

Vow (VOW)

Norway | Energy Recycling | MCAP NOK 2,196m

20 January 2023

Buy

Target price: NOK 24.0
 Current price: NOK 19.1
 Upside: 25.5%

Sailing towards a greener future

Vow offers best-in-class technology to the cruise industry, where it has 50% market share, by developing and implementing waste & water management systems. In 2019 Vow underwent a fundamental business transformation by expanding into the Landbased segment, increasing Vow's 2030E TAM by 730x. The market is overlooking the size and profitability of the rapidly growing Landbased segment, which is expected to grow at a CAGR of 37% between TTM and 2024E. Significant investments made for future growth between 2019 to 2021 will decrease, providing operational leverage and expand Vow's EBITDA margin from 11.2% in TTM to 19.8% by 2024E. Combined with a slower-growing but highly profitable Cruise and Aftersales segment, a sum of the parts peer valuation implies a target price of NOK 24.0 based on a 2024E 14.4x EV/EBITDA multiple discounted back to present day, yielding an upside of 25.5%.

Key takeaways

- The Landbased segment has reached an inflexion point for explosive growth:** New regulations, including RepowerEU, the EU green deal, and the Inflation reduction act, have made Vow's solutions more attractive due to cost incentives prioritizing green solutions. RepowerEU aims to increase biogas production from 10Twh hours to 350Twh, requiring EUR 40bn of investments by 2027, which directly benefits Vow since one of their solutions turns waste into biogas.¹ Combining this with the cost maturity of pyrolysis technology, making it more economically viable and a considerable contract pipeline valued at an estimated NOK 2bn, Vow is well positioned to gain market share in the 2030E EUR 73bn Landbased market.
- Rapidly increasing installed base provides a long tailwind for Aftersales revenue:** Vow's installed base consists of over 130 cruise ship systems and 60 Landbased systems. Over 144 systems will be added in the next 3-5 years, and more than 90 will be Landbased systems. The rapid increase of Vow's installed base leads to significant growth in recurring aftersales revenue. The Aftersales segment is expected to grow revenues at a CAGR of 21.0% from TTM to 2024E, with EBITDA margin expansion from 11.0% to 16.8%.
- Expanding cruise regulation suggesting retrofit opportunity at NOK 4-5bn:** In 2021 regulation was passed that requires specific environmental criteria to be met on existing cruise ships to operate in the Baltic Sea. This regulation is expected to expand mid-term to include other oceans. Vow delivers technology to enable operators to comply with the regulation. In 2019 only 8.3% of the existing cruise fleet had technology onboard to satisfy the new regulation, suggesting a huge retrofit opportunity estimated to be valued at NOK 4-5b.²
- Execution risk from the Landbased segment:** The case is heavily dependent on the success of the Landbased segment. If large contracts in Vow's pipeline don't materialize or growth decelerates below 20% annually, estimates would be revised downwards.

Analyst

Axel Andersson Equity Analyst

Market Data, NOKm

Exchange	OB Match
Shares (m)	114
MCAP (m)	2,032
EV (m)	2,355

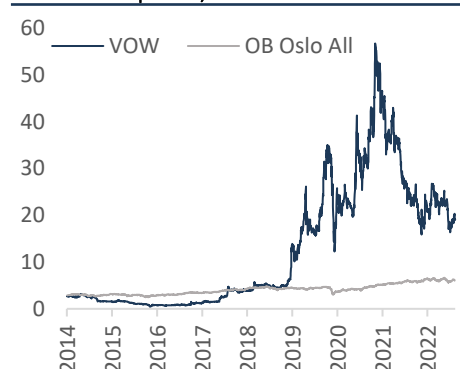
Metrics & Drivers	21A	22E	23E
EV/EBIT	351.5x	24.3x	13.5x
EV/EBITDA	74.8x	18.9x	10.9x
EV/S	5.2x	3.0x	2.0x
P/E	6.3x	45.8x	16.6x
ND/EBITDA	8.6x	2.2x	1.3x

