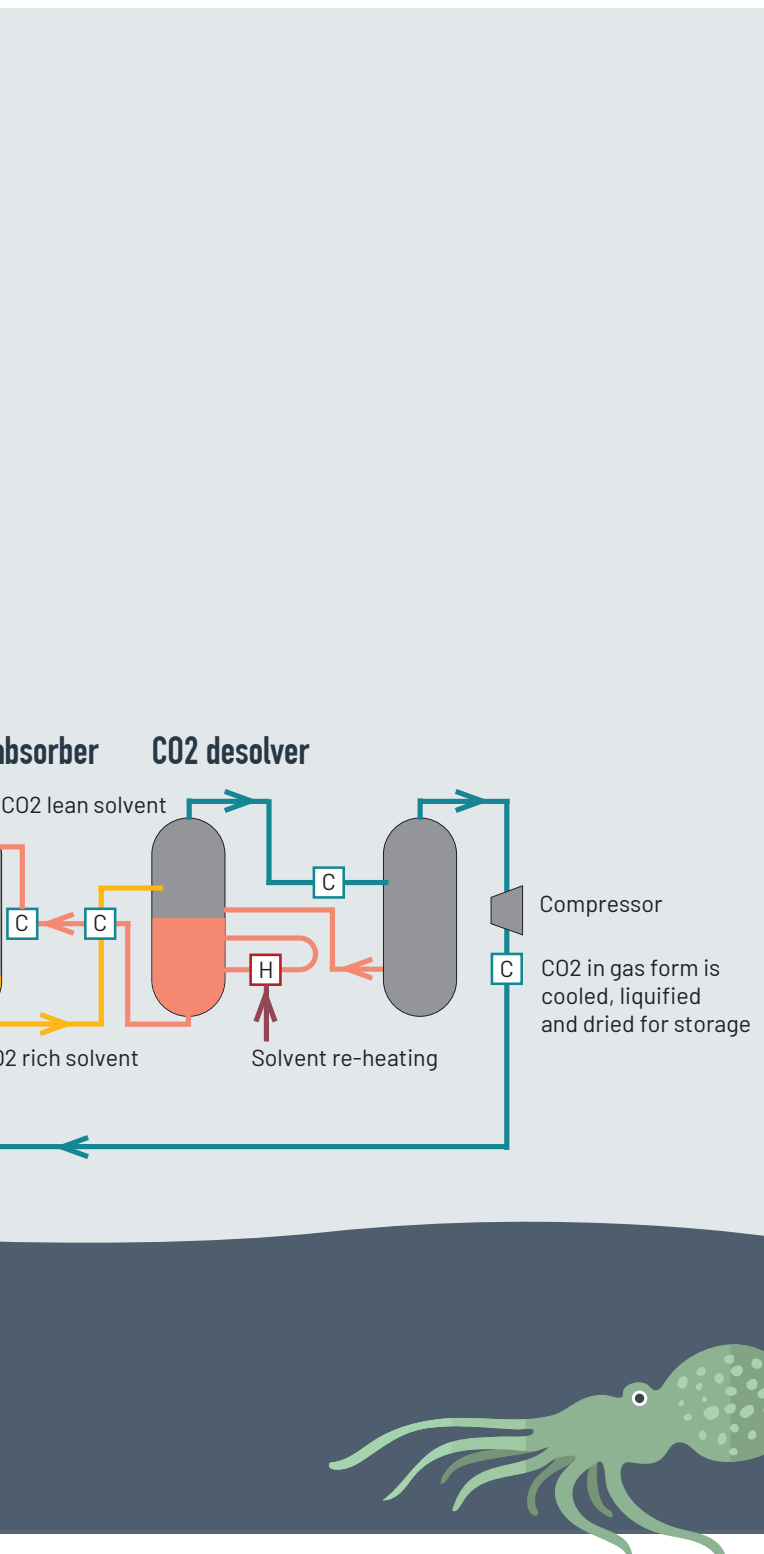
Exhaust cleaned of NOx, SOx, particles and CO2



### Model of on-board scrubber

HFO together with exhaust gas cleaning has so far been the best solution for Solvang. The efficiency ratio exceeds 98%. It also removes a considerable part of the soot and other particles.





CCS combined with exhaust gas cleaning and LP-EGR (low-pressure exhaust gas recirculation) is not a zero-emission technology. Nevertheless, it would be a great step towards “zero-emission shipping” and full decarbonization of deep sea shipping.

### CCS joint project

Parties: Solvang ASA and Wärtsilä Norway AS, with support from vessel charterer Marubeni Corp.

#### Goals:

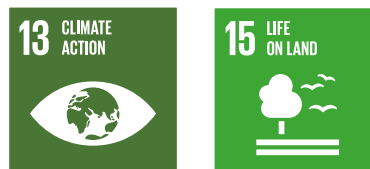
- To demonstrate that CO<sub>2</sub> can be captured and stored as liquid CO<sub>2</sub> in deck tanks;
- To gain real experience of operation of a shipboard CCS plant;
- To reduce energy consumption;
- To reduce cost (CAPEX/capital expenditures and OPEX/operating expenses);
- To explore maintenance requirements;
- To identify possible buyers of the captured CO<sub>2</sub>

#### Scope:

Modification of existing EGC (exhaust gas cleaning) installation to incorporate a particle filter (WESP), during Q2, 2022:

- Testing of WESP unit
- Installing CO<sub>2</sub> absorber and stripper units and associated peripherals, by 2023;
- Modifying the existing liquefaction system and deck tanks to accommodate liquefaction and storage of CO<sub>2</sub>;
- Testing of the CCS system to optimize the operation and gain operational experience;
- Provide input to regulators for development of a coherent and practical set of rules for CCS on-board ships.

# Saving energy for propulsion



Limiting energy losses is the major target for the ECO-LPG Carrier program at Solvang. The upside is massive.

Even though seaborne transport is the most energy-efficient cargo available, it is subject to massive energy losses at the heart of its operation. The two-stroke direct driven low-speed engine has an efficiency ratio at just 50 percent at the propeller. Half of the loss arises from radiation heat and cooling water, while the other half slips through the exhaust.

When the propeller converts the remaining 50 percent of the fuel energy into thrust, further axial losses, rotational losses and frictional losses account for a combined 10-15 percent. Meaning only 35-40 percent of the energy from the fuel is finally used to push the vessel through the water, again being deprived of effect by hull friction and wavemaking.

It is an obvious task for deep sea shipping to counter such gigantic energy losses, which is why Solvang instituted our ECO-LPG Carrier programme. Through this programme, we maintain an extensive set of improvement and innovation measures to minimize losses and save energy for propulsion. By the end of 2021, the programme covered the following areas:

## Efficient hulls and anti-fouling

In addition to constant improvement of naval architecture from designers (minimizing wave generation), Solvang strives to attain optimal underwater surfaces to reduce friction. Key activities are hull surface preparation and state-of-the-art paint, optimizing the effect of anti-fouling within current eco regulations.

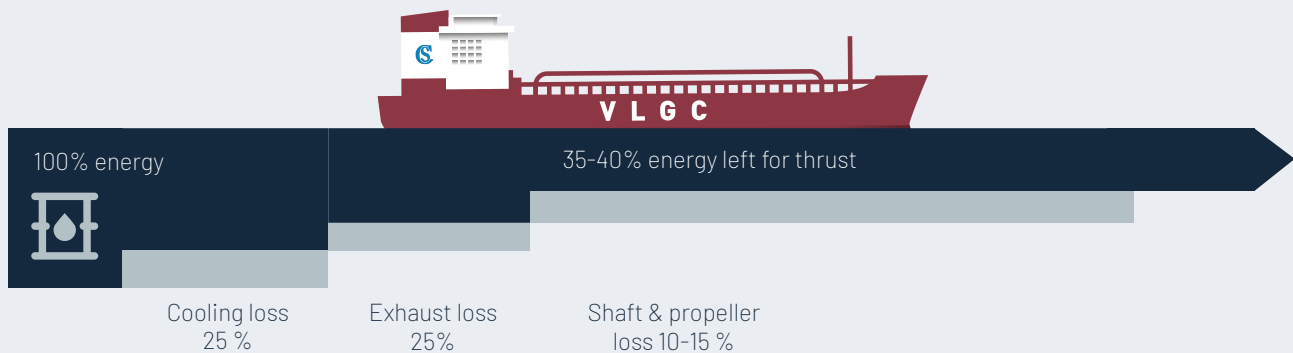
## 2-stroke low speed engines

Direct driven, low-speed engines offer the advantage of maintaining high efficiency in all parts of the load range. Since the propeller is directly coupled to the shaft, there are no transmission losses. By sailing at optimum speed, Solvang attains the best fuel savings ratio possible.

## High fuel-efficiency

Accurate performance monitoring allows Solvang to constantly improve energy efficiency from bunker fuel. Conventional high quality HFO ensures the highest energy density among ship fuels, no processing costs or energy loss, and excellent operational qualities yielding minimal maintenance losses.

## Energy loss from fuel to forward movement



35-40% of the energy put into a ship is actually used for pushing the ship through the water. The ECO concept aims at keeping as much energy as possible for forward movement. We utilize heat lost from the exhaust and cooling systems to heat the ship, produce fresh water etc.

### Heat recovery

Waste-heat represents 50 percent of the system energy losses in shipping, thus holding a colossal potential for recovery. On its ECO-LPG carriers, Solvang uses a waste-heat recovery system (WHRS) to generate useful heat from both main and auxiliary engines. All the vessels' drinking water is produced from engine cooling water. Heat recovery on auxiliary engines minimize the need for boiler and can save 1-2 tonnes of fuel per day during port stay.

### Propeller technology

Mewis ducts are non-moving installations positioned in front of the propeller, in order to streamline the flow of seawater into the propeller. 5-8 percent of the energy otherwise wasted in propeller efficiency, is being relocated to thrust. Solvang is about to extend its Mewis duct programme to the entire fleet over the next few years. Read more on page 48.

### Improved operational procedures

For more than ten years, Solvang has conducted

performance monitoring to control all factors in engine operation. Clean combustion, optimal speed and use of auxiliary systems are a few of the operational procedures we have improved.

### Tank-to-wake: Exhaust gas cleaning technology

The open-loop scrubber with washwater cleaning is a key element in the ECO-LPG Carrier programme. The scrubber + LP-EGR technology reduces the NOx by about 80 percent and SOx by 99 percent. Additionally it reduces particles and heavy metals emissions. As a result, the ECO-LPG carriers are admitted into IMO's and EU's strictest regulation zones while running highly efficient on HFO.

The well-to-wake emissions are reduced by 10-15 percent compared to cleaning the fuel for sulphur in a fuel production plant.

# Discharges to sea



Under normal operation, discharges to the sea are small and we have chosen to consider the following categories:

## Ballast water

Ballast water is regarded as a high-risk emission source, as the ballast water contains marine sediments and organisms. When ships sail across the world with ballast water, species are transferred into waters where they do not belong, and they become a threat to the original marine life. This may damage the local ecosystem and could give severe consequences.

Solvang have installed ballast water treatment systems on board our vessels since 2013. In 2020, the last vessel in our fleet was fitted with ballast water treatment system. This means that all ballast water has been treated on all vessels since 2020.

## Biofouling

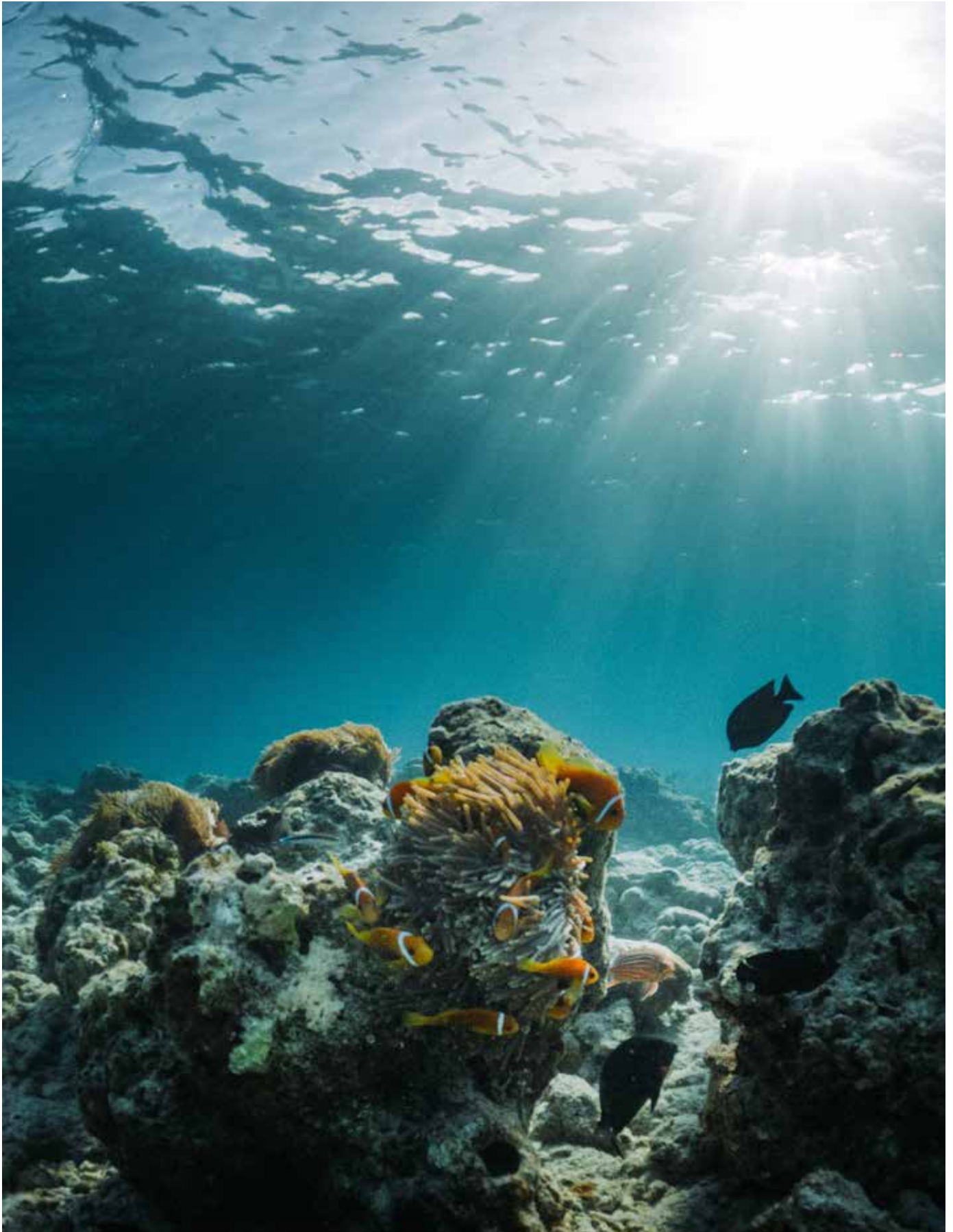
The introduction of invasive aquatic species to new environments by ships has been identified as a major threat to the world's oceans and to the conservation of biodiversity. A multitude of marine species, carried

either in ships' ballast water or on ships' hulls, may survive to establish a reproductive population in the host environment, becoming invasive, out-competing native species and multiplying into pest proportions.

Solvang's approach is to use high quality anti-foulings which prevent marine growth, as well as constantly monitoring hull resistance. In case of marine growth, this is removed by hull cleaning at the first opportunity.

## Anti-fouling

Toxic discharges from the vessels' anti-fouling systems harming the environment, have led to a worldwide prohibition of coatings containing TBT. All old vessels are now coated with TBT-free anti-fouling systems, and of course all newbuildings are fitted with TBT-free coatings. Solvang works closely with suppliers, in order to find and use anti-fouling solutions which will ensure the hull's environmental efficiency throughout the docking period.



## Bilge water

All bilge water is run through the bilge water separator and each run shall be registered in the oil register. These discharges are covered by MARPOL 73/78 Annex 1. All waste oil and sludge is burned in the incinerator or delivered to an approved processing plant onshore.

## Sewage

Sewage is defined as discharges from toilets, urinals and holding tanks. MARPOL 73/78 covers these discharges, and our vessels have holding tanks that are in accordance with international regulations. Sewage dumping is only allowed when the distance from the shoreline is at least 12 nautical miles. For disinfected or finely dispersed sewage, the minimum distance is 4 nautical miles. In both circumstances the vessel shall be moving. The Company will abide by all directives in this area, but with a crew of about 25 persons, we do not consider our discharges to be a major burden to the environment.

## Oil

Under normal circumstances there will be no operational discharges of oil, but oil discharges may occur from thrusters and propeller shaft casings. The key to minimize these discharges is good maintenance. The oil consumption on these systems is monitored precisely. All vessels are also using bio-oil for systems where oil leakage to sea is possible, i.e. tail shaft thrusters etc.

## Scrubber washwater

The SO<sub>x</sub> removed from the exhaust is converted into sea salt by the alkalinity (mainly calcium carbonate) in seawater.

To secure no harm to sea IMO sets limits to discharges to the sea from exhaust gas cleaning systems (scrubbers). Discharge values are monitored 24/7 and records are kept available for inspection at any time, in addition to chemical washwater analyses.

The rules apply to vessels at berth, requiring PH > 6,5 measured 4 meters from the ship's side. Verified compliance is part of the vessel's certification. PAH, turbidity and PH are measured 24/7 upon scrubber operation, and logs must be available for inspection at any time.

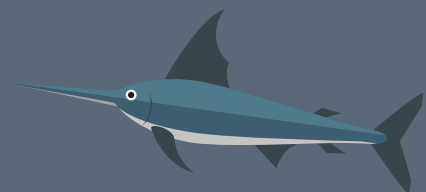
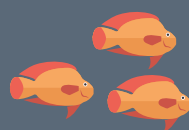
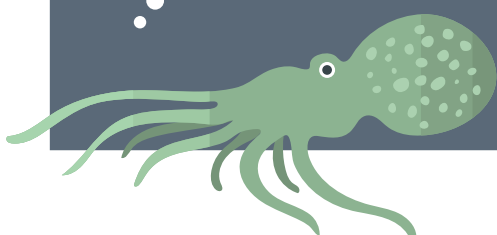
Third party water analyses have been carried out as part of Solvang's operation of vessels with scrubber. There are good reasons to believe that the uncertainty created in the press recently, arises from cases with poor water sampling and analytical procedures.

## Life in water

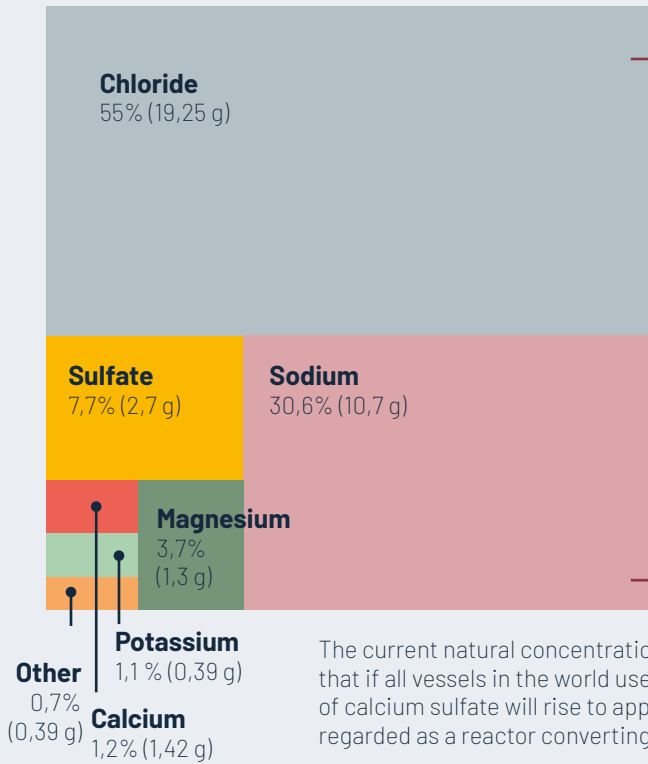
Our goal is to minimize operational and indirect discharges to sea, and strive for zero spills to the sea.

Contributors for possible interactions for life in sea:

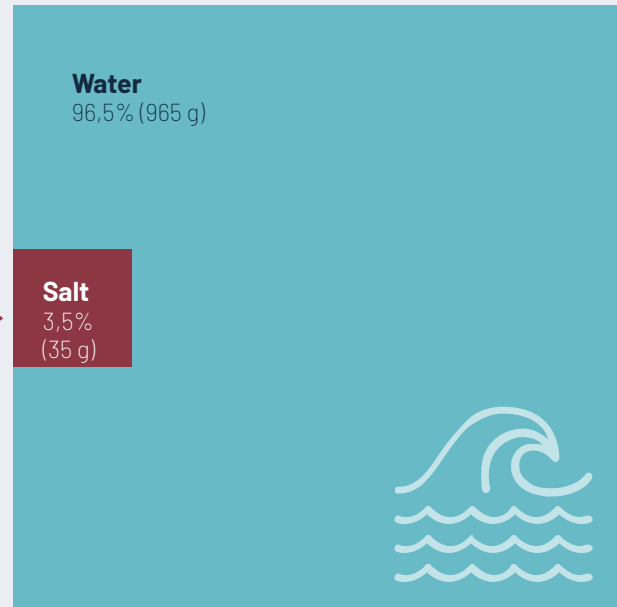
- Ballast water
- Biofouling
- Anti-fouling release
- Scrubber washwater
- Bilge water
- Sewage
- Organic waste



### Sea SALT ingredients



### Seawater ingredients



The current natural concentration of calcium sulfate in seawater is 2.7 g/l. It has been estimated that if all vessels in the world use HFO with scrubber for another 150 years, the concentration of calcium sulfate will rise to approximately 2.701 g/l. This means a seawater scrubber can be regarded as a reactor converting sulfur into sea salt.

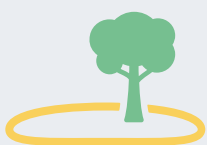
### Garbage/waste handling

MARPOL Annex V covers garbage and waste management. Within "special areas" such as the North Sea, it is prohibited to dispose of anything apart from food waste to the sea. Many types of garbage are produced on-board. A garbage management plan is stated for all vessels. Posters for garbage disposal are also displayed on all vessels.

The waste is segregated into different categories and the amount of garbage produced is reported through our vessel reporting system.

### Waste management plan

#### Waste to shore



- Plastics
- Incinerator ashes
- E-waste
- Scrubber sludge/waste

#### Waste to sea



- Food waste
- Operational waste

#### Waste incinerated on board



- Domestic waste
- Cooking oil
- Oil sludge

*Stepping up Mewis duct installations*

## Saving energy with ducts and rudders



Power savings in front of and behind the propeller holds a giant potential of 4-6 percent of total energy consumption. Over the next few years, Solvang is extending its Mewis duct programme to the entire fleet.



When commissioning Mewis ducts on Clipper Posh and Clipper Quito in 2013, Solvang ordered shipyard Hyundai to perform a novel installation without a guarantee of success. This was the beginning of a fuel-saving performance that is about to cover all Solvang's ships in the upcoming years.

"Quito and Posh were the first VLGC in the world to feature Mewis ducts. Solvang clearly made an act of trusting, which was later richly rewarded", says Mr. Jan Peter Folsland. He represents Becker Marine Systems, a German

company holding long experience in energy-saving devices for large ships, notably the Mewis duct.

### Learning from bulk

A Mewis duct is placed in front of the propeller and contains pre-swirl fins which actively equalize the hull inflow to the propeller through the duct. This reduces losses at the inflow. The other part is passive and ensures minimizing of drag and improvement of course stability. The technology is as simple as it is ingenious, it contains



*“As a result of Mewis duct operation, our ships are sailing longer distances on the same amount of fuel or at higher speed, depending on how you run the machinery”*

Tor Øyvind Ask

no moving parts and can easily be installed during dockings.