Forecast, NOKm	21A	22E	23E
Total revenue	454.1	790.0	1149.2
Rev. growth y/y	-1.2%	73.9%	45.5%
Gross Profit	171.6	282.9	433.3
Gross Margin	37.8%	35.8%	37.7%
EBITDA	31.6	124.9	215.5
EBITDA Margin	6.9%	15.8%	18.8%
EBIT	6.7	96.8	176.6
EBIT Margin	1.5%	12.3%	15.2%

Major Shareholders

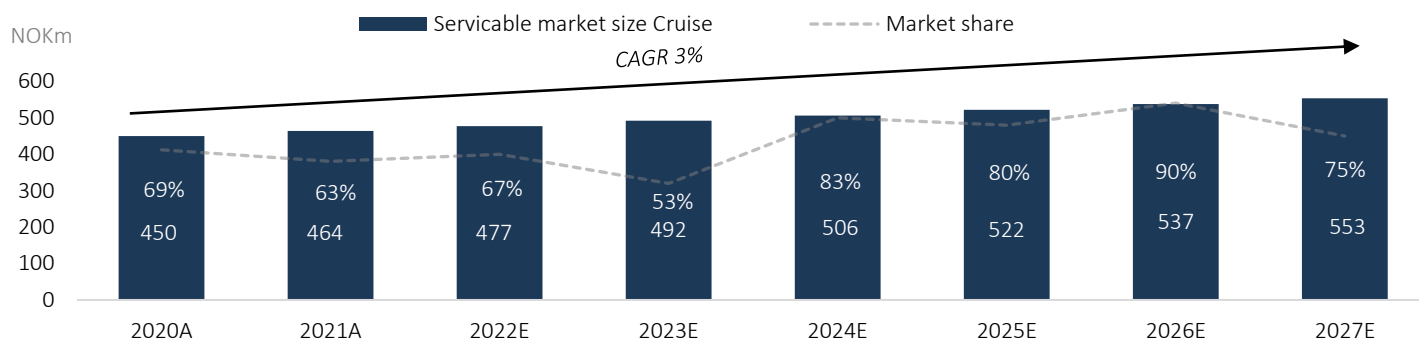
Ingero Reitan Investment Company AS	27.2%
Daler Inn Limited	8.7%
Exproco Limited	8.7%

Price Development, NOK



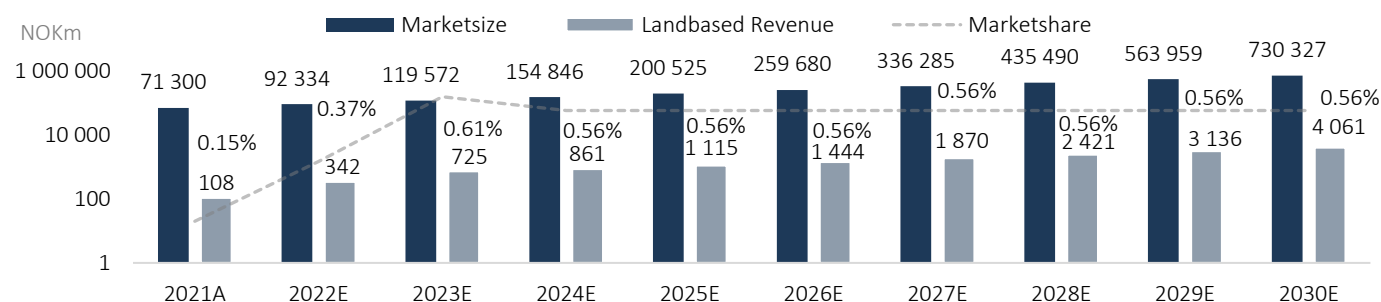
Investment thesis in charts

The Cruise segment is estimated to gain Market share based on current order backlog



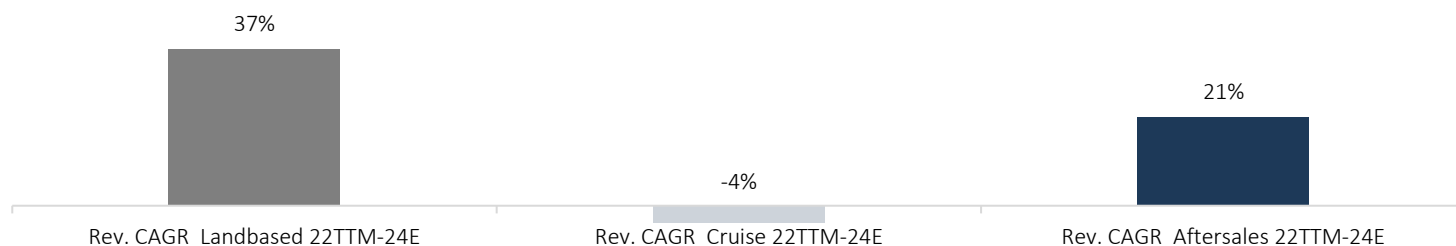
Source: Analyst Estimates, the Company

Large Landbased market, estimated CAGR of 37% between TTM to 2024E, note Logarithmic scale



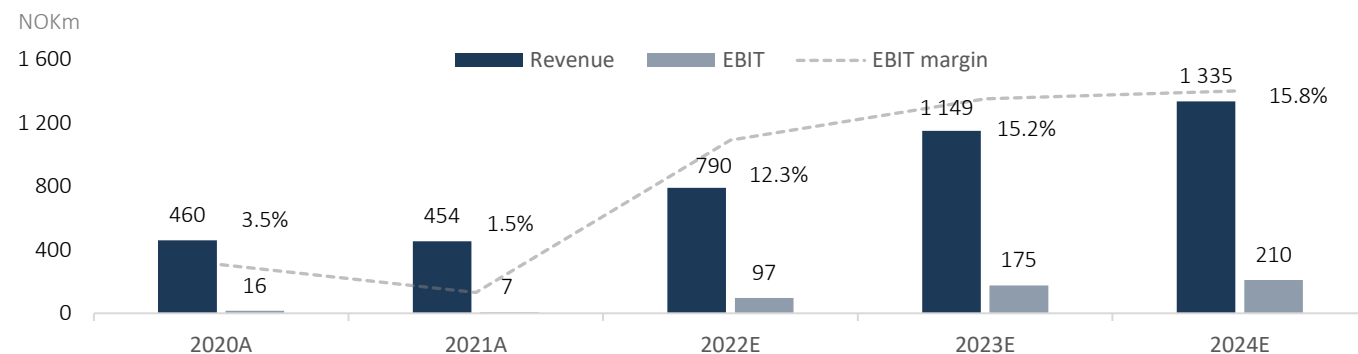
Source: Analyst estimates, the Company, Precedence Research market research

Case based on strong growth in Landbased and Aftersales



Source: Analyst Estimates

Significant growth from The Landbased segment growing at 37% CAGR will provide operational leverage on fixed costs



Source: Analyst Estimates

Investment thesis

Market underestimating growth potential for the Landbased segment

The decarbonization trend is forming a path for rapid growth in the Landbased segment. The segment is estimated to grow at a CAGR of 37% up to 2024. The segment currently has minimal competition on contracts, and the critical factor for contract wins is unit economics. However, the unit economics are improving, even providing a positive ROI in some cases. The segment is solidly profitable with Q3-22 EBITDA margins of 15.1% and estimated to be 19.8% by 2024E. The margin expansion is derived from lower unit material cost on larger projects combined with changing the segment's business model to a delivery model. Lastly, the segment is well positioned to defend itself from new competitors by 1) having patents on its systems, 2) having established customer relationships and an experienced sales team, 3) having the ability to borrow debt at a lower credit spread due to solid cashflow from the Cruise and Aftersales segments.

Estimated cost profile of one pyrolysis plant

Economics based of one pyrolysis plant

INPUT (Costs)

Pyrolysis unit price (depreciated over 10 years)	170,000	EUR
Cost of 7500 tonnes of waste	300,000	EUR
Electricity cost based of 95% efficiency	1,473,802	EUR
Energy cost 225000MWh	2,842,105	EUR
Total Input value (Annual Costs)	4,785,907	EUR

OUTPUT (Value of resources)

value of 22500MWh sin gas	3,375,000	EUR
Avoided CO2 emission value (derived from singas)	400,000	EUR
Value of 1500 Tonnes biochar	953,727	EUR
Avoided CO2 emission value (derived from biochar)	375,000	EUR
Total Output value (Annual Revenue)	5,103,727	EUR
Annual Profit	317,819	EUR