“The solution first arrived in Norway in 2008, when it was applied to bulk ships, then to tankers, which have a hull shape especially eligible for improved propulsion”, says Mr. Folsland. After demonstrating an effect as high as 8-10 percent power saving in bulk and tank, other ship segments were ready to apply the Mewis duct. Even though Solvang’s 84 K VLGC have efficient hulls already, the actual power saving has been between 5 and 8 percent, depending on speed and load, according to Mr. Tor Øyvind Ask, fleet director at Solvang.

## Environment + economy

As in most operational improvement projects at Solvang, the Mewis ducts installed on Clipper Quito and Clipper Posh provided value both in terms of emission reductions and increased profitability. As a consequence, 12 more ships had Mewis ducts installed, providing excellent data for deciding about the next 12.

“As a result of Mewis duct operation, our ships are sailing longer distances on the same amount of fuel or at higher speed, depending on how you run the machinery,” says Mr. Ask.

Starting in 2022, the remaining four H-Class 17,000 cbms, three Kawasaki 60,000 cbms, three Hyundai G1 60,000 cbms, as well as two large Hyundai 75,000 cbms ships, will be outfitted with Mewis ducts.

The installations are carried out consecutively in connection with scheduled dockings.

## Fuel consumption and CO<sub>2</sub> taxes

A calculation of savings compared to investments in Mewis ducts for Solvang’s fleet, shows a payback time of

Insight:

### What is a Mewis duct?

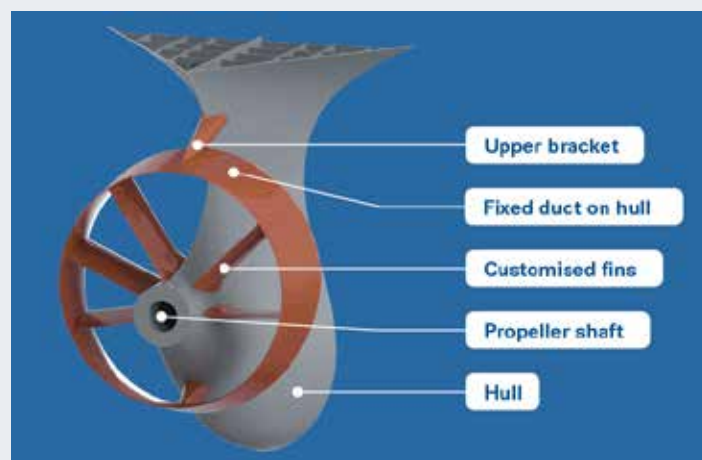
A Mewis duct is positioned in front of the propeller to straighten and accelerate the hull wake into the propeller. A fin system inside the duct provides a pre-swirl to the hull wake which reduces losses in the propeller slipstream, thus increasing propeller thrust. Power savings depend on propeller thrust loading and hull/propeller interaction, from 3 to 8 percent.

(Source: Becker Marine Systems)

Insight:

### Advantages of Mewis ducts

- Reduction of rotational losses
- Improved propulsion efficiency
- Minimized drag
- Power savings
- Reduced vibration



less than one year.

This is based on an average fuel price of 700 dollars per tonne and fuel-saving rate between 4.5 and 5.8 percent, as well as current CO<sub>2</sub> taxes of 37 euros per tonne HFO, as suggested by EU.

The value of the investment seems clear if we measure the budget cost for 12 installations at 3.55 million USD, towards yearly savings of 4.1 million USD in bunker fuel. If the potential is taken out for all Solvang’s vessels, annual savings could reach 5,000 tonnes of fuel, equivalent to 15,000 tonnes of CO<sub>2</sub>.



*“Done right, we hope our efforts contribute to a positive spiral with positive dialogue and improved standards in an international perspective.”*

## Positive effects from international shipping



International shipping brings people together from all parts of the world. Solvang is a good example of this.

Our vessels are built in South Korea, Germany and Japan with equipment and technology from Norway and other European countries. Employees from South Korea, Poland, Norway, Lithuania, the Philippines and numerous other nations contribute to the construction of the newbuildings; our vessels load and unload worldwide, and we are currently employing seafarers and office staff from more than 10 different nations.

To work, this complex structure depends on cooperation between different cultures and professions. We acknowledge that decisions made in Solvang's board room in Norway may have great impact on our employees, their families and the local societies in the Philippines. We take this perspective and responsibility very seriously.

Shipping as an industry is often criticized, but run in a good way, international shipping has a lot of positive effects that rarely make it to the media headlines. Solvang's goal is not only to be in compliance with rules

and regulations but to contribute to a high standard for quality shipping around the world. The world trade depends on shipping – and we strive to increase our positive impact on our surroundings the best we can.

This ambition is not achieved over night but is an ongoing process. Our most important “tools” are our core values quality, friendliness, enthusiasm and team spirit. These should shine through everything we do and on everyone we meet on our path – colleagues, customers, owners, competitors, public sector, society and the local and global environment. Done right, we hope our efforts contribute to a positive spiral with positive dialogue and improved standards in an international perspective.

As a supporter of the principles in the UN Global Compact, member of Maritime Anti-Corruption Network (MACN) and ISO 14001-2015 certified, Solvang ASA adheres to high ethical and environmental standards in the way we conduct business.

# Examples of how we work to improve standards

## Ethical guidelines

Solvang has introduced "Ethical Guidelines" comprising our core values, our responsibility for an ethical and conscientious relationship with our employees, stakeholders and the societies we are a part of.

The "Ethical Guidelines" specifically instruct employees to be very careful about giving and accepting gifts or other services; it is not allowed to offer or accept any form of personal fees, provisions or services that may be interpreted as attempts of influencing decisions or give or accept any form of gift or service in relation to negotiations, or as acknowledgements for a specific contract or behaviour.

We promote "the ethical conduct test" using three simple questions (Is it legal? Is it right? Can it be justified?) to guide our decisions in minor or major ethical dilemmas.

## Procurement

We have a 'Supplier code of conduct' embracing the UN Global Compact.

As a member of Incentra we use suppliers with high standards within health, safety, environment that meet Incentra Supplier Code of Conduct and provide quality products and services at competitive terms.

All purchase transactions require support documentation such as: A purchase order (subject to Solvang Terms and Conditions for Purchase Orders) or a stand-alone contract (such as a master purchase agreement).

All Solvang purchases of products or services are subject

to Solvang Terms and Conditions for Purchase Orders. Supplier's acceptance of a purchase order indicates acceptance of both the Terms and Conditions, and of the price, currency and shipping date as stated on the purchase order.

Solvang requires an original invoice (also referred to as a tax invoice). Solvang does not allow payment based on either pro forma invoices or statements. Invoices must meet Solvang's requirements for payment.

International custom regulations require duty to be paid on the true net value of imported goods. Therefore, charges such as packaging, freight, and handling must be itemized separately on all invoices submitted for payment. The only method of payment used by Solvang is by electronic transfer (direct deposit) – we do not accept cash payment.

## The Clean Shipping Alliance

Solvang is a member of the The Clean Shipping Alliance 2020. The alliance represents a group of leading companies from the commercial shipping and cruise industries that have been leaders in emission control efforts and have made significant investments in research and analysis, funding and committing resources to comply with 2020 fuel requirements through the development and use of exhaust gas cleaning systems (EGCS).

In addition to serving as an advocate for companies working to reduce marine exhaust gas emissions, CSA 2020 will support the scheduled implementation and effective enforcement of the International Maritime Organization's (IMO) requirement for a 0.5 percent global Sulfur cap on fuel content as of January 1, 2020.

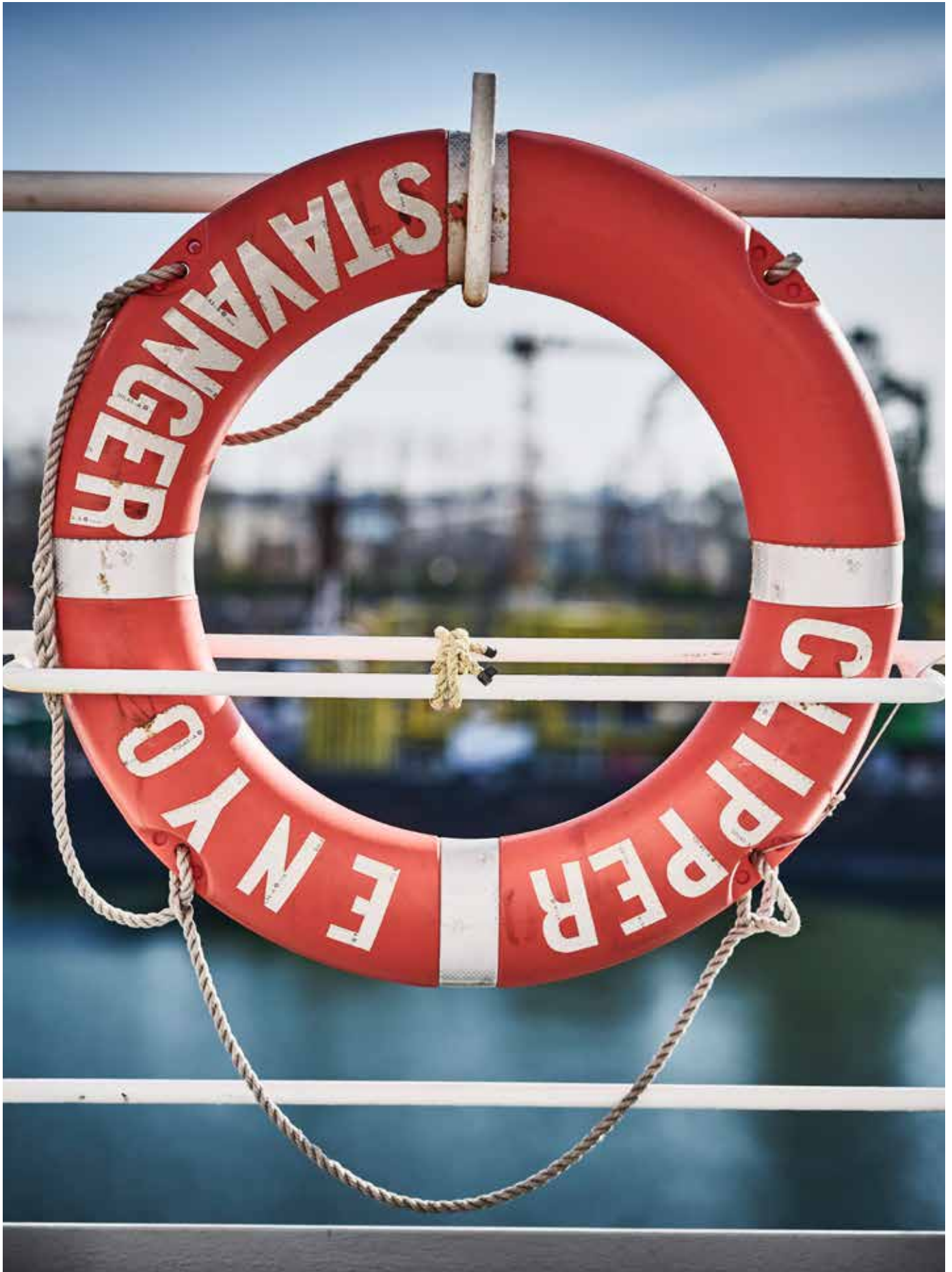
## Social support

Since more than 95% of Solvang's maritime employees are from the Philippines, it is natural for us to support activities in that country in particular.

Through the Norwegian Shipowners' Association, Solvang has (as one of 12 members) been supporting the SOS Children's Village in Cebu with annual funding for their operations since 2008.

In Norway we also give financial support to various activities like The Norwegian Sea Rescue Society, The Salvation Army and Varmestuens Venner to mention some.







# ESG PERFORMANCE

To keep our commitment for continuous improvement, we constantly measure our performance.

We have defined a set of Key Performance Indicators (KPIs) within different areas. By analyzing these we are able to show our performance, document our improvement and identify areas where we need further improvement.

Systematic registration, measurement and evaluation form the basis of our KPIs. The data allow us to identify and implement the best operational practice in terms of health, safety, the environment and operations. Measurements and registrations are made using a number of systems. One example is the Vessel Performance Monitoring system developed in-house, which deals with all aspects of the vessels' technical performance. A

number of parameters are measured daily on board. The figures are sent to the office where they are thoroughly evaluated.

Continuous improvement can be seen as many activities which support each other. The interaction between the vessel and shore organization, charterer, terminals and other vendors is of crucial importance if we are going to reach our goals and live up to our mission statement:

To be an industry-leading provider of LPG and petrochemical tonnage to our clients in the safest, cleanest and most cost-efficient manner.

**See next page for performance graphs and figures**

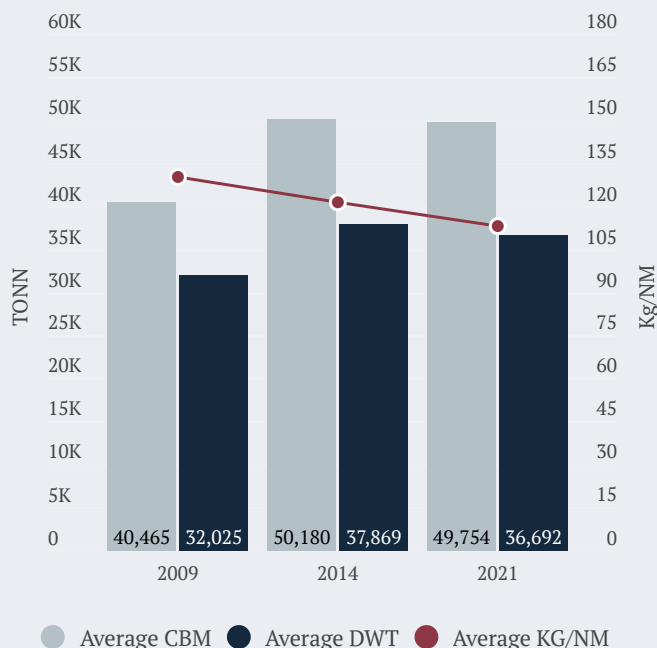


### Solvang energy consumption and GHG emissions

Our fleet has increased in number and tonnage. In 2009 we operated 16 vessels and in december 2021 we had 26.

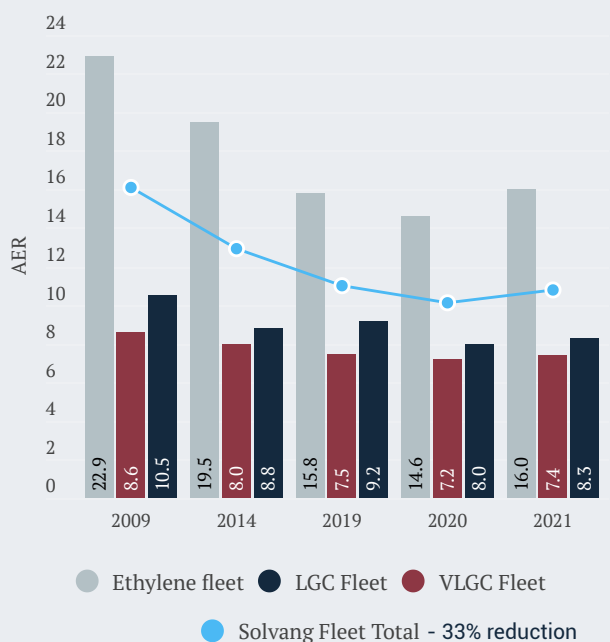
The total fleet emissions have increased due to the fleet expansion and more operations per vessel. However, the average emissions per vessel have decreased by 13%. This is in spite of a 23% increase in cargo capacity.

The 23% average cargo capacity increase is relevant for the EEOI performance. The 14.5% average size increase is relevant for AER performance shown below.

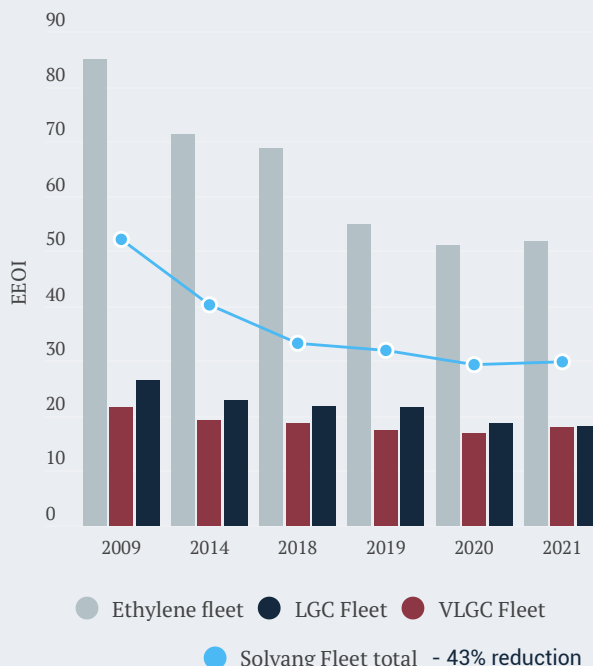


23% average cargo capacity increase    14.5% average size increase    13% reduction in fuel consumption

### Solvangs Annual Efficiency Ratio development (AER)



### Energy Efficiency Operational Indicator (EEOI)



The AER increase in 2021 is mainly due to idling and shorter travelled distance. Meanwhile, the EEOI only reflects vessel sailing time. Read more on page 18 and under Solvang in 5, 10, and 30 years.

The sale of Clipper Sun in August 2021 increases both AER and EEOI fleet average. For VLGC the sale decreased the AER and EEOI values.



### Sludge garbage

Cbm	Fleet total 2021
Sludge produced	2702.95
Sludge incinerated	998.51
Sludge evaporated	955.36
Sludge disposed	528.27
<b>Cbm</b>	
Plastics	416.86
Food wastes	24.60
Domestic waste	317.73
Cooking oil	6.45
Incenerator ashes	44.51
Operational wastes	46.90
E-waste	13.56

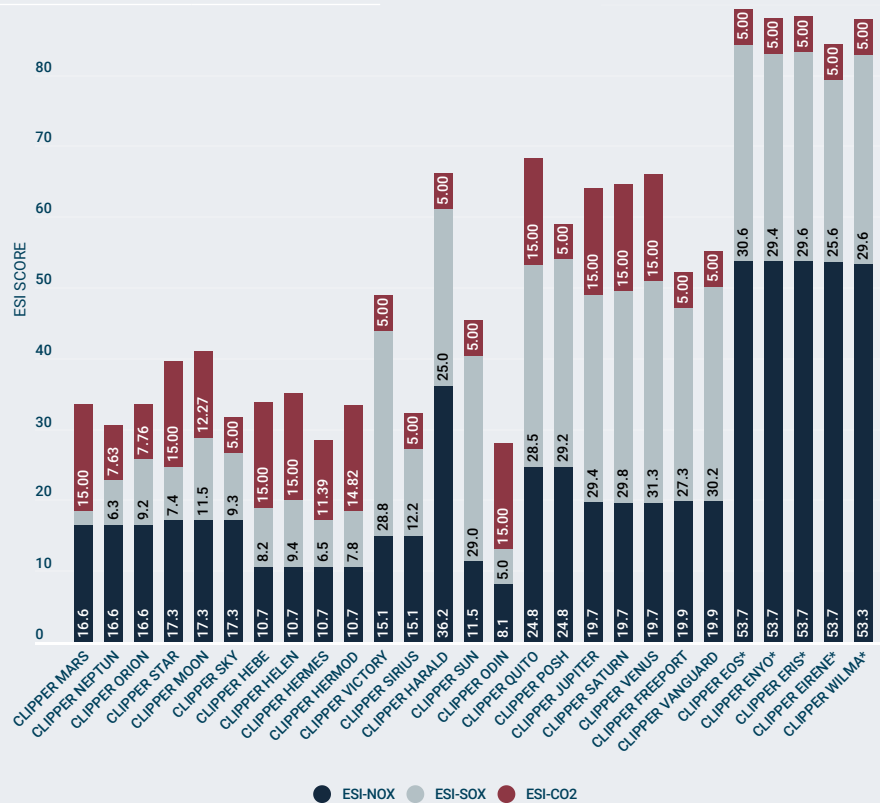
S0x 2019 - 2021

**87%**  
reduction  
in total S0x emissions

### Environmental Ship Index (ESI) score 2021

Rating of environmental performance. Best possible score is 100 points. This shows that the 5 newbuildings perform very good, around 90 points. All vessels with scrubber technology perform well.

ESI identifies seagoing ships that perform better in reducing air emissions than required by the current emission standards of the International Maritime Organization (IMO)



**1** oilspill since 2009  
800 liters 2015

**281** days of operation  
Particularly Sensitive  
Sea Area (PSSA) in 2021

**145,612**  
maintenance tasks  
0.229% of which was  
overdue. The best score  
in TMSA is less than 1%

### Our vessel's energy consumption 2021

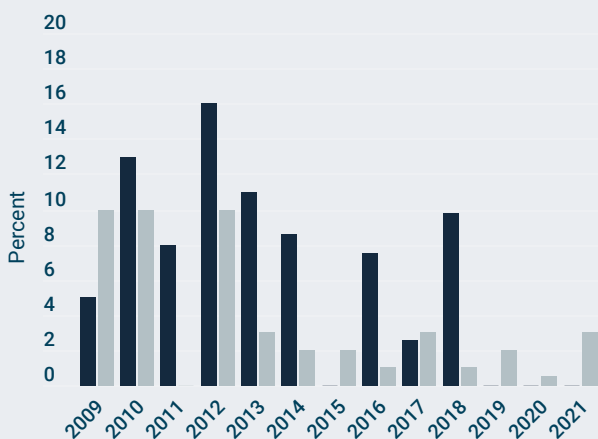
Fuel type	Tonne fuel	Sulphur content	Energy per tonne fuel [MJ/kg]	Energy [MJ]
MGO	15,376	0.06%	42.70	656,572,280
VLSFO	5,339	0.43%	41.00	218,915,400
HFO unscrubbed/scrubbed	220,897	2.8 / 0.10 %	40.20	8,880,043,320
Total	241,612	0.24 %	Total energy consumption:	9,755,531,000

### Sulfur

The table shows how efficiently the scrubbers remove SO2 from exhaust.

	Scrubber	No scrubber
Total SOx Emissions (tonne)	149	897
Avg SOx Emissions (tonn per vessel)	10	75
Total SOx Emissions per distance (g/nm*)	122	982
Average S content in fuel	0.10%	0.43%

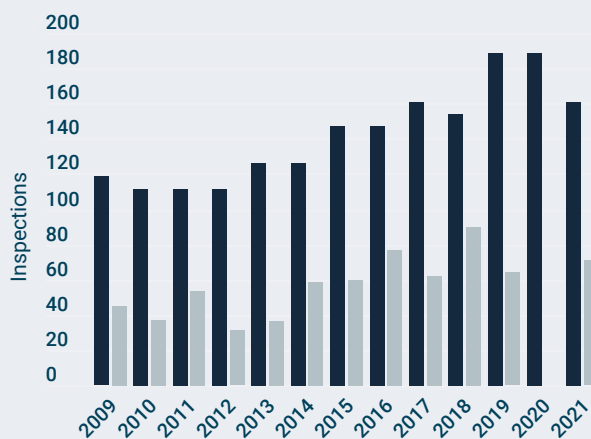
### Employee turnover



\* Turnover for CREW is retention rate - 100

● Turnover onshore ● Turnover crew

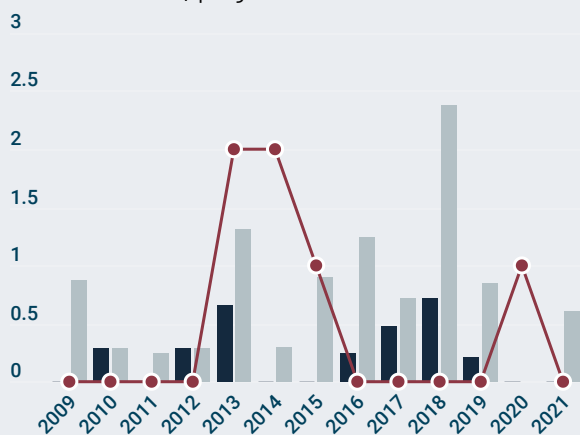
### Governance



● Internal inspections ● External inspections

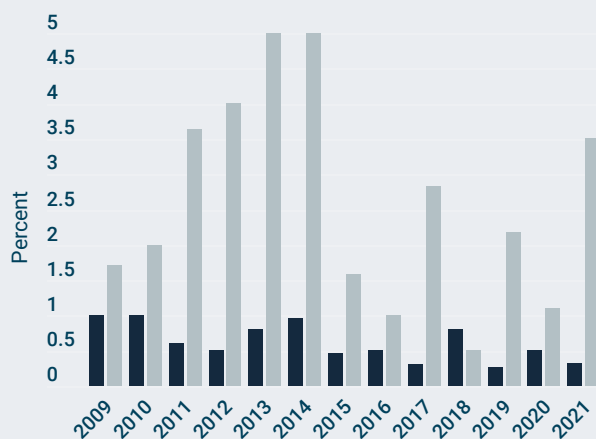
### Safety

Continuous HSEQ programme since 2009



● LTI ● TRCF\* ● Vessel accidents

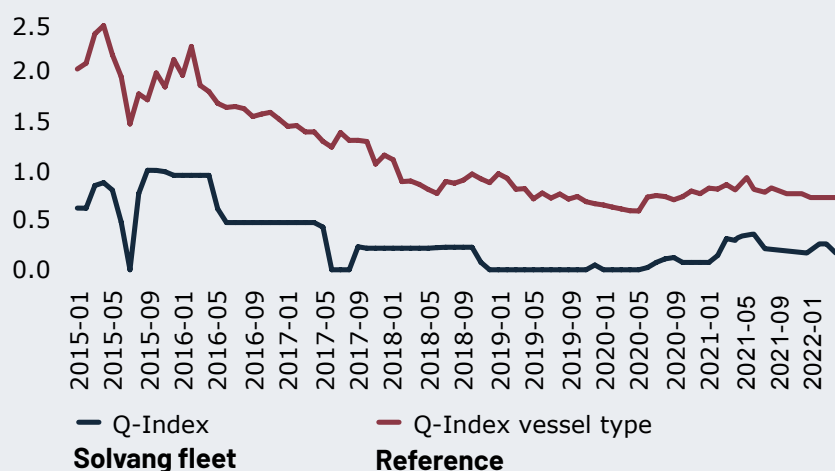
### Sick leave



● Sick leave CREW ● Sick leave ON SHORE

\* Total recordable case frequency

### DNV Ship Quality Index 2015-2022



The DNV Ship Quality sums up Solvangs performance.

The reference is the total LPG carrier fleet in the DNV system.

DNV scores Solvang considerably better compared to the world average LPG-tanker fleet.

**Low number, few issues = high quality.**

### Ship Quality Index elements

Main item	Score (avg.)	Sub item	Score
Class systems	0.0	Overdue surveys	0
		Manjor/serious conditions	0
		Overdue regular conditions	0
		Overdue serious conditions	0
		Sum CHS and CMS	0
		Postponed conditions(MOU only)	
		Number of conditions(MOU only)	
		Survey findings	0
PSC Detention details	0.0	Serious detentions	0
		Regular detentions	0
Special attention vessels	0.2	Poor rating	0
		Fair rating	4
Thickness and coating	0.0	Annual survey of tanks and spaces (Ref 106)	0
		Annual survey of ballast tanks (Ref 107)	
		Ballast tanks adj. to heated cargo tanks (Ref 110)	0
		Substantial corrosion (Ref 111)	0
ISM/SMC audit results	0.0	Major NC	0
		Overdue non-conformities	0
		More than 5 non-conformities	0
		Annual audit	0
		Additional audit	0
		Possible ISM failure rec.	0
Class suspension	0.0		
<b>Q-INDEX</b>	<b>0.2</b>		

### Flag & Port State control 2021

71 DNV inspections                      44 port state controls  
 0.5 observations on average.      0.4 observations on average.

Internal inspections follow the fleet size. External inspections by DNV and flag states are done in 5 year intervals.

# Continuous improvement

We believe that if all work tasks and jobs are done according to our core values, **quality, enthusiasm, friendliness and team spirit**, the outcome will automatically be continuous improvement. For us, this is the single most important parameter in order to reach our mission statement and vision.

The vessel operations have to comply with all rules and regulations. To ensure this, we have internal inspections where office staff spend several days on board for controlling and making sure that all systems and processes are according to our procedures.

Our customers have their own inspections three times a year, and the Class inspects our vessels yearly on behalf of the flag state and port state to ensure that the vessels are safe in their particular ports.

Passing the external inspections with good results is basically our «ticket to trade», and detention or high-risk observations may have severe consequences commercially.

In total, we have approximately 70 KPIs in the following areas: safety, human resources/health, environment, training, fleet operation and vetting & inspections (quality).

Targets are set annually and followed up monthly and quarterly on different levels in the organization. This has been an ongoing process which started back in 2008. Sharing best practice and bench-marking between our vessels are among our tools for fuelling the process of continuous improvement. On a top level we started to measure our quality with a quality score, which is a weighted number of observations based on external inspections.

## Solvang Quality Awards

We are proud of our good results and continuous improvement on HSEQ in Solvang. That is why we have invested a lot of time, effort and money in the “Living the Vision” programme.

## Quality improvement\*



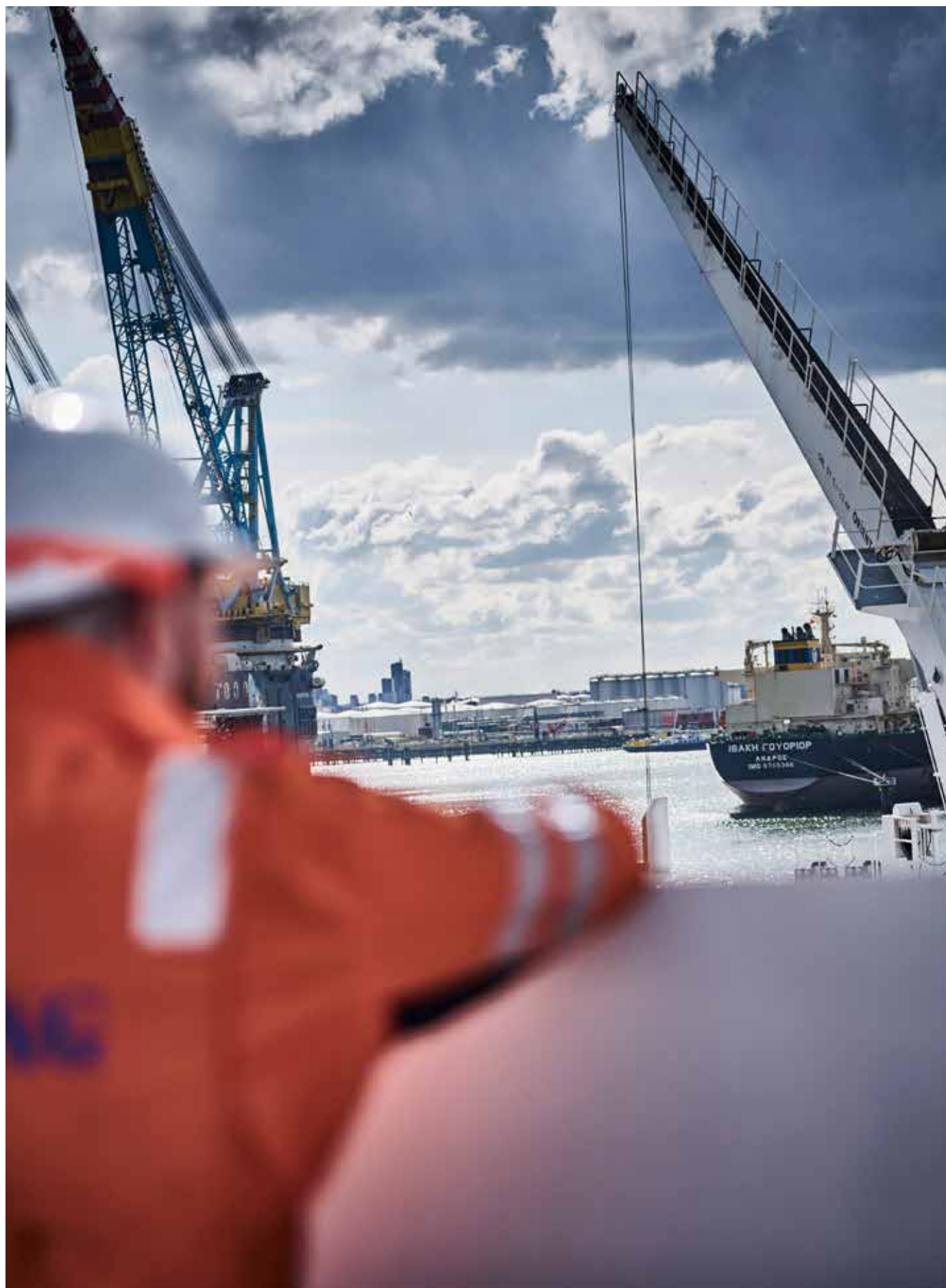
Weighted number of observations in the fleet

\* Based on the overall number of observations on the following inspections: OCIMF inspections, CDI inspections, DNV-GL Annual Class/ISM/ISPS/ISO 14001/MLC audits and Port State Controls (PSC).

## Quality Awards results



Year	Top	Score
2021	Clipper Venus	0.45
	Clipper Freeport	0.70
	Clipper Eirene	0.73
2020	Clipper Venus	0.68
	Clipper Jupiter	1.03
	Clipper Eos & Saturn	1.10
2019	Clipper Eris, Venus & Wilma	0.70
	Clipper Vanguard	0.81
	Clipper Quito	1.20
2018	Clipper Venus & Jupiter	0.70
	Clipper Freeport	1.03
	Clipper Sun	1.10
2017	Clipper Venus	0.51
	Clipper Jupiter	1.10
	Clipper Saturn	1.15
2016	Clipper Star	0.70
	Clipper Victory	1.07
	Clipper Sun	1.24
2015	Clipper Hermod	0.86
	Clipper Star	1.17
	Clipper Helen	1.33





# SOLVANG IN 5, 10, AND 30 YEARS

The Solvang ECO gas carriers demonstrate how systematic design efforts and continued improvement of operations together yield reductions in energy consumption and emissions to air.

Under pressure to raise the bar even higher, IMO now sets a target of 40 percent reduction in carbon emission intensity from 2008 to 2030.

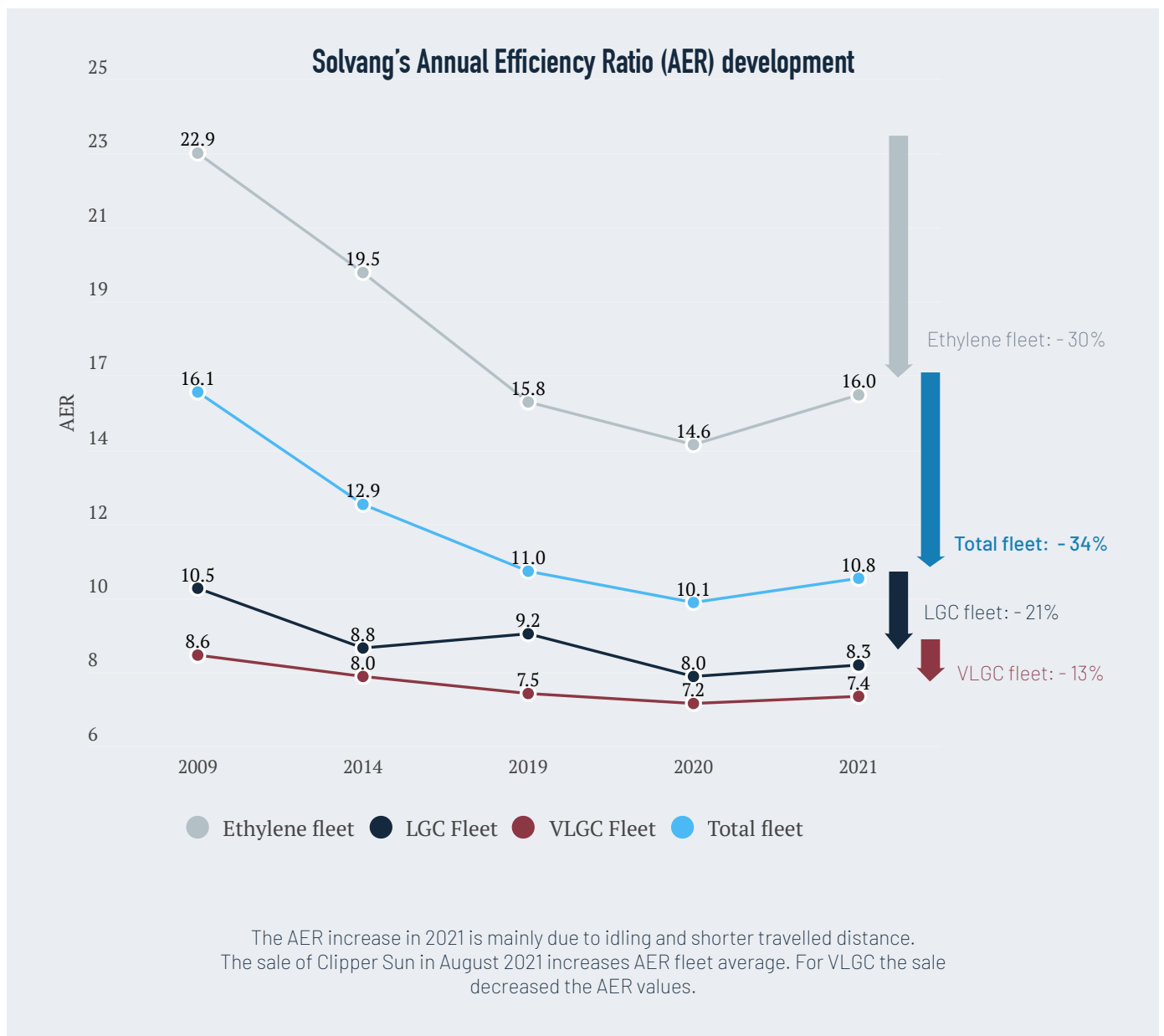
The following statement is based on Solvang's actual AER (annual efficiency ratio) from 2009 to 2021 in the vessel categories A-E, see next page.

## **Race towards lower emissions**

Systematic improvement yields results, but the potential is limited by natural laws. If no perpetuum mobile is invented, we will at one point need a well-to-wake zero GHG technology. In last year's report we discussed different zero GHG fuel options and technologies in the chapter Clipper Future 2050. Shipboard CCS (carbon capture and storage) emerges as a very interesting option.

# Solvang 2025

Target: All of Solvang’s vessels are set to be recertified with EEXI certificates. The carbon intensity factor is monitored closely to ensure full compliance with the IMO reduction target adjusted for 2025.





## Clipper EOS

If all goes well, Clipper Eos will send live operating performance data from the carbon absorber and stripper units, as well as the modified liquefaction systems to cater for deck tanks. The CCS setup will operate alongside existing scrubber and EGC systems on-board Eos. The scheduled combination of CCS, scrubber and Solvang's low-pressure EGR system will handle CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, particles, CO and unburnt fuel from the HFO (heavy fuel oil) combustion.

## Challenges to AER indicators

The results below clearly demonstrate how the AER indicators (see page 18) disfavor vessels during idling, bad weather and port operation. While not sailing, vessels still consume fuel for heating, cooling, electricity etc. IMO is working to adjust the indicators to cater for abnormal idling, special operations, bad weather and abnormal heating/cooling needs.

Based on the EEXI certification and following vessel modifications, our H class ethylene vessels operate in the same pattern with continued improvement of operations, best practice and maintenance. As a result, our ethylene fleet will score far better than the required AER in 2025.

## Ethylene vessels rating

The average AER has increased from 14.6 to 15.9 from 2020 to 2021. Following the IMO 2019-2026 reduction target, the 14.6 value corresponds to a vessel C rating and compliance in 2025, while 16.0 results in a D rating, hence non-compliance.

The AER increase is caused by quieter markets and 10 percent less distance sailed in 2021 compared to 2020. In general, the E class performs better in 2021, while the rest slightly worse compared to 2020. The vessels with the highest idling/lowest sailing distance, represent an AER increase of 50 percent. Additionally, three of the vessels are in their last year before dry docking with scheduled renewal of anti-fouling, which tends to act on fuel consumption.

## The LGC fleet

According to Solvang's AER scores, our LGC fleet has increased from 8.02 to 8.30. Compared to the IMO 2019-2026 reduction target, the 8.30 value corresponds to a C rating yielding compliance in 2025 without further measures.

The increased AER is caused by 3 percent less nautical miles sailed, changes in operating patterns, as well as increased charter speed in combination with weather conditions. Continued idling for some vessels result in increased marine growth on the hull, causing increased energy consumption during sailing.

Still, the HHI G2 class generally scores better in 2021 than in 2020, due to dry docking in 2020.

Based on the EEXI certification and installation of Mewis ducts on the rest of the LGC fleet, our LGC vessels operate in the same pattern with continued improvement of operations, best practice and maintenance. As a result, our LGC fleet scores better than the required AER in 2025.

## The VLGC fleet

Solvang's AER scores show the LGC fleet has increased from 7.25 to 7.37. One vessel is sold. Compared to the IMO 2019-2026 reduction target, the 7.45 value corresponds to a C rating yielding compliance in 2025 without any further measures.

The main reason for increased AER is two of our VLGCs being in their final year before dry docking and renewal of anti-fouling, causing considerable increase of fuel consumption during sailing. For the remaining VLGC fleet, the AER score is almost identical to 2020.

## Solvang 2030

Just like in 2025, the carbon intensity factor will be closely monitored in 2030 to ensure full compliance with the IMO reduction target of 40 percent. The IMO regulation will be revised in 2026, and reduction targets will be updated for 2027-2030.

**70% cut  
by 2030**

Total annual GHG emissions compared to 2008 on Solvang vessels with CCS installed



The assumptions below are based on AER data from our own fleet, not for the world fleet, which otherwise would constitute the IMO baseline.

Additionally, we expect to see in place an improved indicator for carbon intensity. There are several options holding respective advantages and disadvantages, of which shipowners control some and charterers control others.

### The ethylene fleet

Solvang's AER score shows that our ethylene fleet already delivers a 30 percent reduction compared to 2009. This is based on the EEXI certification and modification of the H class, and the fact that our ethylene vessels operate

Solvang's potential full-scale testing of shipboard CCSU points towards a 70-100 percent decarbonization of the fleet, while keeping HFO as our main fuel. Advantages include low price, good availability and low emissions.

in the same pattern with continued focus on improved operations, best practice and maintenance. As a result, our ethylene fleet will reach IMO's 40 percent reduction target by 2030.

Particular uncertainties relate to IMO: Reference level, correction factors and selection of the carbon intensity factor. The well-to-wake perspective will also affect the result.

### The LGC fleet

Solvang's AER score will show Solvang's LGC fleet has reduced its AER by 21 percent since 2009.

Based on the EEXI certification and installation of Mewis ducts on the rest of the LGC fleet, our LGC vessels operate in the same pattern with continued improvement of operations, best practice and maintenance. Nevertheless, our existing LGC fleet would need speed reduction and/or other efficiency measures to achieve a 40 percent AER reduction by 2030.

Particular uncertainties relate to IMO: Reference level, correction factors and selection of the carbon intensity factor. The well-to-wake perspective will also affect the result.

In a 10-year perspective, a renewal of our fleet is to be expected, as two of our oldest LGCs will round 27 years in 2030.

### The VLGC fleet

Back in 2009, Solvang recorded data for two Panamax VLGCs, which were delivered mid-2008 and Jan 2009. The third newbuild VLGC was delivered late 2009.

Solvang's AER score shows our VLGC fleet will have reduced its AER by 14 percent since 2009. Based on this assumption, our VLGC vessels continue to improve operations, best practice and maintenance. Our VLGC fleet would not reach the 5.2 target value, assuming 40 percent reduction compared to our own AER in 2009. The Poseidon Principles requires 6.1 in 2030 and 7.2 in 2025. The AER score for Solvang's VLGC class was 7.2 in 2020, in line with Poseidon's target for 2025.

Particular uncertainties relate to IMO: Reference level, correction factors and selection of the carbon intensity factor. The well-to-wake perspective will also affect the result.

By adding a small percentage of E-fuel/biofuel, our existing fleet could reach a preferable AER target. When the exact 2030 target will be available, Solvang will plan accordingly. Two of our oldest VLGCs would round 22 years in 2030.

# Solvang 2050: Clipper Future

In 2010/2011, Solvang launched Clipper Future, the project through which we created the Solvang ECO-LPG carrier concept.

Clipper Future aims to design vessels as fuel-efficient and green as possible. Given a reasonable write-off schedule, the investment would yield lower OPEX and reduced emissions. The vessels should comply with current and future regulations.

The scope of Clipper Future has been to identify the most cost-efficient and smart solutions for the technical systems on board. The shipowner assumes a well-to-wake framework implying that all GHG emissions must be accounted for.

Clipper Future proves that the question isn't which fuel we use, but how we use the fuel.

## GHG neutral fuels

In order to comply with IMO GHG emission targets, we need a zero-carbon fuel. Except from a small amount of biofuel, such fuel is not available in any amount needed today.

As for zero-carbon fuel, the challenge is to avoid energy and cost intensive processing which today leads to substantial losses. The price factor is 4 to 10, compared to standard fossil fuels (IMO 4th GHG study 2020). Pertaining to standard fuels, a well-to-wake approach is crucial to avoid GHG emissions shifting from shipping to oil power plants or coal-burning facilities.

## GHG-neutral fuel: Shipboard CCS

If Solvang's shipboard CCS project succeeds, we expect a large proportion of the world fleet to make use of the technology. If the technology is combined with biofuel and/or electro-fuel with CO<sub>2</sub> from air as well as CO<sub>2</sub> permanently stored beneath the sea floor, the GHG emissions figures would become negative.

Read more about Solvang's CCS project on pages 39-41.

## GHG-neutral fuel: Electro-fuel

Artificial fuel processed from air, water, and renewable electricity. See page 30-33.

## GHG-neutral fuel: Carbon offset

In a carbon offset scenario, the global cost of new fuels increases to a level which legitimates buying carbon emission quotas from sectors that have lower emission reduction costs. Carbon offsetting is designed to stimulate climate protection by supporting emission reduction projects which would otherwise be unfeasible. When all GHG emissions cannot be avoided, high-quality emission reduction projects can be used for compensation.

A market for carbon quotas is currently open, trading CO<sub>2</sub> cuts to a fraction of the price for using alternative fuels.

## Future regulations

The conditions for future ship design and fuels will manifest itself through rules and regulations not yet defined. The industry expects tighter regulations on emissions to air other than CO<sub>2</sub>, particularly SO<sub>x</sub>, NO<sub>x</sub>, CO, THC, and particles. This poses technological challenges, as reduced NO<sub>x</sub> outlets normally correspond with increased GHG outlets.