Source: Analyst Estimates, the Company, various sources for electricity and carbon costs³

The strong value proposition in cruise, allowing for significant market share gains

Based on the cruise ship order backlog, Vow's market share will expand from 50% to 75% between the period 2022 to 2027E. Vow's best-in-class technology and ability to offer customers a strong value proposition with their "total clean ship configuration" by processing wastewater, garbage, and food. Additionally, Vow can implement its MAP systems, providing annual fuel reductions of up to 2%.⁴ These fuel reductions give the investment a conservative payback period of fewer than 2 years, leading to a compelling investment for Vow's customers.

The rapidly increasing installed base provides sustained growth in the Aftersales segment

Vow has installed its waste & water management systems on 130 cruise ships as of 2022 and is expected to increase the installed base to 163 by 2025, implying a CAGR of 7.8%. Landbased systems are expected to grow with a CAGR of 35.6%, increasing from 60 systems as of 2022 to over 150 by 2025E. This will provide Vow with NOK 180m or 13.5% of total 2024E sales derived from recurring Aftersales revenue from maintenance, repairs, chemicals, and work orders.

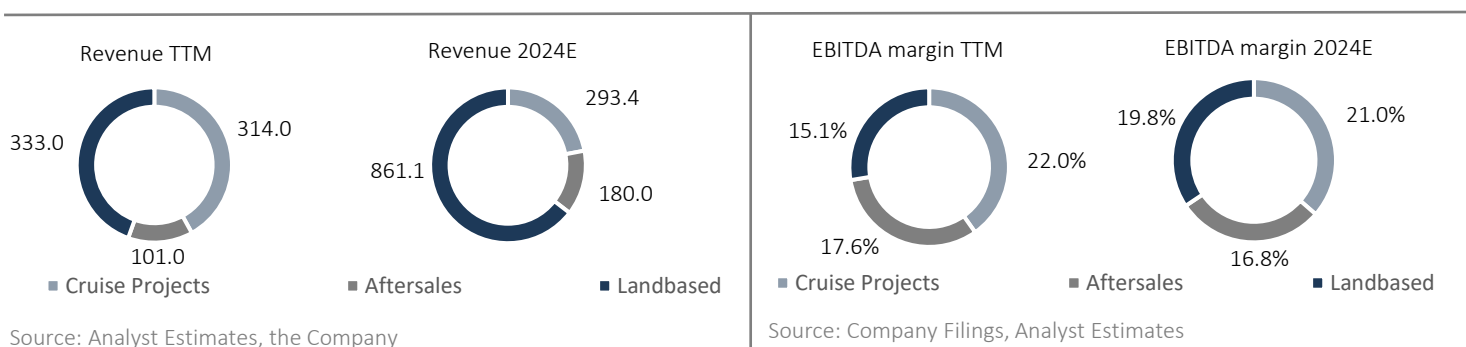
Regulation providing huge retrofit opportunity estimated at NOK 4-5 bn

New cruise regulation implemented in 2021 requires stricter discharge standards for existing cruise ships globally to operate in the Baltic Sea. This regulation is expected to expand in the mid-term to include other oceans. As of 2019, only 8.3% of the world's existing cruise fleet had equipment onboard to satisfy the new standards, this suggests a huge retrofit opportunity on 230 ships valued at NOK 4-5bn. Management noted that 30 ships are contemplating a retrofit within 2 years, implying, in a best-case scenario, NOK 650m in revenue. The estimates assume NOK 200m materializing over 2 years.

Company Overview

Vow's three operating segments

Vow has been the market leader in the niche waste & water management systems for cruise ships since approximately 2017; it calls this segment *Cruise Systems*. In 2019 Vow started to recognise revenue from the *Landbased* segment, which helps landbased industries turn waste into valuable resources. The last segment Vow operates in is *Aftersales*; this is maintenance, chemicals, and improvements on their existing installed base of systems.



Overview of operating segments

The Cruise Projects segment provides waste and water management systems to Cruise Ships

Cruise ships generate significant waste from having >7,000 passengers and crew onboard. Dumping the waste overboard is not acceptable to regulators or customers. Therefore Vow implements systems on cruise ships to handle this waste.

The Landbased segment processes various types of waste into valuable resources

Waste like plastics, biomass, end-of-life tires, asphalt, municipal waste, and other forms of waste are processed through Vow's patented pyrolysis machines. The machines heat the waste to 600-850°C without oxygen, which decomposes it into different types of valuable resources depending on the temperature and the input waste. This is a substitute for incinerating or taking the waste to a landfill. The two main benefits of pyrolysis are that it can be economically favourable and reduces the carbon footprint of waste handling. For example, Phillip Morris International uses Vow's pyrolysis systems in its Switzerland manufacturing plant: Converting tobacco biomass residue into syngas that can heat and provide power to the facility.

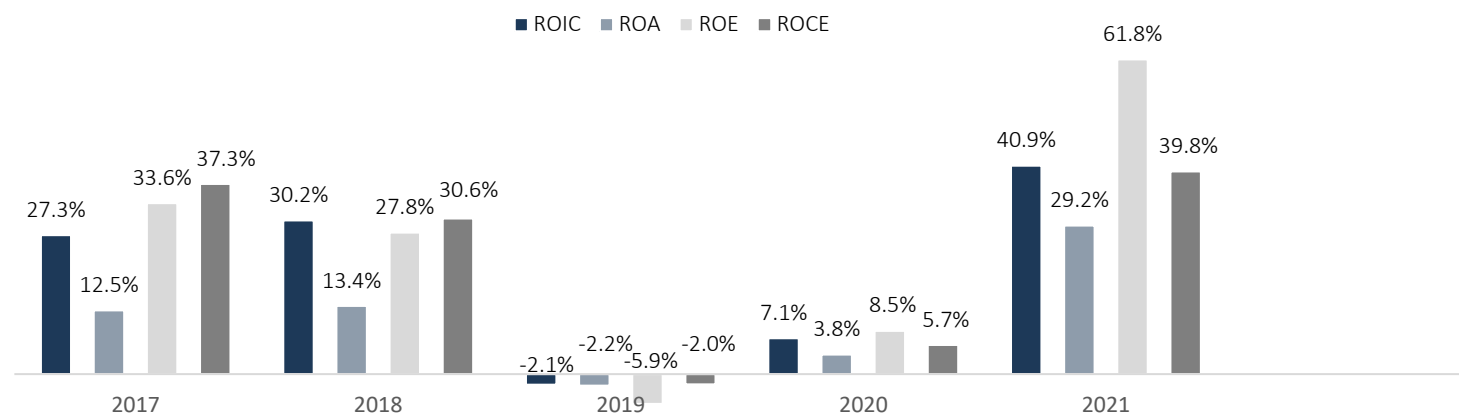
Vow's capital light business model leads too high returns on capital

Robust technology delivery model resulting in capital-light and scalable business

Vow develops and delivers technology solutions through its two segments, Cruise Projects and Landbased. Vow's solutions are scalable and standardised with proven delivery capabilities. Vow operates a capital-light business model by outsourcing manufacturing to several EU-based subcontractors, mainly in Norway, Poland, Denmark, Sweden, Germany and Italy. Vow's principal business activities are R&D, SG&A, engineering, procurement, and project management. Vow's business model is akin to AMD or NVIDIA, whose primary value creation is derived from R&D and established customer relationships. Vow's business is stable with high revenue visibility due to its long order backlog.

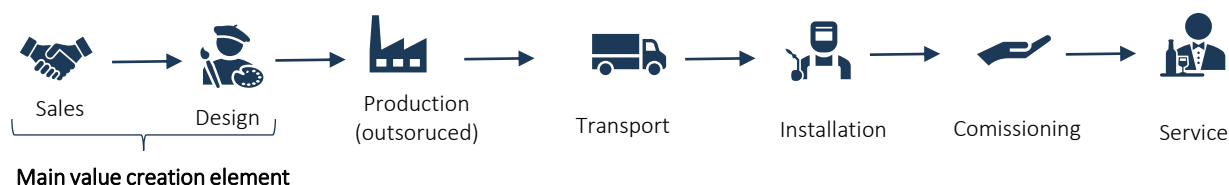
Business Model In Graphs

Historically strong returns on Capital: 2019 affected by one time impairment, 2020 affected by pandemic