As an example, TIR III requires an 80 percent NO<sub>x</sub> reduction compared to TIR I. This is not achievable on a diesel engine by means of engine design and adjustments. Even costly modifications to bring down NO<sub>x</sub> emissions would result in higher GHG outlets, possibly ruling out compliance with other parts of the regulatory framework. The conditions for future ship design and fuels will manifest itself through rules and regulations not yet defined. At the same time, charters will go to the lowest bidder, whether transporting LPG, petchem, ammonia or other gases. In this perspective we assume that transport expenses in the future will rise.

## Design criteria for Clipper Future

All vessels ordered today need the possibility to operate on GHG-neutral fuel when it becomes available. At the

# 95% cut by 2050

Total annual GHG emissions compared to 2008 on Solvang vessels with CCS installed

moment, there is no alternative to our two-stroke directly driven main engines for propulsion. It has documented reliability, its fuel efficiency exceeds 50 percent, and it can be modified to operate on all fuels. The following examples illustrate that all foreseeable solutions today would be GHG-neutral when using biofuel or e-fuel, without modifications.

## Technical fuel specifications

The specific choice of fuel for Clipper Future would be made after careful evaluations of the alternatives above, which are currently projectable in terms of commercial operation, environment, technology, and operational expenses and revenues.

More alternatives may arrive, some more or less radical, like wind assistance or air lubrication of the hull. They should all be considered in due time. As for now, Solvang believes that a combination of fuel combined with our CCS options would grant us optimal flexibility. In the future, given sufficient supply of GHG-free electricity, we will deliver CO<sub>2</sub> to the bunker barge, and in return receive e-fuel produced by our captured CO<sub>2</sub>. In line with technical specifications for vessels, we stick to the Solvang ECO vessel design, including the Optimization of Hull lines, cargo intake, cruising range, propeller/rudder design, heat recovery and others.

### Example 1

**Today:**  
Conventional fuels

**Tomorrow:**  
Conventional fuels + CCS

### Example 2

**Today:**  
HFO/LSFO (SCR/EGR)

**Tomorrow:**  
Biofuel (HFO/MGO) or e-diesel

### Example 3

**Today:**  
Dual fuel LPG/MGO (SCR/EGR)

**Tomorrow:**  
Biofuel (LPG/MGO) or E-LPG

### Example 4

**Today:**  
Dual fuel LNG/MGO (catalyst + exhaust gas recirculation + LP-dual fuel)

**Tomorrow:**  
Bio-LNG/MGO or E-LNG

### Example 5

**Today:**  
Dual fuel methanol / MGO (SCR/EGR/water in methanol)

**Tomorrow:**  
Bio-methanol/MGO or e-methanol

#### Prerequisites for all examples:

No change in engine tank or system, the amount E-fuel/biofuel can be adjusted to reach the GHG target.



A photograph showing a person's hands working on a circuit board in a laboratory or industrial setting. The person is using a tool to work on a component on the board. The background is blurred, showing other equipment and a clean, professional environment. The text "BOARD OF DIRECTORS REPORT" is overlaid in large, white, bold letters in the center of the image.

# BOARD OF DIRECTORS REPORT

# 1. INTRODUCTION

The results for 2021 are fairly in line with 2020 in terms of activity and revenue level, only somewhat reduced from selling the VLGC Clipper Sun mid-year, as well as a slow first half in the ethylene segment. Operating Earnings, both EBITDA as well as EBIT, was reduced for the group from 2020 on significant operational cost increases driven by the Covid pandemic. However, these cost increases were more than offset by lower finance cost, both from actual interest cost, as well as positive mark to market valuation of interest swaps, giving an increased Net Earnings compared to 2020.

The Group recorded a profit before tax of USD 60.3 million against a profit of USD 46.7 million in 2020. Net Cash flow was positive USD 20.6 million compared to negative USD 3.6 million in 2020. Tax expense was USD 0.3 million, and the Group had a profit after tax of USD 60.0 million against a profit of USD 46.5 million in 2020.

The board of directors proposes to pay dividends of NOK 2,- for 2021 on the basis of strong results and liquidity, as well as good market outlook in the LPG segment, and improvements in ethylene.

## 2. OPERATIONS

The company's headquarters are located in Stavanger, Norway, with an additional commercial office in Oslo, and a crewing office in Manila, Philippines. The operation of all the ships, both commercial and technical, are managed from the company's fully integrated shipping organisation.

The company operates and has ownership in 26 ships by year end.

The group's activities are divided into three segments for the transportation of Liquefied Petroleum Gas (LPG), ammonia (NH<sub>3</sub>) and petrochemical gases:

### 2.1 Semi-refrigerated / ethylene carriers

This segment includes semi-refrigerated ethylene carriers from 12,000 cbm – 21,000 cbm. The group had nine ships in this segment where the ships operate in the spot market, on short term TC and on consecutive voyage contracts.

### 2.2 LGC/MGC

This segment is defined as fully refrigerated LPG ships from 59,000 – 60,000 cbm. The fleet consist of 9 LGC ships. In addition, one MGC of 38,000 cbm is also included in this segment. All ships operate on TC with varying length.

### 2.3 VLGC

This segment is defined as fully refrigerated LPG ships of 75,000 – 84,000 cbm. Solvang has a total of 7 ships in this segment. The group has five Panamax VLGC ships with size between 75,000-80.000 cbm, and two VLGC ships of 84.000 cbm.

The Panamax VLGC's are purpose built for transporting LPG from the Atlantic Ocean and Gulf of Mexico to the west coast of Central America as well as Far East. All vessels are currently on contracts, three of the vessels on long term contract, while the other four are medium to short term.

### 3. PROFIT

(Figures in parentheses refer to 2020)

Operating income decreased from USD 239.3 million to USD 231.1 million, mainly due to sale of one vessel and a slow ethylene market first half of 2021.

The group's result after tax was USD 60.0 million (USD 46.5 million). The result for the parent company was NOK 327.6 million whereof NOK 319.6 million was dividend received from subsidiary (NOK 3.7 million).

#### 3.1 Financial items

The group reported net financial items of USD -12.3 million (USD -36.5 million). The corresponding figure for the parent company was a result of NOK 324.3 million (NOK -2.2 million).

#### 3.2 Liquidity and financial strength

At year-end, the group had liquidity consisting of cash totalling USD 61.5 million (USD 40.9 million). The corresponding figure for the parent company was NOK 438.1 million (NOK 108.4 million). For the group, total current assets at year-end was USD 85.0 million (USD 67.5 million), while current liabilities totalled USD 197.9 million (USD 125.8 million). Long-term liabilities and obligations totalled USD 473.8 million (USD 639.8 million). For the parent company, total current assets at year-end amounted to NOK 460.2 million (NOK 138.5 million), while short-term liabilities totalled NOK 620.2 million (NOK 209.6 million). The parent company's long-term liabilities and obligations totalled NOK 3,278.6 million (NOK 3,580.3 million).

Net cash flow from operating activities was USD 129.3 million, compared to an operating profit of USD 72.6 million. The main difference comes from changes in working capital items, depreciation and amortisation of contracts.

The group's book equity totalled USD 541.6 million (USD 540.2 million) at the year-end.

#### 3.3 Taxes

The group is from 2013 part of the tonnage-tax regime through its subsidiary Clipper Shipping AS. Other companies within the group are taxed ordinary.

All the group's ships and shipping partnership interest by year end are owned under the tonnage-tax regime.

#### 3.4 Financial risk

The group's activities are primarily USD-based, where most of the revenues and the majority of expenses are in USD. Furthermore, the market value of the ships, and thus the greatest share of the assets, is priced in USD. The same applies to the financing of the ships. This entails that the real foreign currency exposure is limited in financial terms.

The group's entire fleet is financed by long-term financing at favourable terms. The financial derivative contracts entered into by the group is considered to have low counterparty credit risk.

Most of the group's liabilities consist of secured debt on ships. This is denominated in USD and priced at a floating LIBOR interest rate. In addition, part of the mortgage debt is hedged through fixed interest rate contracts. The group has a satisfactory debt-equity ratio, and this, together with active management of the interest rate exposure, ensures that the risk associated with any change in interest rate levels is acceptable.

The group's fleet is employed in a mix of long & short TC contracts as well as in the spot market. This is a result of a conscious strategy aimed at ensuring earnings and cash flow, while at the same time benefiting from upturns in the market. The development of the world economy makes future market prospects uncertain.

The group has 5 ships on TC contracts in excess of one year. The charterers are oil majors and major operators within the Ammonia market. Credit risk is considered to be limited. The company sees the settlement risk for the business carried out in the spot market as satisfactory.

#### 3.5 General

The year-end accounts are based on the assumption of a going concern. In the opinion of the Board of Directors, the accounts provide a true picture of the results for the year and the company's position at the year-end.

## 4. ORGANISATION, HEALTH SAFETY AND THE ENVIRONMENT

### 4.1 Organisation

Both at sea and onshore, the company's primary focus is to ensure continuity on the personnel side. The company strives to establish an interesting and attractive workplace that attracts competent employees, where appraisals and



employee surveys are key measures. We believe that we have succeeded in this context and that we have a stable and highly qualified workforce.

Of the company's office staff, 34% are women and 66% are men. Women and men have equal opportunities to qualify for all types of jobs and positions, and they have equal opportunities for promotion. Working conditions are deemed to be good. Salaries reflect the individual's qualifications, regardless of gender.

Solvang is an international company with employees from a number of countries and cultures in addition to Norway. This recruitment policy is important for the future development of the company. The company wants to attract competent employees, regardless of religion, gender, race or sexual orientation.

The company engages in research and development work to optimise the ships' operations and to reduce emissions.

#### 4.2 Health

The group has 44 onshore employees and around 1,000 sailing personnel. Working conditions on shore and on the ships are considered to be good. Sick leave on board the ships was 0.33%. The group had no incident that resulted in lost time in 2021. The target is always zero accidents, and the very low injury frequency can be attributed to a conscious attention on this area across the entire group.

Sick leave among the onshore employees was 3.5% in 2021. There were no incidents resulting in personal injury at the office in 2021.

#### 4.3 Board of Directors

The Board of Directors consists of one woman and two men. There is a healthy and positive working relationship between the management and Board of Directors.

The Group is covered by Solvang ASA's insurance policies which are in place for the Board Members and Management regarding their potential liability towards the business and to third parties. Such policies are purchased on an annual basis and have policy limits, terms and conditions in line with what is common practice in the industry.

#### 4.4 Compensation policy

By offering a complete range of jobs, salaries and other benefits, Solvang aims to be an attractive employer for skilled individuals in all relevant disciplines.

All of Solvang's employees, including the Managing Director, have in 2021 been employed at a fixed salary with no share based compensation. Salaries are adjusted once a year. The Managing Director's salary is evaluated correspondingly by the Board once a year. A named group of employees with management responsibilities have an incentive plan based on achievements in HSE, economic results and quality. The Incentive plan is set up with maximum achievement 25% of basis salary.

The company has a hybrid pension scheme which covers all employees. In addition, the company has an ordinary insurance scheme covering disability, accidents and death.

The Board is remunerated by fixed directors' fees that are determined annually by the General Meeting. Board members have no bonus or share based compensation agreements with the company.

#### 4.5 External environment

The transport of LPG and petrochemical gases by sea entails little risk of emissions or leakage into the sea. Loading and unloading operations are conducted in closed systems, and strict quality and safety requirements reduce the risk of emissions to a minimum.

All transport at sea entails emissions to the air from the combustion of oil by the ships' main and auxiliary engines. Our policy in this area is thus to reduce such emissions as much as practically possible. The group focuses primarily on reducing the consumption of bunkers and lubricants, and has through active measures been able to continue the positive trend achieved in recent years. Please read more about this in the "Performance" section and "Sustainability in Solvang" section included in the annual report.

#### 4.6 Safety

The company has strict quality and safety requirements, both on board the ships and within the onshore organisation. This is reflected in very good statistics for Lost Time Incident (LTI) injuries, with no incidents in 2021 and only eleven incidents in the entire period from 2009-2021, with around 4.2 million working hours per year the later years. This is further demonstrated in our good insurance statistics. In order to ensure that this positive development continues, the company invests significant resources in programmes for the continuous improvement of quality and safety on board and on land. Please read more about this in our "Sustainability in Solvang" section included in the annual report.

#### 4.7 Corporate Social Responsibility

The group's main contribution to society is to conduct long-term, sustainable and value-added business for our shareholders, employees, customers, suppliers and other relations. Our goal is to ensure that our business practices and investments are sustainable and contribute to long-term economic, environmental and social development. The group's material sustainability areas are within Environment, Finance, Human Resources and Community, including ethics and anti-corruption. Please read more about this in our "Sustainability in Solvang" section included in the annual report.

#### 5. FUTURE OUTLOOK

The ethylene fleet continue to be employed mainly in the spot market, with some shorter TC and consecutive voyage contracts. The volatile product pricing and uncertain times seen through 2019 and 2020, continued into 2021. As such most traders in the Petchem market prefer not to take too much of a long term commitment on shipping, and rather preferring to fix on single voyage or very short time charters. Solvang is well positioned for this type of market, with very good relations to key traders, as well as having competitive and modern vessels. Towards the end of 2021 there was a clear improvement in the ethylene product market, a trend that continue into 2022, with more available contracts, as well as improved spot market.

For the fully refrigerated vessels (VLGC and LGC), 2021 was a year quite similar to 2020, with a drop during spring, but overall fairly strong market. Into 2022 The underlying strength of the LPG market is still there, we saw a drop in February, but going into March and Q2, the LPG freight market has improved considerably, and our general expectation is for 2022 to remain at a fairly strong level.

The group had at year-end contract coverage of 85% for 2022 for the fully refrigerated fleet, with two vessel operating in the spot market, and one vessels coming open mid-year.

#### 6. ALLOCATION OF THE PARENT COMPANY'S PROFIT

Solvang ASA posted a result of KNOK 327,559

The Board of Directors proposes the following allocation:

Dividend:	KNOK	-186,291
To other equity:	KNOK	-141,268

At the year-end, the parent company's equity amounted to KNOK 2,697,302 (KNOK 2,789,027).

#### 7. SUBSEQUENT EVENTS

The ongoing conflict in Ukraine have so far had limited direct impact on the LPG market, as Russia and Ukraine have an insignificant share of the global LPG trade. Travel and payment restrictions may result in operational difficulties, as we have crew living in the conflicting countries. Currently we have two vessels where the ongoing conflict has disrupted the vessels trade carrying ammonia out of the Black Sea area. Both charterparties has clauses that give the charterer the option to cancel the charterparty on basis of the conflict in Ukraine. On the 30th of April, both charterparties were canceled, as the charterer was not successful in sourcing product from other areas. The vessels are now traded / marketed on other contracts at similar rate level. This will have insignificant accounting effects.

Clipper Harald is agreed sold, and the vessel will be delivered to new owner during second quarter 2022. The sale will have minor effects to P&L.

There are no other events after the balance sheet date that impacts the reported numbers.

#### 8. CONCLUSION

The Board of Directors and the management would like to thank all the employees, both at sea and on shore, for their fine efforts during a challenging period, where the group delivers strong results in terms of safety, operation and quality. We would also like to thank our customers and suppliers for their good support and cooperation in 2021 and look forward to the same good cooperation in 2022.

Stavanger, 10th May 2022

This document has been signed electronically.

Michael Steensland Brun  
Chairman

Ellen Solstad

Jostein Devold

Edvin Endresen  
CEO



# FINANCIAL STATEMENT

# SOLVANG GROUP

## Consolidated income statement | Solvang Group

Amounts in USD 1 000

	Note	2021	2020
Operating revenue	5	279 451	274 028
Voyage expenses		-49 229	-36 001
Other income		833	1 242
<b>Total income</b>	<b>5</b>	<b>231 055</b>	<b>239 269</b>
Crewing expenses		48 577	46 832
Ship related operating expenses		32 856	32 230
Salaries and other personnel expenses onshore	10	8 169	7 632
Other operating expenses	10	3 940	1 160
<b>Total operating expenses</b>		<b>93 543</b>	<b>87 854</b>
<b>Operating result (EBITDA)</b>		<b>137 513</b>	<b>151 415</b>
Depreciation vessels	15	50 405	52 512
Depreciation other fixed assets	15	42	57
Depreciation Right-of-use assets	16	1 120	1 553
Depreciation capitalized dry-docking	14	11 396	10 946
Amortization of contracts	3	1 918	3 147
<b>Total depreciation and amortization</b>		<b>64 881</b>	<b>68 215</b>
<b>EBIT</b>		<b>72 631</b>	<b>83 199</b>
<b>Financial income and cost</b>			
Affiliated companies equity method	6	14	-6
Financial income	7,12	11 472	1 159
Financial expenses	8,12	-23 799	-37 671
<b>Net financial items</b>		<b>-12 313</b>	<b>-36 518</b>
<b>Ordinary result before tax</b>		<b>60 318</b>	<b>46 682</b>
Income tax expense	9	279	197
<b>Net profit / (loss) for the year</b>		<b>60 040</b>	<b>46 485</b>
<b>CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME/(LOSS)</b>			
<i>Profit / (loss) is attributable to:</i>			
Controlling Owners		50 346	38 399
Minority interest		9 694	8 086
Earnings of the period		60 040	46 485
<i>Items that will not be reclassified to profit or loss</i>			
Remeasurements pension liability		-16	-38
Tax effects of remeasurements pension liability		4	8
<i>Items that may be reclassified to profit or loss</i>			
Translation differences to presentation currency		-358	-68
<b>Comprehensive income</b>		<b>59 669</b>	<b>46 387</b>
<i>Comprehensive income is attributable to:</i>			
Controlling Owners		49 975	38 300
Minority Interest		9 694	8 086
Total Comprehensive Income		59 669	46 387

## Consolidated Balance Sheet | Solvang Group

Amounts in USD 1 000	Note	31/12/2021	31/12/2020
<b>ASSETS</b>			
<i>Fixed Assets</i>			
<b>Intangible fixed assets</b>			
Customer Contracts	3	153	2 071
<b>Total intangible fixed assets</b>		<b>153</b>	<b>2 071</b>
<b>Tangible fixed assets</b>			
Right-of-use assets	16	1 802	13 671
Vessels	15	1 099 459	1 184 224
Capitalized dry-docking	14	22 147	31 734
Office equipment, furniture etc.	15	58	102
<b>Total tangible fixed assets</b>		<b>1 123 466</b>	<b>1 229 730</b>
<b>Financial fixed assets</b>			
Investments in affiliated companies	6	34	26
Other long term receivables	4, 19	6 873	9 078
Other shares		2	2
<b>Total financial fixed assets</b>		<b>6 908</b>	<b>9 106</b>
<b>Total fixed assets</b>		<b>1 130 527</b>	<b>1 240 907</b>
<i>Current Assets</i>			
<b>Bunkers / lubricant oil etc.</b>		6 991	5 168
<b>Receivables</b>			
Accounts receivable	19	5 339	11 095
Other short term receivables	12,13,19	11 158	10 259
<b>Total receivables</b>		<b>16 497</b>	<b>21 354</b>
Cash and bank deposits	13	61 547	40 947
<b>Total current assets</b>		<b>85 035</b>	<b>67 469</b>
<b>TOTAL ASSETS</b>		<b>1 215 562</b>	<b>1 308 376</b>

Amounts in USD 1 000	Note	31/12/2021	31/12/2020
<b>EQUITY AND LIABILITIES</b>			
<i>Equity</i>			
<b>Paid-in capital</b>			
Share capital	20	52 807	54 582
Share premium reserve		235 424	243 337
<b>Total paid-in capital</b>		<b>288 231</b>	<b>297 919</b>
<b>Retained earnings</b>			
Other reserves		12 603	3 285
Retained earnings		172 421	172 943
Minority interest		68 337	66 007
<b>Total retained earnings</b>		<b>253 361</b>	<b>242 236</b>
<b>Total equity</b>		<b>541 592</b>	<b>540 155</b>
<i>Liabilities</i>			
<b>Provisions</b>			
Pension liabilities	11	727	806
Deferred tax	9	1 570	1 777
<b>Total provisions</b>		<b>2 297</b>	<b>2 583</b>
<b>Long term liabilities</b>			
Long term debt to financial institution	18	436 270	620 849
Lease liabilities	16	1 570	1 931
Other commitments	4	6 821	8 683
Interest Swap	17	2 313	8 373
Other long term liabilities	18	26 823	0
<b>Total long term liabilities</b>		<b>473 798</b>	<b>639 836</b>
<b>Current liabilities</b>			
Accounts payable		7 262	5 514
Tax payable	9	89	597
Public duties payable		1 214	1 131
Current portion of long term debt incl accrued interest	18	168 130	91 887
Current portion of lease liabilities	16	361	9 454
Other short term liabilities	5	20 818	17 218
<b>Total current liabilities</b>		<b>197 874</b>	<b>125 802</b>
<b>Total liabilities</b>		<b>673 970</b>	<b>768 221</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>1 215 562</b>	<b>1 308 376</b>

Stavanger, 10th May 2022

This document has been signed electronically.