Source: the Company

Vow's main value creation in R&D and established customer relationships



Source: Analyst Illustration

Market Overview

Good underlying fundamentals in the Cruise Market

According to Cruise Market Watch, the cruise market has compounded the worldwide number of carried passengers by 6.6% from 1990-2019.⁵ Statista estimates the cruise market will exceed its record revenue of USD 27.5bn dollars in 2019 by FY 2024 and thereafter grow at a CAGR of 5.2% to 2026E.⁶ The growth is mainly driven by younger generations prioritizing experiences including traveling over material things. However, environmental and pollution concerns are an overhanging risk for the industry, and Vow helps to solve them, positioning them for growth as cruise operators prioritize environmental alternatives.⁷

Emerging rapidly growing Landbased market providing significant growth opportunities

The Landbased market is in its infancy, and no clear competitors currently exist. Management estimates the market to be valued at EUR 73bn by 2030E. According to Precedence Research, the waste-to-fuel market is expected to grow at a 29.5% CAGR from 2022-2030 and notes that the pyrolysis segment is expected to grow the fastest during the same period.⁸ This data provides a solid foundation for the Landbased segments' growth in the short, mid, and long term. If the segment grows with the market, the 2030 estimated revenue is NOK 4bn.

Notable companies Vow has worked within the Cruise and Landbased segment



Source: the Company

Valuation

Undervalued on a conservative base case considering the companies quality and future growth

Vow's valuation is based on a sum of the parts peer valuation dividing the segments in two, Cruise Projects & Aftersales and Landbased. 1) The 2024E weighted average fair value multiple of 14.4x EV/EBITDA is justified because Vow delivers advanced B2B systems with a strong market position and has a large order backlog. 2) Cruise & Aftersales 2024 EV/EBITDA fair value multiple of 9.0x is in line with peers and is justified because 38% of revenue is recurring with > 75% market share and secured firm orders until 2027. 3) Landbased 2024E EV/EBITDA fair value multiple of 16.0x is slightly above the peer average but is justified due to the expected 37.0% revenue CAGR, which is above its peer group, secular environmental tailwind and estimated 2030 TAM of EUR 73bn. Peers were chosen to match the characteristic of the segments. The Cruise & Aftersales peers deliver advanced equipment B2B with significant revenue derived from Aftersales. The Landbased peers are high-growth companies in emerging markets driven by sustainability. The valuation concludes an implied 2024E target price of NOK 28.5, which when discounted back at a 9.0% discount rate implies a final target price of NOK 24.0, equivalent to an upside of 25.5%.

Company Name	MCAP	EV	EBITDA margin	Revenue CAGR TTM-	EV/EBITDA	Aftersales
	(EURm)	(EURm)	2024E	24E	2024E	Rev
			(%)	(%)	(X)	(%)
Cruise & Aftersales peers						
CTT	253.0	253.3	38.6%	9.0%	15.5x	38%
Studsvik	73.7	77.2	13.6%	4.0%	7.1x	21%
Wärtsilä	5,000.0	5,200.0	11.0%	10.0%	7.4x	46%
Mean	1,775.6	1,843.5	21.1%	7.7%	10.0x	35%
Median	253.0	253.3	13.6%	9.0%	7.4x	38%
Vow Aftersales & Cruise	216.1	247.5	19.4%	11.0%	9.0x	38%
Discount(+)/Premium(-) to mean			-8.6%	30.3%	10.0%	7.6%
Discount(+)/Premium(-) to median			29.9%	18.2%	-21.6%	0.0%
Landbased peers						
Tomra	5,598.5	5,337.8	21.3%	8.0%	17.5x	
Zaptec	193.1	219.9	16.2%	35.0%	8.2x	
OX2	1,944.9	1,660.8	18.3%	28.0%	6.1x	
Nibe	1,847.4	1,911.9	18.3%	10.0%	24.2x	
Mean	2,396.0	2,282.6	18.5%	20.3%	14.0x	
Median	1,896.2	1,786.3	18.3%	19.0%	12.8x	
Vow Landbased	216.1	247.5	21.0%	37.0%	16.0x	
Discount(+)/Premium(-) to mean			11.6%	45.3%	-14.3%	
Discount(+)/Premium(-) to median			12.7%	48.6%	-25.0%	
Valuation Breakdown			2024 EBITDA multiple	EV	Percent of total	
			(x)	(NOKm)	(%)	
Valuation Cruise and Aftersales			9.0	826.0	23.3%	
Valuation Landbased			16.0	2,725.6	76.7%	
Weighted total multiple and EV 2024E			14.4	3,551.6	100%	
Breakdown from EV ➡ Upside				In NOKm except for per share or % items		
Equity Value 2024E (adjusted for debt and cash)				3,271.3		
Current Equity Value				2,196.0		
Implied TSR to 2024E				48.9%		
Implied share price 2024E				28.5		
Present fair value per share (2024E share price discounted back at WAAC)				24.0		
Implied upside from current price				25.5%		

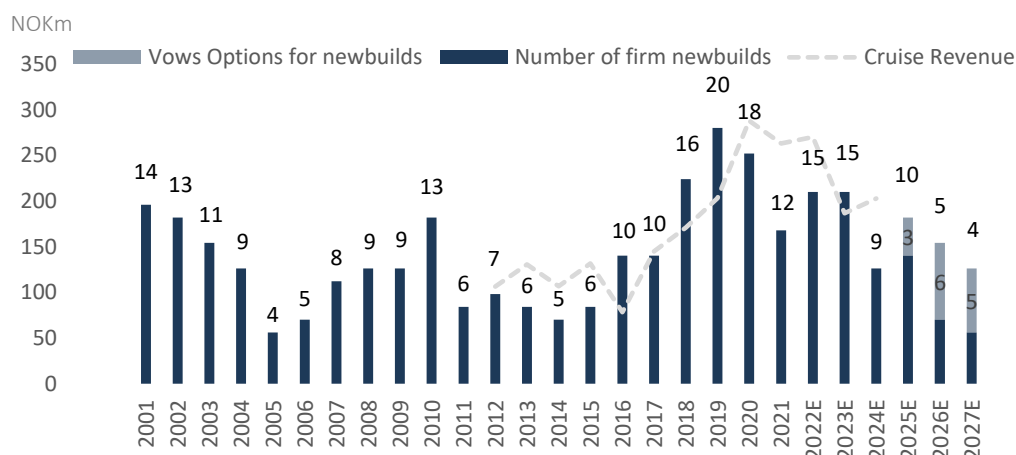
Source: Analyst Estimates, Bloomberg, the Company

Appendix

Income Statement NOKm	2016A	2017A	2018A	2019A	2020A	2021A	2022E	2023E	2024E
Landbased Revenue	0.0	0.0	0.0	19.1	97.2	108.1	342.0	725.7	861.1
Cruise & Aftersales revenue	193.2	253.9	329.5	361.6	362.7	346.1	448.0	423.5	473.4
Total revenue	193.2	253.9	329.5	380.7	459.9	454.2	790.0	1,149.2	1,334.5
COGS	(123.6)	(171.1)	(229.8)	(259.3)	(295.6)	(282.6)	(507.1)	(715.8)	(811.5)
Gross Profit	69.6	82.8	99.7	121.4	164.3	171.6	282.9	433.3	523.0
Gross margin (%)	36.0%	32.6%	30.3%	31.9%	35.7%	37.8%	35.8%	37.7%	39.2%
Operational Expenses									
Employee expenses	(28.2)	(28.9)	(37.4)	(47.8)	(80.2)	(90.7)	(125.0)	(169.9)	(207.2)
Other operating expenses	(22.5)	(20.4)	(23.4)	(27.8)	(37.3)	(39.6)	(33.0)	(48.0)	(58.0)
One time costs	(0.8)	(1.4)	0.0	(19.2)	(8.2)	(9.8)	0.0	0.0	0.0
EBITDA	18.1	32.1	38.9	26.6	38.6	31.5	124.9	215.5	257.7
EBITDA margin (%)	9.4%	12.6%	11.8%	7.0%	8.4%	6.9%	15.8%	18.7%	19.3%
Intersegment Elimination	(21.7)	(6.9)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D&A including impairments	(2.3)	(3.1)	(3.4)	(10.9)	(21.8)	(24.2)	(12.2)	(25.8)	(30.6)
EBIT	15.7	28.8	35.5	15.7	15.9	6.7	112.8	189.7	227.1
EBIT margin (%)	8.1%	11.3%	10.8%	4.1%	3.5%	1.5%	14.3%	16.5%	17.0%
Net financial items	0.7	(4.0)	(2.4)	(23.0)	11.5	315.3	(39.9)	(17.9)	(9.9)
EBT	16.4	24.8	33.1	-7.3	27.4	322.0	72.9	171.8	217.2
EBT margin (%)	8.5%	9.8%	10.0%	(1.9%)	6.0%	70.9%	9.2%	14.9%	16.3%
Incometax	0.2	(5.3)	(7.1)	(6.2)	(0.2)	1.0	(16.0)	(37.8)	(47.8)
Net income	16.6	19.5	26.0	(13.5)	27.2	323.0	56.8	134.0	169.4
Net income margin (%)	8.6%	7.7%	7.9%	(3.5%)	5.9%	71.1%	7.2%	11.7%	12.7%