Michael Steensland Brun  
Chairman

Ellen Solstad

Jostein Devold

Edvin Endresen  
CEO

## Consolidated statement of shareholders' equity

Amounts in USD 1 000	Share capital	Share premium reserve	Other reserves	Retained earnings	Minority interest	Total equity
<b>2020</b>						
<b>Equity as of 31.12.2019</b>	<b>53 042</b>	<b>236 472</b>	<b>11 788</b>	<b>134 545</b>	<b>62 619</b>	<b>498 466</b>
Profit/(loss) of the year				38 399	8 086	46 485
Remeasurements pension liabilities			-30			-30
Translation differences presentation currency	1 540	6 865	-8 473			-68
<b>Total comprehensive income</b>	<b>1 540</b>	<b>6 865</b>	<b>-8 503</b>	<b>38 399</b>	<b>8 086</b>	<b>46 387</b>
Minority share of capital decrease in subsidiary					-4 698	-4 698
<b>Total changes in equity for the year</b>	<b>1 540</b>	<b>6 865</b>	<b>-8 503</b>	<b>38 399</b>	<b>3 388</b>	<b>41 689</b>
<b>Equity as of 31.12.2020</b>	<b>54 582</b>	<b>243 337</b>	<b>3 285</b>	<b>172 943</b>	<b>66 007</b>	<b>540 155</b>
<b>2021</b>						
<b>Equity as of 31.12.2020</b>	<b>54 582</b>	<b>243 337</b>	<b>3 285</b>	<b>172 943</b>	<b>66 007</b>	<b>540 155</b>
Profit/(loss) of the year				50 346	9 694	60 040
Remeasurements pension liabilities			-13			-13
Translation differences presentation currency	-1 775	-7 913	9 330			-358
<b>Total comprehensive income</b>	<b>-1 775</b>	<b>-7 913</b>	<b>9 317</b>	<b>50 346</b>	<b>9 694</b>	<b>59 669</b>
Paid dividend				-47 527		-47 527
Minority interest decrease of ownership				-3 341	9 501	6 159
Minority share of capital decrease in subsidiary					-16 865	-16 865
<b>Total changes in equity for the year</b>	<b>-1 775</b>	<b>-7 913</b>	<b>9 317</b>	<b>-522</b>	<b>2 330</b>	<b>1 437</b>
<b>Equity as of 31.12.2021</b>	<b>52 807</b>	<b>235 424</b>	<b>12 603</b>	<b>172 421</b>	<b>68 337</b>	<b>541 592</b>

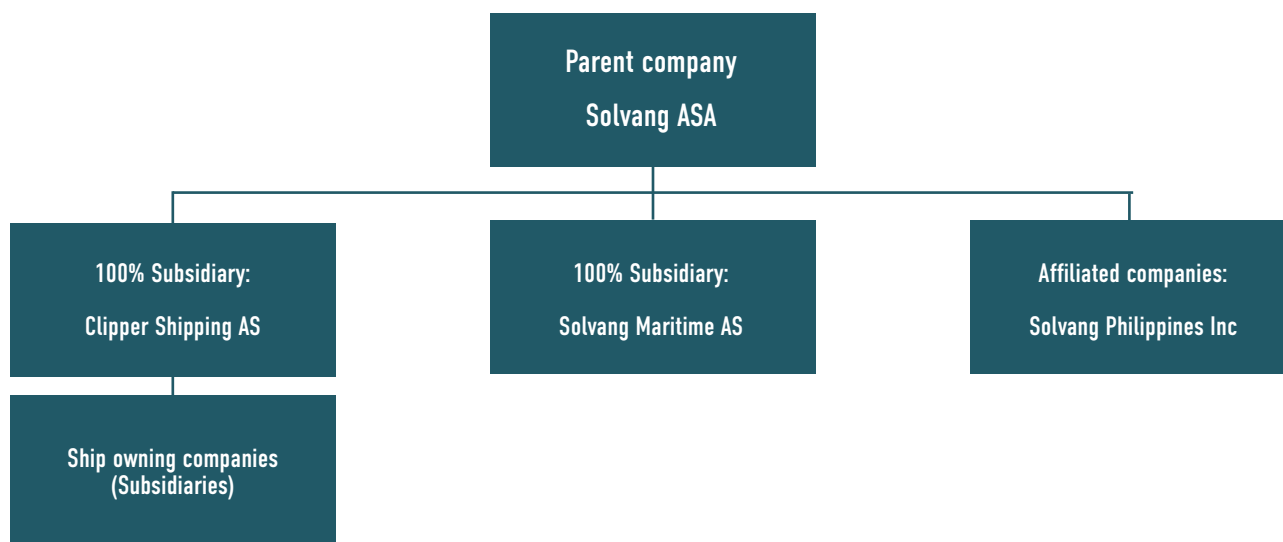
## Consolidated statement of cash flows

Amounts in USD 1 000	Note	2021	2020
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>			
Profit / (loss) before tax		60 318	46 682
Tax paid for the period	9	-994	-774
Loss/gain on sale of tangible fixed assets		-1 244	0
Depreciation and amortisation	14, 15, 16, 3	64 881	68 215
Difference between expensed pension and paid in/out	11	-95	41
Result in affiliated companies	6	-14	6
Changes in inventories, trade receivables and trade payables		5 681	-5 970
Changes in other current balance sheet items		3 707	2 187
Financial income	7	-6 878	-1 028
Financial expenses	8	3 940	11 572
<b>Net cash flow from operating activities</b>		<b>129 303</b>	<b>120 930</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>			
Purchase of tangible fixed assets	15, 16	361	-13 718
Proceeds from sale of tangible fixed assets	15	45 994	0
Payments for capitalized periodic maintenance	14	-2 727	-5 985
Dividend from Investment affiliated companies	6	4	3
Proceeds from part sale of subsidiary		6 159	0
Payments received other receivables		3 023	2 921
<b>Net cash flow from investing activities</b>		<b>52 814</b>	<b>-16 779</b>
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>			
Proceeds from other debt (long term)	18	446 020	1 000
Repayment of debt (long term)	18	-530 100	-98 381
Payments of lease liabilities	16	-10 643	-3 466
Payments other commitments		-2 601	-2 622
Minority interest share of capital changes in subsidiary		-16 865	-4 698
Dividend payment		-47 527	0
<b>Net cash flow from financing activities</b>		<b>-161 715</b>	<b>-108 168</b>
Effect of exchange rate changes on cash and cash equivalents		197	384
<b>Net change in cash and cash equivalents</b>		<b>20 600</b>	<b>-3 634</b>
Cash and cash equivalents 01.01		40 947	44 580
<b>Cash and cash equivalents 31.12</b>		<b>61 547</b>	<b>40 947</b>



# Notes 2021 | Solvang Group

## NOTE 1 – CORPORATE INFORMATION AND SIGNIFICANT ACCOUNTING POLICIES



### CORPORATE INFORMATION

Solvang ASA is a public limited company incorporated and domiciled in Norway. The company was incorporated in 1936, and the address of the registered office is: Solvang ASA, Strandkaian 36, 4005 Stavanger, Norway.

Solvang ASA and its subsidiaries' ("Solvang" or "the Company") business is fully concentrated on shipping and ship owning activities.

As of 31.12.21, Solvang's fleet consists of 26 ships that carry liquid petrochemical gases, liquefied petroleum gases and ammonia.

### BASIS OF PRESENTATION

The consolidated financial statements have been prepared on a historical cost basis.

The consolidated financial statements are presented in US Dollars (USD).

### Statement of Compliance

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards adopted by the EU-adopted and appurtenant interpretations and additional country-specific disclosure requirements according to the Norwegian Accounting Act in effect as of 31st of December 2021.

The consolidated financial statement were approved by the board of directors and the managing director on the date which appears on the dated and signed balance sheet. The consolidated financial statements will be presented to the annual general meeting on 19 May 2022 for final approval. Until final approval, the board is authorised to amend the consolidated financial statement.

### Basis of consolidation

The consolidated financial statements of Solvang ASA comprise the financial statements of Solvang ASA and its subsidiaries. Subsidiaries are all entities in which the Group has control. Whether control exist is based on an assessment

of the partnership agreement for each investment together with the legislation that regulates the companies. The parent company's role as the managing director and other circumstances means that the group might also have control in ownership less than 50%. Subsidiaries are consolidated from the date on which control is transferred to the Group and cease to be consolidated from the date on which control is transferred out of the Group. As of 31 December 2021, Solvang ASA controls following subsidiaries:

- Solvang Maritime AS (100%)
- Clipper Shipping AS (100%)
  - PR Clipper Mars DA (49,5%)
  - PR Clipper Sirius DA (61,875%)
  - PR Clipper Sun II DA (50%)
  - PR Clipper Odin DA (50%)
  - PR VLGC DA (58,3%)

Consistent accounting policies are applied throughout the group.

All intercompany balances, transactions, income and expenses together with unrealized profits and losses resulting from intercompany transactions that are recognized in assets, have been eliminated.

### Minority interests

Minority interests are included in the group's income statement and are specified as minority interests. Correspondingly, minority interests are included as part of the group's shareholders' equity and are specified in the consolidated balance sheet.

### Functional Currency

The functional currency of an entity is the currency of the primary economic environment in which the entity operates. Normally, that is the currency of the environment in which an entity primarily generates and expends cash. The parent company, Solvang ASA, has Norwegian kroner (NOK) as the functional and reporting currency, and all the subsidiaries have US dollar (USD) as the functional currency, hence the reporting currency for the Group is US dollar (USD). Exchange differences arising from the translation from the functional currency to the presentation currency are recognized in the comprehensive income, net of any deferred tax. Share capital and similar equity items in the parent company are translated at the exchange rate on the balance sheet date.

## SIGNIFICANT ACCOUNTING JUDGMENTS AND ESTIMATES

### Estimation uncertainty

The preparation of consolidated financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported revenues and expenses during the reporting periods. The most significant estimates and assumptions relate to fixed asset impairment tests. We evaluate these estimates on an ongoing basis, utilizing past experience, consultations with experts and other methods we consider reasonable in the particular circumstances. Nevertheless, actual results may differ significantly from our estimates.

The key assumptions concerning the future and other key sources of estimating uncertainty at the balance sheet date and which have a significant risk of material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

### Impairment of tangible fixed assets

The company invests in ships directly or through shipping partnerships. The Company assesses at each reporting date whether there is an indication that an asset may be impaired. If any such indication exists, the Company makes an estimate of the asset's recoverable amount, which is the higher of fair value less costs to sell or value in use.

All tangible fixed assets are evaluated for impairment when events or changes in circumstances indicate that the carrying

value may not be recoverable. This requires an estimation of the asset's value, which, if available, is based on market appraisals or value in use.

The value in use is determined on the basis of the total estimated discounted future cash flows, excluding taxes. In determining impairment of fixed assets, management must make judgments and estimates to determine the cash flows generated by those assets. Discount rates must also be estimated. Assumptions used in these estimates are consistent with internal forecasts. To support management's estimates, market outlook and considerations provided by shipping analysts have been used.

If the carrying amount of an asset exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount..

The Company considers whether there is a basis for reversing previous asset impairment write-downs, using the same evaluation criteria as for impairment. If the review suggests that there is a basis for reversal, the carrying amount is reversed to the estimated fair value, limited to the carrying value the asset would have had if no impairment had been recognized.

## SIGNIFICANT ACCOUNTING POLICIES

### Revenue and expense recognition

The Group's revenues derive mainly from TC contracts. Revenue from such contracts is recognized on a straight-line basis over the contract period as the service is performed. Ongoing operating expenses related to vessels on a TC contract are expensed as they accrue.

To a lesser extent, the Group has income related to spot contracts. Such income is recognized on the basis of the "load-to-discharge" principle. Under this method, freight revenues are recognized on a straight-line basis over the period from loading ("load") for the journey to unloading the same journey ("discharge"). The management uses judgment when estimating the number of days per journey based on historical information, technical specifications on the ship and distance. Variable elements in the remuneration, including demurrage, are recognized with the amount most likely to be, based on historical experience. Contract costs incurred before loading are capitalized and recognized in the income statement on a straight-line basis over the contract period.

### Foreign currency transactions

Transactions in foreign currencies are recorded using the exchange rate at the transaction date. Balances denominated in foreign currencies are translated using the exchange rates at the balance sheet date. Foreign currency gains and losses are recorded as financial items when incurred.

### Vessels

In the ship owning companies, the ships are booked at cost less accumulated depreciation and impairment write-downs. Cost includes the expense of adding/replacing part of a ship, machinery or equipment when that expense is incurred if the recognition criteria are met. The carrying amount of those parts that are replaced is derecognized.

Depreciation of ships is computed using the straight line method over estimated useful life. The depreciable amount is determined after deducting the residual value of the asset. The cost of ships has been categorized separately by its main components, and useful life has been determined for each component. The average useful life for gas ships is 30 years.

A part of the original cost of ships is allocated to periodical maintenance. Periodical maintenance for ships is recognized in the balance sheet and expensed over the period up to the next periodical maintenance. Current maintenance is expensed as incurred.

When assets are sold or retired, their costs and related accumulated depreciation are removed from the balance sheet and any gain or loss is included in net income.

Estimates of useful life, residual values and methods of depreciation are reviewed at each financial year end and adjusted if appropriate. Any changes are accounted for prospectively as a change in accounting estimate. The estimated useful life of the ships could change, resulting in different depreciation amounts in the future.

### Periodic maintenance

Periodic maintenance of ships is recognized in the balance sheet and expensed over the period up to the next periodic maintenance. When a ship is purchased a share of the purchase price is recognized as periodic maintenance. Current maintenance is expensed as incurred. In connection with incidents that are covered by insurance, the franchise is expensed at the time of the incident. Claim on the insurances underwriters is recognized in the balance sheet.

### Other fixed assets

Other fixed assets are stated at cost, less accumulated depreciation and impairment write-downs. Depreciation is straight-line over the estimated useful life of the asset. When assets are sold or retired, their costs and related accumulated depreciation are removed from the balance sheet and any gain or loss is included in net income. Estimates of useful life, residual value and method of depreciation are reviewed at each financial year end and adjusted if appropriate. Any changes are accounted for prospectively as a change in accounting estimate.

### Leases

The liability arising from leasing agreements is recognized at net present value of remaining lease payments, discounted using the interest rate implicit in the lease. Interests are charged to the statement of income over the lease period. The associated right-of-use asset equals the initial lease liability adjusted for payments made before the lease commencement date and initial direct costs. After the commencement date, the right-of-use asset is depreciated in accordance with the requirements in IAS 16 Property, Plant and Equipment. At the end of each reporting period, every right of use asset is assessed for impairment indicators as described under "Impairment of tangible fixed assets" above.

The Group has elected to use the recognition exemptions for lease contracts that, at the commencement date, have a lease term of 12 months or less and do not contain a purchase option (short-term leases), and lease contracts for which the underlying asset is of low value (low-value assets).

Time charter agreements where the Group acts as lessee are accounted in accordance with principles described under "Revenue and expense recognition" above. (Ref also note 5).

### Sale lease-back transaction

When a sale and leaseback transaction does not qualify for sale accounting, the transaction is accounted for as a financing transaction by the seller-lessee and a lending transaction by the buyer-lessor. To account for a failed sale and leaseback transaction as a financing arrangement, the seller-lessee does not derecognize the underlying asset; the seller-lessee continues depreciating the asset as if it was the legal owner. The sales proceeds received from the buyer-lessor are recognized as a financial liability. A seller-lessee will make rental payments under the leaseback. These payments are allocated between interest expense and principal repayment of the financial liability. The amount allocated to interest expense is determined by the incremental borrowing rate or imputed interest rate. The sale and lease back transaction that the Group had entered into as of December 31, 2021, involved a purchase obligation and is therefore treated as a financing arrangement. Please refer to note 18

### Hedging

The Group has decided not to apply hedge accounting. Derivatives held for hedging purposes are measured at fair value through profit and loss in the financial statements

### Financial instruments

Financial assets are recognized on the contract date, when the group becomes party to the contractual provisions of the instrument. Initially, all financial assets which are not recognized at fair value through profit or loss are recognized in the balance sheet at fair value including transaction costs. Financial assets which are recognized at fair value through profit or loss are recognized at the time of acquisition at fair value and the transactions costs are recognized.

The group derecognizes a financial asset when the contractual right to the cash flow from the asset expires or when the group transfers the contractual right in a transaction where substantially all the risks and rewards of ownership of the financial asset are transferred. All rights and obligations that are created or retained in this type of transfer are recognized separately as assets or liabilities.

The Group classifies its financial assets in the categories fair value through profit and loss and amortized cost. Measurement category is determined by initial recognition of the asset. The classification depends on the business model for managing financial instruments, as well as the characteristics of the cash flows of the individual financial instrument. The Group's

receivables are held in a business model where the purpose is to collect contractual cash flows and are therefore normally accounted for at amortized cost.

#### Financial assets at fair value through profit or loss

Financial assets at fair value include financial assets held for trading and financial assets that are classified as assets at fair value through profit or loss at the time of accounting (primarily interest swaps). Financial assets are classified as held for trading if they are acquired for the purpose of selling them shortly. Financial assets are designated at fair value through profit or loss if management and acquisition and sales decisions are based on the instrument's fair value in accordance with the group's documented risk management or investment strategy. Instruments are measured at fair value, and changes in value are recognized in profit or loss.

#### Financial assets at amortized cost

Financial assets at amortized cost include financial assets held to collect contractual cash flows that are solely the payment of principal and outstanding interest on principal. After initial recognition, the assets are measured at amortized cost using the effective interest method, less any impairment loss.

Financial assets are recognized on the contract date, when the group becomes party to the contractual provisions of the instrument. Initially, all financial assets which are not recognized at fair value through profit or loss are recognized in the balance sheet at fair value including transaction costs. After initial recognition, such liabilities are measured at amortized cost using the effective interest rate method.

Financial assets and obligations are presented net if the group has a legally enforceable right to set off the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

## **Pensions**

All employees are members of a defined contribution hybrid pension scheme with investment choices. The non-funded schemes will continue as before and consist of defined benefit plans and defined contribution plans.

#### Defined benefit pension plan

The Company has non-funded pension obligations for three pensioners, which are not covered by the general pension plan. The present value of benefit obligations is calculated based on actuarial methods, and compared with the value of pension assets. The net amount of the present value of benefit obligations and pension assets, adjusted for unrecognized changes in estimates, is included under long-term liabilities or non-current assets. Net pension costs (benefits earned during the period including interest on the projected benefit obligation, less estimated return on pension assets and amortization of accumulated changes in estimates) are included in salaries and other personnel expenses.

Gains and losses resulting from the remeasurements of the pension liability based on experience variances and changes in actuarial assumptions are recognized in equity through other comprehensive income in the period they occur.

#### Contribution based pension plan

For contribution based pension plans, the company pays contributions to a public or private managed pension plan. The company has no further payment obligations after the contribution have been paid. Contributions are recognized as personnel expenses in line with the obligation to pay contributions accrue.

## **Taxes**

The companies in the Group, with the exception of Solvang ASA and Solvang Maritime AS, are covered by the Norwegian tonnage tax regime. Consequently, these companies pay tonnage tax and otherwise only income tax on net financial items as well as recognition of the gain / loss account within the scheme. Deferred tax assets in tonnage taxed companies are generally not recognized, as it is not considered likely that the group will be able to utilize this benefit.

Income tax expense consists of taxes payable and the net change in deferred taxes arising as a result of temporary differences. Tonnage tax is recognized in the profit and loss account as a ship-related operating cost.

Current tax for the current and prior periods is measured at the amount expected to be paid to the tax authorities for present and earlier years. The tax rates and tax laws used to compute the amount are those that are enacted by the balance sheet date.

Change deferred taxes reflect the future tax effects resulting from the activities for the period. Deferred taxes in the balance sheet are calculated on the basis of temporary differences between financial and taxable values, with consideration for taxable losses carried forward. The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is not probable that sufficient taxable profit will be available to allow all or part of the deferred tax assets to be utilized. Unrecognized deferred tax assets are reassessed at each balance sheet date and are recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date.

### **Provisions**

Provisions are recognized when the Company has a present obligation (legal or constructive) as a result of a past event and where it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

### **Dividends**

Dividends proposed by the Board of Directors are not recorded as liability in the financial statements until they have been approved by the shareholders at the annual general meeting.

### **Related parties**

Parties are related if one party has the ability, directly or indirectly, to control the other party or exercise significant influence over the other party in making financial and operating decisions. Parties are also related if they are subject to common control or common significant influence. The Company believes that all transactions between related parties are based on the principle of arm's length (estimated market value).

### **Business areas/segments**

Ship management and ship ownership are the business areas for Solvang. Ship ownership is further divided based on type and size of ship. Solvang has ownership interests in gas ships. These ships are divided into three types based on size, semi-ref ships from 12,000 – 21,000 cbm, MGC/LGC ships from 38,000 – 60,000 cbm and VLGC ships above 75,000 cbm.

### **Cash flow statement / Cash and cash equivalents**

The Company uses the indirect method for calculating cash flow statements. Cash flows generated by investment and financing activities is shown gross, while for operations a reconciliation is shown between profit for the year and cash flows from operating activities. Interests are considered to be part of operating activities. Cash and cash equivalents include cash and bank deposits.

## **NEW IFRS AND IFRIC INTERPRETATIONS**

There are no new or changed IFRSs or IFRIC interpretations that are effective for the 2021 financial statements, which is considered to have or expected to have a material impact on the Group.

The company has adopted all other new standards and amendments that are applicable as of January 1, 2021, which had no material impact on the Group's consolidated financial statements. These include:

- Interest Rate Benchmark Reform – phase 2 (Amendments to IFRS 9, IFRS 7, IFRS 4 and IFRS 16).

The Group has not used early adoption of any new or amended IFRSs and IFRIC interpretations, and based on the information known to Solvang ASA at the reporting date (when the financial statements are prepared) it has been determined that these will most likely not have a material effect on the consolidated accounts for Solvang ASA in 2021.

## NOTE 2 – FINANCIAL MARKET RISK

The group is exposed to credit risk, liquidity risk and market risk by use of financial instruments.

### **Credit risk**

Credit risk is risk for financial loss if a counterpart to a financial instrument does not manage to fulfil its obligations under the contract. The Company's receivables are subject to credit risk. Receivables are mainly towards large oil majors with good credit rating and/or towards customers we have a long relationship with. The credit risk is therefore considered minimal.

### **Liquidity risk**

Liquidity risk is the risk for the group not being able to fulfil its financial obligations as they fall due. Shipping is a cyclical business, and the group has therefore chosen to be well capitalized, and has a significant cash position. As of 31.12.2021 the liquidity reserves amounted to 5.1 % of the total balance sheet. The liquidity reserves inclusiv of short term receivables amounted to 6.4%. Current liabilities together with current portion of long term debt amounted to 16.3 % of the balance sheet. The liquidity risk is considered acceptable and is monitored continuously.

### **Market risk**

Market risk is risk for changes in market prices, such as exchange rates on currency, interest rates and share prices, influence on income or value of financial instruments. There is attached financial market risk to bank deposits (exchange rate) and loans (exchange rate and interest rates). The groups activities are mainly USD based, and deposits are to a large extent held in USD to reduce exchange rate risk. The group is mainly exposed to interest rate risk through long term debt to financial institutions in the ship owning companies. These loans are priced at floating LIBOR rate + margin. Interest rate exposure is actively handled, and parts of the loans are secured by fixed interest rate contracts to reduce interest rate risk. Due to a conservative strategy regarding financial instruments, and active handling of market risk, we are of the opinion that the groups market risk is satisfactory seen in relation to the balance sheet.

### **Capital management**

The board's goal is to keep a sufficient capital base, to maintain confidence from investors, creditors and the market in general, and to develop the business activity. The Board considers any investments in financial instruments continuously. The Group currently has no investments in derivative financial instruments with the exception of interest swap (ref note 17). Capital return is monitored by the board. There has been no changes in how assets are managed during the year.

## SENSITIVITY ANALYSIS

<b>Change in exchange rates</b>		<b>Value change</b>
Bank deposits	10 % increase of exchange rates	382
	10 % reduction of exchange rates	-382
<b>Change of interest rates</b>		<b>Effect on profit or loss</b>
Mortgage loans of vessels	100 basis points increase of interest rates	-6 044
	100 basis points reduction of interest rates	6 044

The impact of change in interest rates on bank deposits is estimated to be insignificant.

### NOTE 3 – INTANGIBLE ASSETS

In connection with the group establishment in October 2018, a review of the underlying balance sheet items was made for the identification of possible excess / lower values, and in connection to this, additional values were identified on two of the TC contracts, which were thus separated and capitalized in the group. The excess value for the capitalized TC contracts is amortized over the remaining contract period.

TC CONTRACTS	2021	2020
Book value as of 01.01	2 071	5 218
Current year amortization	-1 918	-3 147
Book value as of 31.12	153	2 071
Minority interest share of book value as of 31.12	77	1 046

### NOTE 4 – OTHER RECEIVABLE AND COMMITMENTS

The Group has two BareBoat contracts for the same vessel. One in and one out.

The contracts are considered to be cash flow contracts for the administrative handling until the expiry of the contract periods.

#### Overview of lease commitment as per 31.12

< 1 year  
2 - 5 year  
> 5 year

<b>Commitment BB out</b>	
Minimum payment	Book value/ Net present value
-7 055	-6 821
-7 055	-6 821

#### Overview of lease claim as per 31.12

< 1 year  
2 - 5 year  
> 5 year

<b>Receivable BB in</b>	
Minimum payment	Book value/ Net present value
7 226	6 873
7 226	6 873



## NOTE 5 – OPERATING REVENUES

The total income of the Group can be divided into following segments based on the different types of vessels:

	2021	2020
Ethylene	54 871	53 059
LGC / MGC	92 925	92 313
VLGC	83 259	93 897
<b>Total income</b>	<b>231 055</b>	<b>239 269</b>

As of 31.12.21 the Group had eight vessels in the spot market. The other vessels are on shorter and longer Time Charter.

	2021	2020
Time charter contracts	195 527	205 575
Voyage contracts	83 924	68 453
<b>Total freight income</b>	<b>279 451</b>	<b>274 028</b>

### Largest customers

In 2021, Solvang Group had no customers which individually accounted for 10% or more of total revenues. The largest customer in Solvang Group in 2021 represented 9.8% of total revenues.