Source: Analyst Estimates, the Company

Fewer ships in future order backlog but Vow is gaining share



Source: Analyst Estimates, the Company

WAAC used when discounting to present day

Assumptions	
Rrf	3.6%
Beta	1.3
Market return	11.0%
Cost of Equity (CAPM)	13.2%
Cost of Debt	2.8%
Equity	62.2%
Debt	37.8%
Tax rate	22.0%
WAAC	9.0%

Source: Analyst Estimates, the Company

Appendix Footnotes

1. European Commission, (2022). REPowerEU: affordable, secure and sustainable energy for Europe ,(https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en)
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Eurostat, (2022). Electricity prices for household consumers, (https://ec.europa.eu/eurostat/cache/infographs/energy_prices/enprices.html?geos=EU27_2020,EA,BE,BG,CZ,DK,DE,EE,IE,EL,ES,FR,HR,IT,CY,LV,LT,LU,HU,MT,NL,AT,PL,PT,RO,SI,SK,FI,SE,IS,LI,NO,ME,MK,AL,RS,TR,BA,XK,MD,UA,GE&product=6000&consumer=HOUSEHOLD&consoms=4161903&unit=KWH&taxs=I_TAX,X_TAX,X_VAT&nrg_prc=NETC,NRG_SUP,OTH,TAX_CAP,TAX_ENV,TAX_NUC,TAX_RNW,VAT¤cy=EUR&language=EN&detail=0&component=0&order=DESC&dataset=nrg_pc_204&time=2022S1&modalOption=0&chartOption=1&precision=1&modalOpen=0&modal=0&modalLineOption=0)
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5. Cruise Market Watch, (2021). Growth of the Ocean Cruise Line Industry, (<https://cruisemarketwatch.com/growth/>)
6. Statista, (2022). Revenue of the cruise industry worldwide from 2017 to 2026, (<https://www.statista.com/forecasts/1258061/revenue-cruises-worldwide>)
7. Businesswire, (2022). Insights on the Cruise Global Market to 2028 - Rising Popularity of Theme Cruises are Substantially Driving Growth - ResearchAndMarkets.com, (<https://www.businesswire.com/news/home/20221026005823/en/Insights-on-the-Cruise-Global-Market-to-2028---Rising-Popularity-of-Theme-Cruises-are-Substantially-Driving-Growth---ResearchAndMarkets.com>)
8. Precedence Research, (2022). Waste to Fuel Technology Market (By Source: Municipal Solid Waste (MSW), Industrial, Others; By Depolymerization: Pyrolysis, Gasification, Hydrogenation, Catalytic Degradation; By Fuel Type: Solid, Liquid, Gas) - Global Industry Analysis, Size, Share, Growth, Trends, Regional Outlook, and Forecast 2022 – 2030, ([Waste to Fuel Technology Market Size, Share, Report 2022-2030 \(precedenceresearch.com\)](https://www.precedenceresearch.com/waste-to-fuel-technology-market))

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