### Expected future Time Charter revenues - undiscounted

Expected future time charter revenue from firm contracts from 1st January 2022 (undiscounted) has the maturity as follows:

	31/12/2021	31/12/2020
< 1 year	162 400	169 700
2 - 5 year	184 500	224 600
> 5 year	43 600	87 700
	<b>390 500</b>	<b>482 000</b>

The above table is based on the knowledge we had about market and contracts at year end 2021, and might be different from actual revenue as some of the contracts in example follows baltic index or include other variable items and hence will depend on the market development throughout the following periods.

### Contract liability

The Group has invoiced USD 12.8 million to customers which is not earned as of year end. The amount is recognized within other current liabilities in balance sheet.

## NOTE 6 – OTHER AFFILIATED COMPANIES

SHARE IN AFFILIATED COMPANIES INCLUDED UNDER THE EQUITY METHOD OF ACCOUNTING

Company	Owner-ship	Historical cost	Book equity at acquisition	Incoming balance 31.12.2020	Share profit of the year	Dividend	Translation	Outgoing balance 31.12.2021
Solvang Philippines Inc	25%	12	12	26	14	-4	-3	34
<b>Total</b>		12	12	26	14	-4	-3	34

Solvang Philippines Inc. is located in Manila, Philippines.  
Voting rights are according to pro rata ownership share.

We have not received final or audited accounts from the affiliated companies for 2021, hence the amounts presented in this note is based on financial statement 2020, adjusted for dividend received in 2021.

## NOTE 7 – FINANCIAL INCOME

	2021	2020
Interest income	3	130
Currency gain	0	444
Dividend received from DNK	4 590	0
Interest other long term receivable ( <i>ref note 4</i> )	818	585
Fair value changes interest swap	6 060	0
Other financial income		
<b>Total</b>	<b>11 472</b>	<b>1 159</b>

## NOTE 8 – FINANCIAL EXPENSES

	2021	2020
Interest and banking expenses	16 501	24 352
SWAP interest realized	3 356	1 480
Interest element of leases	1 188	361
Amortized borrowing cost	1 644	1 573
Fair value changes interest swap	0	9 051
Interest expense other commitments <i>ref note 4</i>	739	587
Currency loss	369	0
Other financial expenses	3	268
<b>Total</b>	<b>23 799</b>	<b>37 671</b>

**NOTE 9 – INCOME TAX EXPENSE**

TAX EXPENSES FOR THE YEAR	2021	2020
Payable tax	418	254
Gross changes in deferred tax / deferred tax assets	-207	-165
Herof changes booked through other comprehensive income	4	8
Translation differences	64	-62
Tax previous years	0	162
<b>Total tax on income for the year</b>	<b>279</b>	<b>197</b>

SPECIFICATION OF TEMPORARY DIFFERENCES:	31/12/2021	31/12/2020
Long term temporary differences		
Tangible fixed asset	-94	-104
Pension liabilities	-727	-806
Gain-/loss account of entry into tonnage tax system	2 949	3 810
Other temporary differences	5 009	5 177
Tax loss carry-forward	-13 099	-13 539
<b>Total basis for deferred tax</b>	<b>-5 962</b>	<b>-5 461</b>

ANALYSIS OF RECOGNISED DEFERRED TAX IN RESPECT OF EACH TYPE OF TEMPORARY DIFFERENCES AND UNUSED TAX LOSSES

	31/12/2021	31/12/2020	Changes	
			2021	2020
Temporary differences				
Tangible fixed asset	-21	-23	2	
Pension liabilities	-160	-177	17	-17
Gain-/loss account of entry into tonnage tax system	649	838	-189	-180
Other temporary differences	1 102	1 139	-37	32
Tax loss carry-forward	-2 882	-2 979	97	-109
<b>Total deferred tax / tax asset (22%)</b>	<b>-1 312</b>	<b>-1 201</b>	<b>-110</b>	<b>-274</b>
<b>Deferred tax asset not recognised (22%)</b>	<b>-2 882</b>	<b>-2 979</b>	<b>97</b>	<b>-109</b>
<b>Total recognised deferred tax (22%%)</b>	<b>1 570</b>	<b>1 777</b>	<b>-207</b>	<b>-165</b>
Change deferred tax recognized through profit and loss account			-204	-157
Other changes deferred tax (recognized through OCI)			-4	-8
<b>Total</b>			<b>-207</b>	<b>-165</b>

Changes in deferred tax recognized through other comprehensive income consist of tax effect related to remeasurements of pension liabilities.

## NOTE 9 – INCOME TAX EXPENSE

<b>Reconciliation tax expenses for the year</b>	<b>2021</b>	<b>%</b>	<b>2020</b>	<b>%</b>
22% of ordinary income/loss before tax	13 270	22%	10 270	22%
Adjustment previous year	0	0%	162	0%
22% effect of permanent differences related to shares	1	0%	1	0%
22% effect of other permanent differences	-12 995	-22%	-10 259	-22%
Translation differences	3	0%	23	0%
<b>Tax cost according to Profit &amp; Loss account</b>	<b>279</b>	<b>0%</b>	<b>197</b>	<b>0%</b>

The Group's subsidiary, Clipper Shipping AS enters into the tonnage tax scheme in 2013, and is therefore only assigned tax on financial records in accordance with the tonnage tax regulations. Clipper Shipping AS is the owner of the investments in ship owning companies which result will then also be taxed under the tonnage tax regime.

There is no tax payable for 2021 under the tonnage tax regime, except for the tonnage tax itself which is reported as other operating expenses from 2016, and this years income of gain/loss account related to entry into tonnage tax system.

No deferred tax assets are recognized on finance deficits related to the tonnage tax regime.

<b>Tax payable in Balance sheet consist of:</b>	<b>2021</b>	<b>2020</b>
Payable tax related to current year	418	276
Tonnage tax of current year	168	160
Disputed tax claim (receivable)	-496	
Adjustments to previous years tax		162
<b>Total payable tax</b>	<b>89</b>	<b>597</b>

**NOTE 10 – PAYROLL EXPENSES**

PERSONNEL EXPENSES	<b>2021</b>	<b>2020</b>
Salary	6 250	5 757
Employers tax	969	868
Pension cost	589	649
Other benefits	361	358
<b>Total personnel expenses</b>	<b>8 169</b>	<b>7 632</b>
Number of employees	44	44
REMUNERATION (IN USD 1000)	<b>2021</b>	<b>2020</b>
<b>Managing Director (CEO)</b>		
Salary	339	307
Bonuses	116	71
Pension cost	44	39
Other remuneration	6	5
<b>Director Marine Operations (CTO)</b>		
Salary	238	215
Bonuses	44	28
Pension cost	28	24
Other remuneration	3	2
<b>Director Commercial Operations (CCO) - until 31/7-20</b>		
Salary		587
Bonuses		0
Pension cost		92
Other remuneration		6
<b>Total remuneration to key management personnel</b>	<b>816</b>	<b>1 376</b>
Number of individuals included in key management personnel	2	3
<b>Board of Directors</b>		
Remuneration	76	69
<b>Total remuneration to key management personnel and Board of Directors</b>	<b>892</b>	<b>1 446</b>

CEO and former CCO have an additional contribution based pension of 15% of salary above 12G. In addition to this, Managing Director has an agreement of one year pay after termination of employment.

The company's senior executives are employed on a fixed salary. The Company has not granted loans or guarantees to any of its employees.

The company has an incentive scheme for senior executives based on achievement in HSE, finance and quality. The incentive scheme is set up as a cash consideration with a maximum of 25% of the basic salary. Settlement for the current year will be made during the first quarter of the following year.

In addition to the incentive scheme above, it was decided that all other employees should receive a bonus equal to one months salary. This bonus was paid out in December 2021.

**Auditor**

*Remuneration to auditor consist of the following*

	<b>2021</b>	<b>2020</b>
Audit mandatory by law	128	96
Other certification services	0	3
Other non-audit services	3	3
<b>Total</b>	<b>131</b>	<b>102</b>

## NOTE 11 – PENSION COST AND LIABILITIES

The company is obligated to have a pension plan according to the Act on Mandatory company pension, and has a pension plan which follows the requirement as set in the Act on Mandatory company pension. All employees are members of the defined contribution hybrid pension scheme with investment choices. Deposits in the scheme for 2021 are MNOK 3.7.

### Funded plans

The Group has as of 01.01.2020 discontinued the remaining defined benefit plan for seafarers and gone over to the defined contribution scheme for retirement. This is in line with changes in the seafarers' pension from the same date according to industry agreements. The company has no remaining obligations related to the old arrangements that have been settled. Net pension assets as of 01.01.20 has been offset against running deposit liabilities of the new defined contribution scheme.

### Non-funded plans

The group also has non-funded pension obligations for 2 pensioners, and for the Managing Directors and former Director of Commercial operations, which are not covered by the general pension plan. The pension obligations for the Managing Director and former Director of Commercial Operations include early retirement pension and pension for salary exceeding 12G.

### Assumptions

Pension liabilities and pension costs are calculated by a third party independent actuary, and are valued according to Revised IAS 19. Changes in pension liabilities due to actuarial assumptions and differences between actual and expected return on plan assets are recognized in other comprehensive income.

The following Assumptions were used for non-funded plans:

	2021	2020
Discount rate	1.90%	1.70%
Expected salary increases	2.75%	2.25%
Rate of pension increases	1.75%	1.50%
Increase of National Insurance Basic amount (G)	2.25%	2.00%
Expected return on plan assets	1.90%	1.70%
Social Security Tax	14.10%	14.10%
Disability tariff	KU	KU
Mortality tariff	K2013	K2013

<i>Net periodic pension cost:</i>	<i>Non-funded plans</i>		<i>Funded plans</i>	
	2021	2020	2021	2020
Current service cost				
Net interest expense /(income)	9	13		
Past service cost				120
Social Security Tax	1	2		
Net pension cost	11	15		120

<i>Present value of benefit obligation</i>	<i>Non-funded plans</i>		<i>Funded plans</i>	
	2021	2020	2021	2020
Present value of benefit obligation at January 1	603	672		1 197
Remeasurements	-5	53		
Net interest cost on benefit obligation	9	14		
Past service cost				-1 197
Pensions paid during the year	-84	-137		
Present value of benefit obligation at December 31	523	603		

## NOTE 11 – PENSION COST AND LIABILITIES

<i>Fair value of plan assets</i>	<i>Non-funded plans</i>		<i>Funded plans</i>	
	2021	2020	2021	2020
Fair value of plan assets at January 1				1 326
Past service cost				-1 326
Fair value of plan assets at December 31				

<i>Status of pension plans reconciled to the balance sheet</i>	<i>Non-funded plans</i>		<i>Funded plans</i>	
	2021	2020	2021	2020
Present value of pension obligations	-523	-603		
Fair value of plan assets				
Funded status of plans at December 31.	-523	-603	0	
Social Security Tax	-205	-203		
Net pension obligations as at December 31	-727	-806	0	
			<b>2021</b>	<b>2020</b>
Total net pension liability non-funded and funded plans recognised at Dec. 31			-727	-806

### Expected payments related to the pension plans in 2022

The Group has no secured pension scheme. However, a payment of NOK 3.7 million is expected for the Defined-contribution Hybrid pension arrangement in 2022, which includes employees onshore, as well as a payment of USD 0.9 million to the defined contribution plan for seafarers.

The Company's estimated payments for non-funded pension plans are NOK 1.2 million for the fiscal year 2022.

## NOTE 12 – RELATED PARTIES

Related parties are the companies in which the group has an ownership share higher than 20%. In addition, companies controlled by the Steensland-Brun family are considered related parties. All transactions with related parties, follows market principles.

	<b>Profit &amp; Loss Account</b>		<b>Balance Sheet</b>	
	2021	2020	31/12/2021	31/12/2020
Interest expenses other related parties	-28	-489		
Crewing expenses other related parties	-29 046	-27 882		
Receivables other related parties			63	60
Short term liabilities other related parties			-346	-10 327
<b>Total</b>	<b>-29 074</b>	<b>-28 372</b>	<b>-283</b>	<b>-10 267</b>

Liabilities related parties are priced at 3 months LIBOR + margin of 2.5% for foreign exchange loans.

## NOTE 13 - BANK DEPOSIT

The group has the following restricted bank deposits

	<b>2021</b>	<b>2020</b>
Restricted bank deposit payroll withholding tax	480	378
Restricted bank deposit pension liability (*)	666	743

(\*) The items are classified together with other receivables in the balance sheet.

The groups bank deposits at 31.12 are divided on different currencies as follows:

	<b>2021</b>	<b>2020</b>
NOK	2 727	3 891
EUR	1 092	321
GBP	15	
SGD	24	
USD	57 675	36 734
Other	13	
<b>Total</b>	<b>61 547</b>	<b>40 947</b>

### Guarantees

A bank guarantee of NOK 1.7 million has been provided for the rent of office space in Oslo.

## NOTE 14 - PERIODIC MAINTENANCE

	<b>Periodic Maintenance</b>	
	<b>2021</b>	<b>2020</b>
Book value as of 01.01.	<b>31 734</b>	36 695
Additions during the year	<b>2 727</b>	5 985
Depreciation during the year	<b>-11 396</b>	-10 946
Book value sold/disposed asset	<b>-918</b>	0
<b>Book value as of 31.12</b>	<b>22 147</b>	31 734

Depreciation plan Linear

The company recognizes the periodic maintenance and cost over a period of 5 years until the next periodic maintenance is expected to take place. Upcoming periodic maintenance is expected to complete in 2022 for five vessels. Two vessels completed their periodic maintenance in 2021.



## NOTE 15 – TANGIBLE FIXED ASSETS

	Vessels	Other fixed assets	2021	2020
Acquisition costs 01.01	1 287 488	1 310	<b>1 288 798</b>	1 275 042
Translation differences		-43	<b>-43</b>	36
Additions during the year	10 390		<b>10 390</b>	13 720
Disposals during the year	-50 614		<b>-50 614</b>	
<b>Acquisition costs 31.12</b>	<b>1 247 264</b>	<b>1 267</b>	<b>1 248 531</b>	1 288 798
Accumulated ordinary depreciation 01.01	103 264	1 208	<b>104 472</b>	51 865
Depreciation during the year	50 405	42	<b>50 447</b>	52 569
Accumulated depreciation sold/disposed assets	-5 864		<b>-5 864</b>	
Translation differences		-40	<b>-40</b>	38
Accumulated depreciation and write-off 31.12	147 805	1 209	<b>149 014</b>	104 472
<b>Book value as of 31.12</b>	<b>1 099 459</b>	<b>58</b>	<b>1 099 517</b>	1 184 326
Useful life	30 years	3 - 6 years		3 - 30 years
Depreciation plan	Linear	Linear		Linear
Depreciation percentage		0 - 30%		0 - 30%

The vessels have been tested for impairment by comparing the carrying values against valuations obtained from brokers. Estimated value in use are calculated for the vessels that have an indication of impairment. The recoverable amount is estimated at the calculated value in use for each vessel when the broker value is lower. Estimated value in use is calculated as a net present value based on the rest of life and risk. The net present value is calculated based on each vessel's remaining economic life, and the first year's cash-flow based on approved budgets. Any impairment charge of the vessels are then measured between book value and estimated value in use. Discount rate 7.1% (5 year) and 7.3% (10 year) is based on the companies weighted cost of capital (WACC). When estimating income, market outlook and average historical rates for own as well as comparable ships have been considered. Operating expenses is based on budget and is index regulated going forward.

Based on broker value only there was an indications of impairment for 2 out of 26 vessels as of 31.12 . An estimated value in use was calculated for these 2 vessels which resulted in no indications of impairment as of 31.12. The estimated value in use is robust and changes in discount rate (WACC) and income will not give any significant impact to the value.

## NOTE 16 - RIGHT OF USE ASSETS / LEASES

By end of year the Group had two lease arrangements accounted for using IFRS 16.

### PRACTICAL EXPEDIENTS APPLIED

The Group leases smaller office equipment, such as coffee machines and copyer with contract terms of 1-3 years. The Group has elected to apply the practical expedient of low-value assets for these leases. Leases that have a present value as new lower than USD 5 000, are considered low value leases. The Group has also applied the practical expedient for short-term leases. Short term is defined as a lease term of 12 month or less at the commencement date. For low-value leases and short-term leases, the Group does not recognize lease liabilities or right-of-use assets. The leases are instead expensed when they incur. Expenses relating to short-term and low value leases for 2021 amounts to KUSD 6.

### SPECIFICATION OF RIGHT-OF-USE ASSETS

	Vessel	Office facilities	2021	2020
Acquisition costs 01.01	13 918	2 914	16 833	16 833
Sold/Disposed during the year	-13 918		-13 918	
<b>Acquisition costs 31.12</b>		2 914	<b>2 914</b>	16 833
Accumulated ordinary depreciation 01.01	2 420	742	3 162	1 609
Depreciations during the year	749	371	1 120	1 553
Accumulated depreciation sold/disposed assets	-3 170		-3 170	
Accumulated depreciation and write-off 31.12		1 113	1 113	3 162
<b>Book value as of 31.12</b>	0	1 802	<b>1 802</b>	13 671

### SPECIFICATION OF LEASE LIABILITY

	Vessel	Office facilities	2021	2020
Book value as of 01.01.	-9 111	-2 275	-11 386	-14 491
Interest element of the lease liability	-1 083	-106	-1 188	-361
Payments for the principal portion of the lease liability	10 193	449	10 643	3 466
<b>Book value as of 31.12</b>	0	-1 931	<b>-1 931</b>	-11 386

### Maturity of lease commitment as per 31.12

	Vessel		Office facilities		2021	
	Minimum payment	Book value/ Net present value	Minimum payment	Book value/ Net present value	Minimum payment	Book value/ Net present value
< 1 year			-482	-361	-482	-361
2 - 5 year			-1 861	-1 570	-1 861	-1 570
> 5 year						
			-2 344	-1 931	-2 344	-1 931

## NOTE 17 – DERIVATIVE FINANCIAL INSTRUMENTS

The Group employ interest rate swap agreements to establish greater stability for the Group's variable-rate loan interest expenses. The Group has decided that some of its variable interest-bearing liabilities should be secured using interest rate swap agreements. A given proportion will always be at a floating rate, while the remainder will be subject to potential hedging even though hedge accounting is not applied. This situation is constantly reviewed in light of the market situation. The interest rate swap agreements normally have a duration of three to five years.

### Interest swap agreements

The Group has entered into the following interest rate swap agreement where 3 months LIBOR is replaced by a fixed rate + margin throughout the term of the agreements.

SWAP agreements	Fixed rate	Contract date	Periode from	Periode till	Fair value per 31.12.21 (KUSD)	Fair value per 31.12.20 (KUSD)
5-year interest swap of MUSD 100	1.5150 %	17/06/2021	15/06/2021	11/05/2026	-869	0 (*)
5-year interest swap of MUSD 50	1.2550 %	24/06/2016	30/05/2017	31/05/2022	-207	-761
5-year interest swap of MUSD 50	1.7440 %	26/06/2019	01/07/2019	22/03/2024	0	-2 415 (*)
5-year interest swap of MUSD 50	1.4925 %	06/08/2019	23/09/2019	22/03/2024	-588	-2 011
5-year interest swap of MUSD 25	1.6825 %	02/08/2019	31/10/2019	31/10/2024	-392	-1 322
2,5-year interest swap of MUSD 25	0.9380 %	03/03/2020	05/03/2020	30/08/2022	-95	-313
4-year interest swap of MUSD 20	1.2060 %	24/02/2020	23/03/2020	22/03/2024	0	-616 (*)
4-year interest swap of MUSD 15	1.2100 %	24/02/2020	23/03/2020	22/03/2024	-73	-465
4-year interest swap of MUSD 15	1.2120 %	24/02/2020	26/02/2020	22/03/2024	-88	-471
					<b>-2 313</b>	<b>-8 373</b>
				Fair value changes interest swap recognized to P&L	<b>6 060</b>	

(\*) In June 2021, the Group realized two interest swaps and replaced them with a new 5-year interest swap. The loss on realization was offset by a gain on the new 5-year interest swap. Hence no P&L effect.

### Classifications of financial instruments

Except for the interest swap agreements that is accounted for using fair value through profit and loss account, all financial assets and liabilities are classified at amortized cost.

## NOTE 18 – LONG TERM DEBT

The Group's interest-bearing debt is in its entirety related to the financing of vessels. The loan agreements are signed between the respective shipowning company and the lender. The loans are in USD and are priced at floating LIBOR + margin.

In June 2021, Solvang together with the subsidiary Clipper Shipping AS, entered into a 5-year loan agreement for refinancing a fleet loan for the major part of vessels owned by Clipper Shipping AS. The refinancing was carried out with Solvang ASA as the Borrower and Clipper Shipping AS as the Guarantor.

As the loan is related to financing of vessels owned by Clipper Shipping AS, the loan is further distributed from Solvang ASA to Clipper Shipping AS on Back-to-back terms including capitalized borrowing cost.

The loan is set up as a revolving credit facility. Available credit line 31.12 is USD 400.5 million. Draw loan is USD 371.3 million. The company has no debt that falls due more than five years after the balance sheet date.

The loan agreements have covenants requirements related to the market value of vessels in relation to outstanding debts, as well as working capital and / or minimum cash deposits. The group was in compliance with covenants in the loan agreements during the year and at 31.12.

SECURED DEBT	2021	2020
Long term debt to financial institution	443 624	626 098
Long term debt issuance cost	-7 353	-5 249
Long-term debt	436 270	620 849
Next year installment long term debt	163 247	80 710
Accrued interest long term debt	2 100	1 177
Current portion of long-term debt	165 347	81 887
<b>Total net debt as of 31.12</b>	<b>601 618</b>	<b>702 736</b>
Minority interest of book value as of 31.12.	63 609	83 686
COLLATERAL FOR DEBT	2021	2020
Vessel	1 099 459	1 184 224
Bank deposits	59 522	39 949
Bunkers, lubricant oil etc.	6 991	5 168
Accounts receivables	5 339	11 095
<b>Book value as of 31.12.</b>	<b>1 171 311</b>	<b>1 240 436</b>

## NOTE 18 – LONG TERM DEBT

Change in interest-bearing debt is specified in the table below.

	Long term debt	Other long term debt	Total
Interest bearing debt as of 01.01.20	795 170	14 000	809 170
Proceeds from borrowings	1 000		1 000
Repayment of borrowings	-94 381	-4 000	-98 381
<b><u>Non-cash changes</u></b>			
Changes in accrued interests	-625		-625
Amortized debt issuance cost	1 573		1 573
Interest bearing debt as of 31.12.20	702 736	10 000	712 736
Proceeds from borrowings (1)	420 000	30 000	450 000
Paid Long term debt issuance cost	-3 749	-231	-3 980
Repayment of borrowings	-519 937	-10 163	-530 100
<b><u>Non-cash changes</u></b>			
Changes in accrued interests	923		923
Amortized debt issuance cost	1 644		1 644
Interest bearing debt as of 31.12.21	601 618	29 606	631 224

1) Other long term debt as of 31.12.21 consist of a failed sale-leaseback. Ref note 1.

Maturity overview of financial debt as of 31.12.

	Long term debt	Other long term debt	Total 2021	Total 2020
< 1 year	165 347	2 783	168 130	91 887
2 - 5 year	436 270	26 823	463 094	593 694
> 5 year				27 155
	601 618	29 606	631 224	712 736

The figures in the above table does not include future interest prognosis.

## NOTE 19 – RECEIVABLES

Receivables consist mainly of trade debtors, prepaid voyage costs and accruals. The Group has a long term receivable which falls due i 2022 (ref note 4). Other than this, none of the receivables is falling due more than one year after the end of the fiscal year. None of the receivables of significant amount is due on the balance sheet date.

Receivables at 31.12 can be divided as follows:

	2021		2020	
	Non-current	Current	Non-current	Current
Financial assets at amortized cost				
Receivable BB in	6 873		9 078	(ref note 4)
Financial assets at FVPL				
Deposit and guarantees		666		743 (ref note 13)
Prepayments and other assets				
Accounts receivable		5 339		11 095
VAT receivable		326		410
Accruals and prepayments		3 065		3 710
Insurance claim		1 221		1 718
Other receivables		5 880		3 677
Total receivables	6 873	16 497	9 078	21 354

All significant trade debtors at 31.12 are nominated in USD and are less than 30 days old.

There has been no loss on accounts receivable in 2021, nor is it deemed necessary with provision for possible losses on the receivables.

The above book values are considered a reasonable approximation of fair value.

## NOTE 20 – EQUITY

### The company's main shareholders as of 31.12.2021

Name of owner	31/12/2021		31/12/2020	
	# of shares	Ownership	# of shares	Ownership
Clipper AS	29 330 654	31.49%	29 330 654	31.49%
Straen AS	18 117 245	19.45%	18 117 245	19.45%
Audley AS	16 126 163	17.31%	16 126 163	17.31%
Barque AS	8 812 908	9.46%	8 812 908	9.46%
Leif Hübner AS	2 882 741	3.09%	2 882 741	3.09%
Jaco Invest AS	2 150 000	2.31%	2 150 000	2.31%
Tyin AS	1 880 389	2.02%	1 880 389	2.02%
Motor-Trade Eiendom og Finans AS	1 578 373	1.69%	1 578 373	1.69%
Torkap AS	1 456 218	1.56%	1 456 218	1.56%
Mertoun Capital AS	1 359 782	1.46%	1 359 782	1.46%
Moredun Invest AS	1 310 877	1.41%	0	0.00%
Taif AS	1 308 608	1.40%	1 308 608	1.40%
Skagenkaien Eiendom Holding AS	1 276 318	1.37%	1 926 318	2.07%
Menne Invest AS	1 206 148	1.29%	1 206 148	1.29%
Other < 1%	4 349 184	4.67%	5 010 061	5.38%
<b>Totalt</b>	<b>93 145 608</b>	<b>100.00%</b>	<b>93 145 608</b>	<b>100.00%</b>

Except from the Chairman, the board of directors has no direct ownership in the company, nor control any shares in the company as of 31.12.2021.

The Chairman, Michael Steensland Brun, controls 1 310 877 shares in the company as of 31.12.2021.

The CEO, Edvin Endresen, owns 10 720 shares in the company as of 31.12.2021.

### Proposed dividend

The Board of Directors has proposed a dividend of NOK 2.00 per share for 2021. A total dividend of NOK 4.50 per share was paid in 2021 based on 2020 statutory accounts.

Allocated dividend is based on the number of shares outstanding on the grant date.

The company has no other dividend limitations than those imposed by Norwegian law.

### Treasury shares

As of 31.12.2021 Solvang ASA holds no treasury shares.

## NOTE 21 – SUBSEQUENT EVENTS

The ongoing conflict in Ukraine have so far had limited direct impact on the LPG market, as Russia and Ukraine have an insignificant share of the global LPG trade. Travel and payment restrictions may result in operational difficulties, as we have crew living in the conflicting countries. Currently we have two vessels where the ongoing conflict has disrupted the vessels trade carrying ammonia out of the Black Sea area. Both charterparties has clauses that give the charterer the option to cancel the charterparty on basis of the conflict in Ukraine. On the 30th of April, both charterparties were canceled, as the charterer was not successful in sourcing product from other areas. The vessels are now traded / marketed on other contracts at similar rate level. This will have insignificant accounting effects.

Clipper Harald is agreed sold, and the vessel will be delivered to new owner during second quarter 2022. The sale will have minor effects to P&L.

There are no other events after the balance sheet date that impacts the reported numbers.

# FINANCIAL STATEMENT



# SOLVANG ASA PARENT COMPANY



## Profit & Loss Account | Solvang ASA

Amounts in NOK 1 000	Note	2021	2020
Management fee	10	92 455	94 284
Other Income		0	0
<b>Total Operating income</b>		<b>92 455</b>	<b>94 284</b>
Salaries and other personnel expenses	8	70 250	71 745
Depreciation	13	357	535
Other operating expenses	8	16 312	15 031
<b>Total operating expenses</b>		<b>86 920</b>	<b>87 311</b>
<b>Operating result</b>		<b>5 535</b>	<b>6 973</b>
Affiliated companies equity method	3	119	-53
Financial income	4,10	408 576	151 875
Financial expenses	5,10	-84 437	-154 015
<b>Net financial items</b>		<b>324 258</b>	<b>-2 193</b>
<b>Ordinary result before tax</b>		<b>329 793</b>	<b>4 779</b>
Tax on ordinary result	6	2 234	1 095
<b>Net profit or loss for the year</b>		<b>327 559</b>	<b>3 685</b>
<b>Net profit or loss for the year is distributed as follows</b>			
Dividend		-186 291	-186 291
To/from other equity		-141 268	182 606
<b>Total distributed</b>		<b>-327 559</b>	<b>-3 685</b>

## Balance Sheet | Solvang ASA

Amounts in NOK 1 000	Note	31/12/2021	31/12/2020
<b>ASSETS</b>			
<i>Fixed Assets</i>			
<b>Intangible fixed assets</b>			
Deferred tax asset	6	1 594	1 708
<b>Total intangible fixed assets</b>		<b>1 594</b>	<b>1 708</b>
<b>Tangible fixed assets</b>			
Office equipment, furniture etc	13	511	868
<b>Total tangible fixed assets</b>		<b>511</b>	<b>868</b>
<b>Financial fixed assets</b>			
Investments in subsidiaries	7	2 860 869	2 860 869
Loans to group companies (Back-to-back)	10,15	3 218 404	3 506 259
Investments in affiliated companies	3	296	226
Other long term receivables	12	60 612	77 455
<b>Total financial fixed assets</b>		<b>6 140 181</b>	<b>6 444 808</b>
<b>Total fixed assets</b>		<b>6 142 286</b>	<b>6 447 384</b>
<i>Current Assets</i>			
<b>Receivables</b>			
Accounts receivables	10	3 195	2 826
Short term receivables group companies	10,14	2 901	8 095
Other short term receivables	11,14	15 922	19 188
<b>Total receivables</b>		<b>22 019</b>	<b>30 109</b>
Cash and bank deposits	11	438 131	108 387
<b>Total current assets</b>		<b>460 150</b>	<b>138 495</b>
<b>TOTAL ASSETS</b>		<b>6 602 436</b>	<b>6 585 880</b>

## Balance Sheet | Solvang ASA

Amounts in NOK 1 000	Note	31/12/2021	31/12/2020
<b>EQUITY AND LIABILITIES</b>			
<i>Equity</i>			
<b>Paid-in capital</b>			
Share capital	17	465 728	465 728
Share premium reserve		2 076 295	2 076 295
<b>Total paid-in capital</b>		<b>2 542 023</b>	<b>2 542 023</b>
<b>Retained earnings</b>			
Other equity		155 279	247 004
<b>Total retained earnings</b>		<b>155 279</b>	<b>247 004</b>
<b>Total equity</b>	<b>17</b>	<b>2 697 302</b>	<b>2 789 027</b>
<i>Liabilities</i>			
<b>Provisions</b>			
Pension liabilities	9	6 416	6 877
<b>Total provisions</b>		<b>6 416</b>	<b>6 877</b>
<b>Long term liabilities</b>			
Loan (back-to-back)	15	3 218 404	3 506 259
Other commitments	12	60 156	74 088
<b>Total long term liabilities</b>		<b>3 278 560</b>	<b>3 580 347</b>
<b>Current liabilities</b>			
Trade creditors		4 343	3 332
Current liabilities Group companies	10,11	406 021	2 072
Tax payable	6	2 089	422
Public duties payable		7 223	5 799
Dividend	17	186 291	186 291
Other short term liabilities		14 192	11 712
<b>Total current liabilities</b>		<b>620 158</b>	<b>209 628</b>
<b>Total liabilities</b>		<b>3 905 134</b>	<b>3 796 852</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>6 602 436</b>	<b>6 585 880</b>

Stavanger, 10th May 2022

This document has been signed electronically.

Michael Steensland Brun  
Chairman

Ellen Solstad

Jostein Devold

Edvin Endresen  
CEO

## Cash Flow Statement | Solvang ASA

<i>Amounts in NOK 1 000</i>	Note	2021	2020
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>			
Profit / (loss) before tax		329 793	4 779
Taxes paid	6	-422	-5 071
Depreciation	13	357	535
Difference between expensed pension and paid in/out	9	-606	-957
Result in other affiliated companies	3	-119	53
Changes in inventories, trade receivables and trade payables		643	-1 708
Changes in other current balance sheet items		7 169	1 701
Financial items		-682	25
<b>Net cash flow from operating activities</b>		<b>336 132</b>	<b>-643</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>			
Proceeds from sale / purchase of tangible fixed assets	13	0	-256
Investment affiliated companies	3	32	26
Received payments other receivable	12	23 880	27 761
<b>Net cash flow from investing activities</b>		<b>23 912</b>	<b>27 531</b>
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>			
Payment other commitments	12	-20 287	-25 043
Change in outstanding accounts group companies		409 142	9 893
Dividends paid	17	-419 155	0
<b>Net cash flow from financing activities</b>		<b>-30 300</b>	<b>-15 150</b>
<b>Net change in cash and cash equivalents</b>		<b>329 745</b>	<b>11 738</b>
Cash and cash equivalents 01.01		108 387	96 649
<b>Cash and cash equivalents 31.12</b>		<b>438 131</b>	<b>108 387</b>

# Notes 2021 | Solvang ASA

## NOTE 1 – ACCOUNTING PRINCIPLES

The annual accounts consist of the profit and loss account, balance sheet, cash flow statement and notes to the accounts, and have been presented in compliance with the Norwegian Companies Act, the Norwegian Accounting Act and Norwegian generally accepted accounting principles in effect as of 31st of December 2021.

The annual accounts have been prepared based on the fundamental accounting principles and the classification of assets and liabilities are according to the Norwegian Accounting Act. The application of the accounting principles and the presentation of transactions and other issues attach importance to economic realities, not only legal form. Contingent losses, which are likely to happen and are quantifiable, will be expensed.

### General principles

Assets that are meant for long-term ownership or use are classified as fixed assets. Other assets are classified as current assets. Receivables are classified as current assets if they are to be re-paid within one year after payment. The same criteria apply for liabilities.

The annual accounts have been prepared based on the fundamental accounting principles historical cost, comparability, going concern, congruence and prudence. Transactions are recorded at their value at the time of the transaction. Income is recognised at the time of delivery of goods or service sold and matches costs expensed in the same period as the income to which they relate is recognized.

Valuation of fixed assets is entered in the accounts at original cost. If the fair value of a fixed asset is lower than book value, and the decline in value is not temporary, the fixed asset will be written down to fair value. Fixed assets with a limited expected useful life are depreciated according to plan.

Current assets are valued at the lower of acquisition cost and fair value. Short-term liability is booked nominally at the point of establishment.

Solvang ASA has Norwegian kroner (NOK) as both the functional and reporting currency.

According to the accounting principles there are some exceptions from the general principles. These exceptions are commented below.

### Fixed assets

Fixed assets are entered in the accounts at original cost, with deductions for accumulated depreciation and write-down. If the fair value of a fixed asset is lower than book value, and the decline in value is not temporary, the fixed asset will be written down to fair value. Depreciation is calculated and distributed linearly over the estimated useful life. Maintenance of fixed assets is continuously booked to operating cost. Major replacement and improvements which significantly improve the fixed assets useful life, are added to the purchase price of the assets.

### Investment in subsidiaries

By subsidiaries means investments where the company directly or indirectly owns more than 50% of the voting shares, where the investment has a long-term and strategic dimension, and investments where the company have a controlling interest. Investments in subsidiaries are accounted for using the purchase method. Cost price increases when means are contributed by a capital increase, or when group contribution is received by the subsidiary. Received dividends are normally booked as income. Dividends which exceeds retained earnings after the initial investment, is booked as reduction of historical acquisition cost. Year-end allocation related to dividend from subsidiaries is entered as financial income the same fiscal year.

## Investment in affiliated companies

By affiliated companies means investments where the company directly or indirectly owns 20-50% of the voting shares, where the investment has a long-term and strategic dimension, and investments where the company can exercise a considerable influence. Investments in affiliated companies are accounted for using the equity method.

Solvang's share of the profit in an affiliated company is based on profit after tax in the affiliated company less any depreciation on excess value due to the acquisition cost of the owner interest being higher than the acquired share of book equity. In the profit and loss account, the share of the profit in affiliated companies is presented as financial items. In the balance sheet, owner interests in affiliated companies are presented together with fixed assets.

For affiliated participant taxed companies are Solvang's share of the profit based on the pre-tax profit in the affiliated company. Tax on profit share is recognized through the general tax cost of the Group.

## Receivables

Receivables are valued at face value after deduction of accrual for anticipated loss. Accruals for anticipated loss are made on basis of assessment of the individual outstanding claims.

## Foreign currency

Transactions in foreign currencies are recorded at transaction date.

All cash and bank balances in foreign currency are accounted for at the exchange rate at year-end.

## Financial expenses

When a new debt financing is established any up-front fees and other cost related to the financing are capitalized at the date of drawdown of the loan and amortized over the loan period.

## Financial Lease

Financial leasing is included as a liability under interest-bearing debt to the present value of the minimum lease, and amortized over the lease term.

## Long term loan (Back-to-back)

The interest and loan are presented gross in both P&L and Balance sheet as this relates to a flow-through loan. The loan is set up with Back-to-back terms, hence it has no actual effect to the accounts.

## Pension liability and pension cost

All employees are members of the defined contribution hybrid pension scheme with investment choices. The company has no remaining obligations to the old schemes that have been settled. However, the non-funded schemes will continue as before and consist of defined benefit plans and defined contribution plans.

### **Defined benefit pension plan**

Net pension cost includes the period calculated pension benefits, including expected salary increases, estimated interest expenses, less the expected return on plan assets and any effects of changes in estimates and plans. The surplus is capitalized to the extent it can be applied to future pension obligations. The company applies Revised IAS 19 Employee Benefits as a basis for accounting for pension.

Gains and losses arising from recalculation of the obligation due to experience variances and changes in actuarial assumptions are recorded against equity and deferred tax in the period when they occur.

### **Contribution based pension plan**

For defined contribution plans the company pays contributions to publicly or privately administered pension insurance plans. The company has no further payment obligations once the contributions have been paid. Contributions are recognized as compensation expense in line with the obligation to pay contributions accrue.

## Treasury shares

Own shares are posted at face value on a separate line of the balance sheet under equity. The difference between the face value of the share and the original cost is deducted from other equity. As of 31.12.2021 Solvang ASA holds no treasury shares.

## Taxes

Taxes in the Profit and Loss statement contain both payable tax of the year and changes in deferred tax / deferred tax asset.

Deferred tax /deferred tax assets are calculated on basis of temporary differences between accounting standards and tax legislation by the end of the fiscal year. The calculation is based on nominal tax rate. Tax-augmenting and tax-reducing temporary differences that can be reversed in the same period are balanced in the accounts. Deferred tax assets arise if there are net tax-reducing temporary differences which can be justified by the assumption of future profits. This year tax on ordinary result consist of net changes in deferred tax and deferred tax assets together with payable tax of the year and adjusted for any differences in provision previous years.

## Cash flow statement

The Cash Flow statement is prepared in accordance with the indirect method. Cash flow generated by investing and financing activities is shown gross, while for operations reconciliation is shown between book profit and cash flow from operating activities. Cash and cash-equivalents include petty cash and bank payments.

## NOTE 2 – FINANCIAL MARKET RISK

The company's operations expose the company for low currency risk because income and the majority of cost are normally in the same currency (NOK). However, there is some exposure to currency related to foreign currency bank accounts as well as interim accounts with group companies and other shipping companies that Solvang is the managing director of, but the risk is considered low. The company only have a very limited exposure to credit risk and market risk.

### **CURRENCY RISK AND INTEREST RISK**

#### **Investment in ship owning companies (owned through subsidiary Clipper Shipping AS)**

"The operations of the company's investments in ship owning companies are mainly USD based. Most of the revenues are in USD. The majority of the income is in USD. Furthermore, the market value of the ships, and thus most of the assets, are priced in USD. Most of the debts are also in USD. This leads to foreign exchange exposure being limited. The Ship Owning companies has due to the reorganization of Solvang been part of the Group and with that fully consolidated from and including November 2018.

Most of the company's debt is loan on back-to-back terms with Clipper Shipping AS. In addition Solvang has provided guarantee for the debt Clipper Shipping is committed to through its ownership in shipowning companies. (Ref note 15). All loans are denominated in USD and are priced at floating LIBOR interest. The company has an acceptable equity ratio. This together with an active handling of interest rate exposure, leads to the risk of any changes in the interest rate level being limited for the company."

### NOTE 3 – AFFILIATED COMPANIES

AFFILIATED COMPANIES INCLUDED UNDER THE EQUITY METHOD OF ACCOUNTING

Company	Owner-ship	Acquisition cost	Equity at acquisition	Opening balance 01.01.2021	Share of net profit	Dividend received	Translation differences	Closing balance 31.12.2021
Solvang Phillipines	25%	102	102	226	119	-32	-16	296
<b>Total</b>		102	102	226	119	-32	-16	296

Solvang Phillipines Inc is located in Manila, Phillipines.  
The voting rights are according to pro rata ownership share.

We have not received final or audited accounts from the affiliated companies for 2021, hence the amounts presented in this note is based on financial statement 2020, adjusted for dividend received in 2021.

### NOTE 4 – FINANCIAL INCOME

	2021	2020
Interest income	16	225
Interest income back-to-back loan ( <i>ref note 15</i> )	77 396	146 154
Interest other long term receivable ( <i>ref note 12</i> )	7 037	5 496
Dividend Norwegian shares (Subsidiary)	319 582	0
Currency gain	4 545	0
Other financial income		
<b>Total</b>	<b>408 576</b>	<b>151 875</b>

### NOTE 5 – FINANCIAL EXPENSES

	2021	2020
Interest and banking expenses	82	59
Interest loan (back-to-back) <i>ref note 15</i>	77 396	146 154
Interest expense other commitments <i>ref note 12</i>	6 354	5 520
Currency loss	0	1 870
Other financial expenses	605	412
<b>Total</b>	<b>84 437</b>	<b>154 015</b>



**NOTE 6 – TAX**

		<b>2021</b>	<b>2020</b>
Ordinary income/loss before tax		329 793	4 779
Permanent differences related to shares		-319 550	26
Permanent differences		29	117
Differences related to equity method		-119	53
Group contribution		0	-2 072
Changes in temporary differences		-660	-985
<b>Net taxable income/loss</b>		<b>9 494</b>	<b>1 918</b>
<b>Tax Payable</b>	<b>22%</b>	<b>2 089</b>	<b>422</b>
<b>Tax expenses for the year</b>			
Tax Payable		2 089	422
Gross changes in deferred tax / deferred tax assets		113	145
Deferred tax of remeasurement pensions recognized in equity		32	72
Tax on group contribution		0	456
<b>Total tax on income for the year</b>		<b>2 234</b>	<b>1 095</b>
<b>Specification of temporary differences:</b>			
<b>Long term temporary differences</b>			
Tangible fixed asset		-831	-885
Pension liabilities		-6 416	-6 877
<b>Total</b>		<b>-7 247</b>	<b>-7 762</b>
<b>Deferred tax / deferred tax assets</b>	<b>22%</b>	<b>-1 594</b>	<b>-1 708</b>
<b>Reconciliation tax expenses for the year</b>			
22% of ordinary income/loss before tax		72 554	1 051
Changes related to equity method		-26	12
22% effect of permanent differences related to shares		-70 301	6
22% effect of other permanent differences		6	26
<b>Tax cost according to Profit &amp; Loss account</b>		<b>2 234</b>	<b>1 095</b>

**NOTE 7 – SHARES IN SUBSIDIARIES**

<b>Company name</b>	<b>Ownership/ voting rights</b>	<b>Share capital</b>	<b>Nominal value</b>	<b>Carrying value 31.12</b>
Clipper Shipping AS	100%	700 000 000	100	7 000 000
Solvang Maritime AS	100%	100 000	1 000	100 000
<b>Total Subsidiaries</b>				<b>2 860 869 006</b>

Clipper Shipping AS and Solvang Maritime AS are located in Stavanger.

## NOTE 8 – PAYROLL EXPENSES

	2021	2020
<b>Personnel expenses</b>		
Salary	53 747	54 116
Employers tax	8 329	8 164
Pension cost	5 067	6 099
Other benefits	3 108	3 367
<b>Total personnel expenses</b>	<b>70 250</b>	<b>71 745</b>
Number of employees	44	44

**Remuneration (in NOK) 2021**

	Director's fees	Salary	Bonuses	Pension costs	Other remuneration	Total remuneration
<b>MANAGERS</b>						
Edvin Endresen, CEO		2 914 584	998 667	374 467	49 018	4 336 736
Tor Øyvind Ask, Dir. Marine Operations		2 044 062	375 132	237 451	25 412	2 682 057
<b>BOARD OF DIRECTORS</b>						
Michael Steensland Brun, Chairman	150 000	0	0	0	0	150 000
Jostein Devold, Board member	125 000	0	0	0	0	125 000
Ellen Solstad, Board member	125 000	0	0	0	0	125 000
Alf Andersen, Observer	125 000	0	0	0	0	125 000
S.Botolf Sundby, Observer	125 000	0	0	0	0	125 000
<b>Total remuneration</b>	<b>650 000</b>	<b>4 958 646</b>	<b>1 373 799</b>	<b>611 918</b>	<b>74 430</b>	<b>7 668 793</b>

CEO and former CCO have an additional contribution based pension of 15% of salary above 12G. In addition to this, CEO has an agreement of one year pay after termination of employment.

The company's senior executives are employed on a fixed salary. The Company has not granted loans or guarantees to any of its employees.

The company has an incentive scheme for senior executives based on achievement in HSE, finance and quality. The incentive scheme is set up as a cash consideration with a maximum of 25% of the basic salary. Settlement for the current year will be made during the first quarter of the following year.

In addition to the incentive scheme above, it was decided that all other employees should receive a bonus equal to one months salary. This bonus was paid out in December 2021.

**AUDITOR**

The fee to the auditors for 2021 amounts to NOK 425 438,- whereof NOK 417 500,- relates to audit required by law and NOK 7 938,- for other non-audit services. The amounts are reported exclusive of VAT.

## NOTE 9 – PENSION COST AND PENSION LIABILITIES

The company is obligated to have a pension plan according to the Act on Mandatory company pension, and has a pension plan which follows the requirement as set in the Act on Mandatory company pension. All employees are members of the defined contribution hybrid pension scheme with investment choices. Deposits in the scheme for 2021 are 3,728,771, -.

### Funded plans

The funded plans were closed and settled as of 2016 and replaced by a defined contribution hybrid scheme with investment choices as of 1/1-17. The company has no remaining obligations related to the old arrangements that have been settled.

### Non-funded plans

The company also has non-funded pension obligations for 1 pensioner and an additional defined contribution plan for CEO, which are not covered by the general pension plan.

### Assumptions

Pension liabilities and pension costs are calculated by a third party independent actuary, and has been evaluated according to revised IAS 19. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited through Equity. The following assumptions were used for non-funded plans:

	2021	2020
Discount rate	1.90%	1.70%
Expected salary increases	2.75%	2.25%
Rate of pension increases	1.75%	1.50%
Increase of National Insurance Basic amount (G)	2.25%	2.00%
Expected return on plan assets	1.90%	1.70%
Social Security Tax	14.10%	14.10%

Net periodic pension cost:	Non-funded plans	
	2021	2020
Benefits earned during the year		
Interest cost	81	122
Social Security Tax	11	17
<b>Net periodic pension cost</b>	<b>93</b>	<b>140</b>

### Overview of actuarial gains and losses recognized directly through other equity:

	2021	2020
Net actuarial gains/losses 01.01	-5 149	-4 894
Current year actuarial gains/losses	-144	-328
Tax	32	72
<b>Net actuarial gains/losses 31.12</b>	<b>-5 262</b>	<b>-5 149</b>

### Status of pension plans reconciled to the balance sheet

	Non-funded plans	
	2021	2020
Present value of pension obligations	-4 609	-5 145
Fair value of plan assets	0	0
Funded status of plans at December 31.	-4 609	-5 145
Social Security Tax	-1 807	-1 732
<b>Net pension liability recognised at December 31.</b>	<b>-6 416</b>	<b>-6 877</b>

## NOTE 10 – RELATED PARTIES

Related parties are the companies that are part of the Solvang ASA group as well as companies in which the group has an ownership share higher than 20%. In addition, companies controlled by the Steensland-Brun family are considered related parties. All transactions with related parties, are at arm's length and market terms. In connection with Solvang's position as manager for the shipping partnerships, there are ongoing transactions between Solvang and the individual shipping partnerships. Solvang receives a yearly fee as managers. The size of the fee is regulated by the management agreement, and is approved each year by the annual general meeting of the shipping partnerships.

	Profit & Loss Account		Balance Sheet	
	2021	2020	31/12/2021	31/12/2020
Management fee (income)	92 455	94 284		
Interest subsidiaries (back-to-back)	77 396	146 154		
Dividend received from subsidiaries	319 582	0		
Receivables group companies			2 901	8 095
Liabilities group companies			-406 021	-2 072
Loan subsidiaries (back-to-back)			3 218 404	3 506 259
Net receivables other related parties			554	793
Liabilities other related parties			-462	0
<b>Total</b>	<b>489 432</b>	<b>240 438</b>	<b>2 815 376</b>	<b>3 513 074</b>

## NOTE 11 – RESTRICTED BANK DEPOSIT

In connection with payment of payroll withholding tax, the company has a restricted bank deposit of NOK 3,789,334,-.

Total bank deposit also includes provision on a restricted account related to pension for former managing director of the merged subsidiary. Restricted bank deposit as of 31.12 amounts to NOK 5,870,914,-. The account is included in other short term receivables.

### Cash pool

Solvang ASA is the main account holder in a multi-currency corporate cash pool system in Nordea, in which the two subsidiaries Solvang Maritime AS and Clipper Shipping AS is included. The cash pool has been established to optimize liquidity management of Solvang Group. There are no overdraft facility linked to the cash pool. At year-end 2021, all three members of the cash pool had net deposit.

### Cash and bank deposits can be divided as follows:

	2021	2020
Companys own deposit in Cash pool	18 868	0
Subsidiaries deposit in cash pool (*)	405 280	0
Net deposits outside the cash pool	13 983	108 387
<b>Total Cash and bank deposits</b>	<b>438 131</b>	<b>108 387</b>

\* Subsidiaries deposits in cash pool are also recognised as current liabilities group companies in Solvang ASA's balance sheet.

## NOTE 12 – OTHER RECEIVABLE AND COMMITMENTS

In October 2018 the company took over two BB charter parties for the same vessel, one in and one out. Based on the fact that the counterparty has a purchase obligation of the vessel at the end of the contract period, the contract is considered to be a cash flow contract for the administrative handling until the expiry of the contract period.

Amounts in KUSD

	Receivable BB in		Commitment BB out	
	Minimum payment	Book value / Net present value	Minimum payment	Book value / Net present value
<b>Summary of Bare Boat charter parties per 31.12.</b>				
< 1 year	7 108	6 873	-7 055	-6 821
2 - 5 year				
> 5 year				
	<b>7 108</b>	<b>6 873</b>	<b>-7 055</b>	<b>-6 821</b>
Converted to NOK at 31.12	<i>FX rate</i>	<i>8.8194</i>	<b>60 612</b>	<b>-60 156</b>

## NOTE 13 – TANGIBLE FIXED ASSETS

	Software and office equipment	Furniture and fixtures	Non depreciable assets	2021	2020
Acquisition costs 01.01	6 628	4 382	165	11 175	10 920
Additions during the year	0	0	0	0	256
<b>Acquisition costs 31.12</b>	<b>6 628</b>	<b>4 382</b>	<b>165</b>	<b>11 175</b>	<b>11 175</b>
Accumulated ordinary depreciation 01.01	6 267	4 040	0	10 307	9 772
Depreciation during the year	121	236	0	357	535
Accumulated depreciation and write-off 31.12	6 387	4 277	0	10 664	10 307
<b>Book value as of 31.12</b>	<b>241</b>	<b>105</b>	<b>165</b>	<b>511</b>	<b>868</b>
Useful life	3-4 years	6 years	-		3 - 6 years
Depreciation plan	Linear	Linear	Linear		Linear
Depreciation percentage	25 - 30%	15%	0%		15 - 30%

## NOTE 14 – RECEIVABLES

Debtors consist mainly of receivables from shipping partnerships. None of these receivables are falling due more than one year after the end of the fiscal year.

## NOTE 15 – LIABILITIES

Solvang ASA has given a guarantee for the share of debt that its subsidiary Clipper Shipping AS is committed to through its ownership in shipowning companies. This is limited to ownership of the individual shipping partnerships. Clipper Shippings share of the mortgage debt 31.12.2021 is MUSD 98.8. Solvang ASA has guaranteed for all of this amount.

Solvang ASA has provided a bank guarantee of NOK 1.7 million regarding the lease of office space in Oslo.

In June 2021, Solvang together with the subsidiary Clipper Shipping AS, entered into a 5-year loan agreement for refinancing a fleet loan for the major part of vessels owned by Clipper Shipping AS. The refinancing was carried out with Solvang ASA as the Borrower and Clipper Shipping AS as the Guarantor. As the loan is related to financing of vessels owned by Clipper Shipping AS, the loan is further distributed from Solvang ASA to Clipper Shipping AS on Back-to-back terms.

The loan is set up as a revolving credit facility. Available credit line 31.12 is USD 400. 5 million. Draw loan is USD 371.3 million. The company has no debt that falls due more than five years after the balance sheet date.

### Summary of Long term loan as of 31.12.

<i>Amounts in KNOK</i>	<b>Receivables (back-to-back terms)</b>	<b>Long term loan</b>
Long term loan	3 275 084	-3 275 084
Capitalized borrowing costs	-56 680	56 680
<b>Total</b>	<b>3 218 404</b>	<b>-3 218 404</b>

## NOTE 16 – AREAS OF OPERATION

Since practically all of the company's ship ownership was sold to the subsidiary Clipper Shipping AS in December 2007, the company is left with one area of operation, ship management.

**NOTE 17 – EQUITY**

Solvang ASA	Share capital	Share premium reserve	Other Equity	Total equity
<b>Equity as of 31.12.2020</b>	<b>465 728</b>	<b>2 076 295</b>	<b>247 004</b>	<b>2 789 027</b>
Profit / loss of the year			327 559	327 559
Translation differences ( <i>note 3</i> )			-16	-16
Remeasurement pension liability (net after tax)			-113	-113
Additional dividend paid out			-232 864	-232 864
Dividend			-186 291	-186 291
<b>Equity as of 31.12.2021</b>	<b>465 728</b>	<b>2 076 295</b>	<b>155 279</b>	<b>2 697 302</b>

**Treasury Shares**

As of 31.12.2021 Solvang ASA holds no treasury shares.

**Shareholders**

The share capital of Solvang ASA consist of 93,145,608 ordinary shares, each with a par value of NOK 5,-. All shares have equal rights.

**The company's main shareholders as of 31.12.2021**

Name of owner	# of shares	Ownership
Clipper AS	29 330 654	31.49%
Straen AS	18 117 245	19.45%
Audley AS	16 126 163	17.31%
Barque AS	8 812 908	9.46%
Leif Hübert AS	2 882 741	3.09%
Jaco Invest AS	2 150 000	2.31%
Tyin AS	1 880 389	2.02%
Motor-Trade Eiendom og Finans AS	1 578 373	1.69%
Torkap AS	1 456 218	1.56%
Mertoun Capital AS	1 359 782	1.46%
Moredun Invest AS	1 310 877	1.41%
Taif AS	1 308 608	1.40%
Skagenkaien Eiendom Holding AS	1 276 318	1.37%
Menne Invest AS	1 206 148	1.29%
Others < 1%	4 349 184	4.67%
<b>Totalt</b>	<b>93 145 608</b>	<b>100.00%</b>

Except from the Chairman, the board of directors has no direct ownership in the company, nor control any shares in the company as of 31.12.2021.

The Chairman, Michael Steensland Brun, controls 1 310 877 shares in the company as of 31.12.2021.

The CEO, Edvin Endresen, owns 10 720 shares in the company as of 31.12.2021.

**Proposed dividend**

The Board of Directors has proposed a dividend of NOK 2.00 per share for 2021. A total dividend of NOK 4.50 per share was paid in 2021 based on 2020 statutory accounts.

Allocated dividend is based on the number of shares outstanding on the grant date.

The company has no other dividend limitations than those imposed by Norwegian law.

**NOTE 18 – SUBSEQUENT EVENTS**

There are no events after the balance sheet date that impacts the reported numbers.



To the General Meeting of Solvang ASA

## Independent Auditor's Report

### Opinion

We have audited the financial statements of Solvang ASA, which comprise:

- the financial statements of the parent company Solvang ASA (the Company), which comprise the balance sheet as at 31 December 2021, the profit & loss account and cash flow statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and
- the consolidated financial statements of Solvang ASA and its subsidiaries (the Group), which comprise the balance sheet as at 31 December 2021, the income statement, statement of comprehensive income, statement of shareholders' equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion

- the financial statements comply with applicable statutory requirements,
- the financial statements give a true and fair view of the financial position of the Company as at 31 December 2021, and its financial performance and its cash flows for the year then ended in accordance with Norwegian Accounting Act and accounting standards and practices generally accepted in Norway, and
- the financial statements give a true and fair view of the financial position of the Group as at 31 December 2021, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU.

### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Company and the Group as required by laws and regulations and the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.





### Other Information

The Board of Directors and the Managing Director (management) are responsible for the information in the Board of Directors' report and the other information accompanying the financial statements. The other information comprises information in the annual report, but does not include the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the information in the Board of Directors' report nor the other information accompanying the financial statements.

In connection with our audit of the financial statements, our responsibility is to read the Board of Directors' report and the other information accompanying the financial statements. The purpose is to consider if there is material inconsistency between the Board of Directors' report and the other information accompanying the financial statements and the financial statements or our knowledge obtained in the audit, or whether the Board of Directors' report and the other information accompanying the financial statements otherwise appear to be materially misstated. We are required to report if there is a material misstatement in the Board of Directors' report or the other information accompanying the financial statements. We have nothing to report in this regard.

Based on our knowledge obtained in the audit, it is our opinion that the Board of Directors' report

- is consistent with the financial statements and
- contains the information required by applicable legal requirements.

Our opinion on the Board of Director's report applies correspondingly to the statement on Corporate Social Responsibility.

### Responsibilities of Management for the Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the Norwegian Accounting Act and accounting standards and practices generally accepted in Norway, and for the preparation and true and fair view of the consolidated financial statements of the Group in accordance with International Financial Reporting Standards as adopted by the EU, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's and the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern. The financial statements of the Company use the going concern basis of accounting insofar as it is not likely that the enterprise will cease operations. The consolidated financial statements of the Group use the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.



### **Auditor's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

For further description of Auditor's Responsibilities for the Audit of the Financial Statements reference is made to: <https://revisorforeningen.no/revisjonsberetninger>

Stavanger, 10 May 2022

**PricewaterhouseCoopers AS**

**Gunnar Slettebø**

State Authorised Public Accountant

(This document is signed electronically)

## THE GLOBAL GOALS

For Sustainable Development



## ENVIRONMENTAL PERFORMANCE DASHBOARD

EMISSIONS TO AIR			
2022 target	2021 progress	2021 targets	
Continue detailed planning for the Solvang full scale CCS project.	Preparation for Solvang CCS pre-project. LOI signed.		
100 % Compliance with IMO 2020	Done	100 % Compliance with IMO 2020	
Scrubber operation > 99.8 %	99.70%	Scrubber operation > 99.8 %	
Average Sulfur in fuel < 0.2 %	0.44	Average Sulfur in fuel < 0.2	
Complete Revision of Solvang Environmental booklet	In progress	Revision of Solvang Environmental booklet	
Environment and Seemp 2 month in LTV programme	Done	Environment and Seemp 2 month in LTV programme	
Maintenance according to plan better than 0,4 % Overdue non-critical jobs	0.21% overdue jobs	Maintenance according to plan better than 0.6 % Overdue non-critical jobs	
Engine health 9/10	Engine health 9/10	Engine health 9/10	
Fuel optimisation potential better than 0.8 %	Fuel optimisation potential 0.9 %	Fuel optimisation potential better than 0.8 %	
Continued Partisipation in the research project Smart Maritime and CLIMMS	Done	Partisipation in the research project Smart Maritime and CLIMMS	
Continue Solvang Energy savings competition	Started Solvang Energy savings competition	New item	



ENERGY CONSUMPTION				
2022 target	2021 progress	2021 targets		
Present historical fuel efficiency for the fleet	Done	Present historical fuel efficiency for the fleet		
Continuous evaluation of vessel energy consumption against base line	Done	Continuous evaluation of vessel energy consumption against base line		
16 vessels in project Energy Optimisation Cargo Handling (Operim++)	12	16 vessels in project Energy optimisation Cargo Handling (Operim++)		
Complete Revision of Solvang Environmental booklet	Ongoing	Revision of Solvang Environmental booklet		
Environment and Seemp as focus aerea 2 months in LTV program	Done	Environment and Seemp as focus aerea 2 months in LTV program		
Dry docking and renewal of high quality anti-fouling on 4 vessels				
Maintenance according to plan better than 0,4 % Overdue non-critical jobs	0.21% overdue jobs	Maintenance according to plan better than 0,6 % Overdue non-critical jobs		
Engine health 9/10	Engine healt 9/10	Engine health 9/10		
Fuel optimisation potential better than 0.8 %	Fuel optmization potential 0.9%	Fuel optimisation potential better than 0.8 %		
Continue Solvang Energy savings competition	Started Solvang Energy savings competition	New item		
LIFE IN SEA AND ON LAND				
2022 target	2021 progress	2021 targets		
Zero spills to sea	Zero	Zero spills to sea		
100 % compliance with IMO and local scrubber washwater requirement	100 % compliance	Continued 100 % compliance with IMO and local scrubber washwater		
Zero non-compliance with Marpool Annex I and IV	Zero	Continued Zero Non Compliance with Marpool Annex I and IV		
Maintenance according to plan better than 0.4%	< 0.4%	Maintenance according to plan better than 0.6 % Overdue non-critical jobs		
Engine health 9/10	Engine healt 9/10	Engine health 9/10		
Fuel optimisation potential <1 %	Fuel optimization potential 0.9 %	Fuel optimisation potential better than 0.8 %		
Consider further participation.	Initiated	Participation in research project EMERGE		

# SOCIAL PERFORMANCE DASHBOARD

COMMUNITY ENGAGEMENT					
2022 target	2021 progress	2021 targets			
Provide access to LPG as a clean source of energy and ammonia as a potent fertilizer	Done	Provide access to LPG as a clean source of energy and ammonia as a potent fertilizer			
Support the communities where we operate	Done	Support the communities where we operate			
Support NSA cadet programme in Manilla	Done	Support NSA cadet programme in Manilla			
Officer and crew conferences in Stavanger and Manilla	Online only due to the pandemic	Officer and crew conferences in Stavanger and Manilla			
100 % compliance in Living the Vision programme	Done	100 % compliance in Living the Vision programme			
Live up to our Mission statement:	Done	Continue as in 2020			
HEALTH AND SAFETY					
2022 target	2021 progress	2021 targets			
Work systematically to ensure the health, fitness and safety for all crew and employees, both at work and home	Done	Continue as in 2020			
Zero LTI	Zero	Continue as in 2020			
Sick leave Solvang (sea/ashore) less than 1 %	0.3/3.5 %	Sick leave Solvang (sea/ashore) less than 1 %			
100 % compliance in Living the Vision program	Done	100 % compliance in Living the Vision program			
Systematic training of our chefs	Online only due to Pandemic.	Systematic training of our chefs			
Pre-medical screening of our Filipino seafarers	Done	Pre-medical screening of our Filipino seafarers			
Health insurance and pension for all seafarers	Done	Health insurance and pension for all seafarers			
Participate in Shell safety program	Done	Participate in Shell safety program			

EMPLOYEE RELATIONS					
2022 target	2021 progress	2021 targets			
Provide good working conditions and fair salaries that reflect the individual's qualifications, regardless of gender	Yes	Provide good working conditions and fair salaries that reflect the individual's qualifications, regardless of gender			
Recruiting, educating and retaining a skilled workforce	Done adjusted to Pandemic	Recruiting, educating and retaining a skilled workforce			
Systematic on-the-job training through Living The Vision Programme	Done	Systematic on-the-job training through Living The Vision Programme			
Cadets on each ship 0.8%	Done	Cadets on each ship 0.8%			
DIVERSITY AND INCLUSION					
2022 target	2021 progress	2021 targets			
Managing "happy ships" with happy, motivated and proactive employees	Done	Managing "happy ships" with happy, motivated and proactive employees			
Encouraging diversity and inclusion at work and at home	Done	Encouraging diversity and inclusion at work and at home			
Retention rate more than 90%	Done	Retention rate more than 90%			

## GOVERNANCE PERFORMANCE DASHBOARD

GOVERNANCE AND COMPLIANCE				
2022 target	2021 progress	2021 targets		
52 technical inspections (FM) (2 per vessel)	Done/Remote	54 technical inspections (FM) (2 per vessel)		
130 internal audits (MS)[-] (5 per vessel)	Done/Remote	135 internal audits (MS)[-] (5 per vessel)		
Average number of observations Class 0	Average number 0.5	Average number of observations Class 0		
Zero detention	Zero	Zero detention		
Observation Port state < 0.5	Average number 0.4	Observation Port state < 0.5		

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# REFERENCES

TOPIC	SOLVANG DOCUMENTS	EXTERNAL REFERENCES
<b>Emissions to air</b>	Environmental Policy Environmental Management System	IMO GHG Strategy IMO MARPOL ISO 14001 ISM Code NIS Flag State requirements
<b>Energy consumption</b>	Environmental Policy Environmental Management System	IMO GHG Strategy IMO MARPOL ISO 14001 ISM Code NIS Flag State requirements
<b>Spills to Sea</b>	Ballast Water Management Policy and Management System Waste Management Policy and Management System Environmental Policy and Management System	IMO MARPOL IMO Ballast Water Management Convention European Waste Shipment Regulation The Federal Water Pollution Control Act US VGP regulations ISM Code
<b>Recycling</b>	Vessel Recycling Policy	NIS Flag State requirements
<b>Community Engagement</b>	How we contribute to social welfare, jobs and stability.	
<b>Health and Safety</b>	Emergency procedures Occupational Health and Safety Management System Health and nutrition Programmes Contractor Safety Policy Living the Vision programme for employee development and communications.	International Labour Organization Convention (Marine Labour Convention) International Convention for the Safety of Life at Sea (SOLAS) 1974 OCIMF Marine Injury Reporting Guidelines ISM Code NIS Flag State requirements
<b>Employee Relations</b>	Ethical guidelines Internal health and safety policy Non-discrimination Policy Living the Vision programme for employee development and communications.	Norwegian Shipowners Association UN Global Compact International Labour Organization Convention (Marine Labour Convention) NIS Flag State requirements
<b>Governance and Compliance</b>	Code of Conduct Executive Remuneration Guidelines Authorisation Levels	
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<b>Economic Performance and Benefits</b>	Annual report Code of Conduct Responsible Tax Policy	International Financial Reporting Standards (IFRS) Norwegian Generally Accepted Accounting Principles (NGAAP)

# Glossary

Frequently used terms and abbreviations.

## OPERATIONAL GLOSSARY

### AER

Annual Efficiency Ratio. CO<sub>2</sub> emissions divided by fleet/vessel DWT. Total fuel consumption.

$$\text{AER} = \frac{\text{total CO}_2 \text{ emissions}}{\text{deadweight} * \text{distance sailed}}$$

### CSR

Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their operations.

### CCS

Carbon capture and storage is the process of capturing waste carbon dioxide (CO<sub>2</sub>), transporting it to a storage site, and depositing it where it will not enter the atmosphere.

### Dry docking

Normally related to a vessel's periodic maintenance according to class requirements. The intervals are normally 5 years for newer vessels.

### EEDI

Energy Efficiency Design Index. Co<sub>2</sub> emissions divided by vessel DWT.

### EEOI

Energy Efficiency Operational Indicator. Co<sub>2</sub> emissions per ton cargo when the vessel is sailing.

### EEXI

Energy Efficiency Existing Ship Index describes the CO<sub>2</sub> emissions per DWT and mile.

### ESG

Environmental, Social, and Corporate Governance refers to the three central factors in measuring sustainability and social impact.

### GHG

Greenhouse Gas

### GRI

The Global Reporting Initiative helps businesses, governments and other organizations understand and communicate their impacts on climate change, human rights and corruption.

### HSEQ

Health, safety, environment and quality.

### KPI

Key Performance Indicator.

### LTI

Lost Time Incident Ratio measuring the level of injuries in a company or an operation.

### UN SDG

United Nations Sustainability Development Goals are a collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all". The SDGs were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030.

## CARGO GLOSSARY

### Ammonia / NH<sub>3</sub>

Mainly used as raw material for fertilizer production.

### Cbm

Cubic meter. The most common capacity nomination for gas vessels.

### LPG

Liquefied Petroleum Gas, propane and butane.

### Petrochemical Gases

Gases used as input/feedstock in petrochemical industry.

## FLEET GLOSSARY

### LGC

Large Gas Carrier. LPG vessels between 50,000 cbm and 70,000 cbm. Normal size for newer vessels is 60,000.

### MGC

Mid-size Gas Carrier. LPG vessels between 30,000 and 40,000 cbm. Normal size for newer vessels is 38,000 - 40,000 cbm.

### Panamax VLGC

Very Large Gas Carrier with a beam of 32,2 meter enabling the vessels to trade through both Panama Canals.

### Semiref/Ethylene vessel

A gas carrier capable of transporting cargoes both under high pressure and with full refrigeration.

### VLGC

Very Large Gas Carrier. LPG carriers with over 75,000 cbm load capacity. The normal size for modern vessels is 84,000 cbm. As opposed to Panamax VLGC, these vessels can only sail through the new Panama Canal.

## MARKET GLOSSARY

### CVC

Consecutive Voyage Contract. An agreement between ship owner and customer for the transportation from A to B and then return in ballast to A to repeat the voyage consecutively within a given time frame.

### CoA

Contract of Affrayment. A CoA is an agreement between ship owner and customer for the transportation of a min-max volume of cargo at a given rate per ton, normally for one or several years.

### Freight rate

The rate paid by customer to owners for the transportation service provided. Calculated either per ton basis or per day basis.

### LIBOR

London Interbank Offered Rate.

### Spot rate

The rate obtained when chartering out a vessel for a single voyage.

### TC

Time charter. A contract between ship owner and customer for anything between 2 months and several years. All voyage costs such as bunkers, canal and harbour fees are payable by the customer. Operating cost is for the owner's account.





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