

ESG insight



QUANTAFUEL

In a sweet spot

While we wait for good news out of Skive, the EU has been busy putting a price tag on non-recycled plastic waste and Quantafuel's services. Hence, we have lowered our forecasts for feedstock costs, while lifting our ASP on the back of improved bio-premiums in the fuel markets and the company's transition to premium markets for recycled plastic feedstock. Combined with a cost of capital aligned with its peer Vow, we reiterate our BUY and have raised our target price to NOK84 (23.1).

Updated for Q2 results, Replast facility and latest price outlook. Oil markets have developed favourably for Quantafuel's outputs, leaving us more positive in our estimates for ASP, as well as for secured volumes of plastic feedstock at attractive prices. In addition, confirmation from Grønt Punkt that chemical recycling will be deemed material recycling should make feedstock cheaper.

Regulators paving the way. The EU's proposed EUR800/tonne levy on non-recycled plastic waste puts a price tag on Quantafuel's services and should increase availability of attractively priced feedstock. As the company transitions from carbon-neutral fuels to recycled plastic feedstock, we believe premium pricing for its products could be within reach, and have raised our ASP accordingly.

Blue-sky scenario with 650%+ potential upside. In our view, we maintain relatively prudent assumptions in our base-case forecasts, but in order to illustrate the upside potential in the investment case, we have run our model based on USD600/tonne feedstock costs (broadly aligned with the proposed EU tax net of logistics, sorting and cleaning) and achieved average sales price on par with advanced fuels of USD1,500/tonne. This results in a SOTP valuation (including EPC margins) of NOK427/share – i.e. more than 650% upside potential from the current share price.

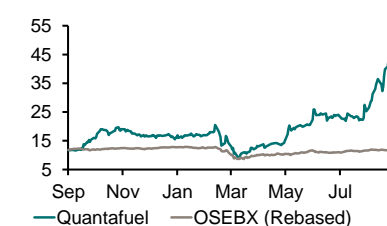
BUY reiterated, target price raised to NOK84, based on our SOTP reflecting a total of 11 plants with aggregate capacity to manage c900ktpa of mixed plastic waste. Our valuation assumes initial growth financed by USD80m in additional issued equity. We assume a NOK50 share price on the issued equity as we believe confirmation that the technology is working at Skive ahead of financing the next growth phase would lift the share price further.

Year-end Dec	2017	2018	2019	2020e	2021e	2022e
Revenue (NOKm)	2	0	nm	14	148	887
EBITDA adj (NOKm)	-30	-35	-49	-60	59	628
EBIT adj (NOKm)	-31	-36	-53	-63	49	555
PTP (NOKm)	-34	-51	-69	-128	37	511
EPS rep (NOK)		-12.28	-15.55	-1.31	0.15	1.70
EPS adj (NOK)		-12.28	-15.55	-1.31	0.15	1.70
DPS (NOK)		0.00	0.00	0.00	0.00	0.00
Revenue growth (%)	nm	-95.3	nm	nm	969.8	500.1
EBIT growth adj (%)	nm	nm	nm	nm	nm	1044.1
EPS growth adj (%)	nm	nm	nm	nm	nm	1068.5
EBIT margin adj (%)	-1407.9	nm	nm	-458.8	32.8	62.6
EV/Sales adj (x)		nm	nm	nm	54.66	10.48
EV/EBITDA adj (x)		nm	nm	nm	nm	14.8
EV/EBIT adj (x)		nm	nm	nm	nm	16.7
P/E adj (x)		nm	nm	nm	nm	32.3
P/Book (x)		0.43	0.91	10.90	6.54	3.96
ROE (%)	nm	nm	nm	nm	2.2	15.2
Dividend yield (%)	nm	0.0	0.0	0.0	0.0	0.0

Source: Company (historical figures), DNB Markets (estimates)

BUY
TP: NOK84.0

QFUEL versus OSEBX (12m)



Source: Factset

SUMMARY

Recommendation (prev.)	BUY (BUY)
Share price (NOK)	55.0
Target price (previous) (NOK)	84.0 (23.1)
Upside/downside potential (%)	53
Tickers	QFUEL NS, QFUEL.OL

CAPITAL STRUCTURE

No. of shares (m)	111.7
No. of shares fully dil. (m)	111.7
Market cap. (NOKm)	6,142
NIBD adj end-2020e (NOKm)	-204
Enterprise value adj (NOKm)	5,938
Net debt/EBITDA adj (x)	3.40

Source: Company, DNB Markets (estimates)

Note: Unless otherwise stated, the share prices in this note are the last closing price.

NEXT EVENT

Q3 20	13/11/2020
-------	------------

ESTIMATE CHANGES (NOK)

Year-end Dec	2020e	2021e	2022e
Sales (old)	39.50	103.7	780.0
Sales (new)	13.81	147.7	886.6
Change (%)	-65.0	42.5	13.7
EPS (old)	-0.49	-0.11	0.85
EPS (new)	-1.31	0.15	1.70
Change (%)	nm	nm	100.7

Source: DNB Markets,

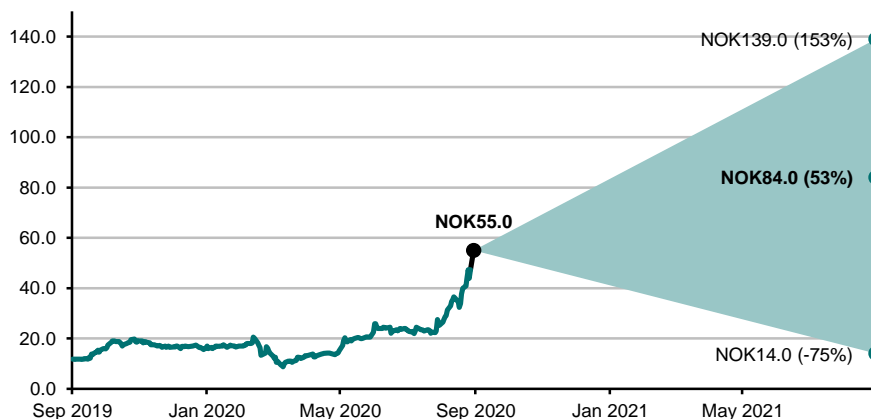
ANALYSTS

Jørgen Lian
jorgen.lian@dnb.no
+47 24 16 91 88

Please see the last two pages for important information. This research report was not produced in the US. Analysts employed by non-US affiliates are not registered/qualified research analysts with FINRA in the United States.

Investment case overview

Share price performance, DNB Markets' target price, bear- and bull-case scenarios



— Historical Share Price Performance ● Price Target (Sep 21) ● Current Share Price

Source: FactSet, DNB Markets

Downside risks to our investment case

- Lower than expected average sales prices for its output driven by unfavourable regulatory rulings, failing market demand or generally depressed energy markets.
- Relaxed waste management regulations limiting supply of relevant feedstocks.
- Failure to collectively address regulations regarding environmental practices for plastics production and fuel markets.
- Weak equity markets (e.g. relating to Covid-19) affecting future issue prices.

Source: DNB Markets

DNB Markets investment case and how we differ from consensus

- We apply an average sales price of USD735/tonne on output sales and estimate USD30/tonne feedstock cost.
- We estimate a large-scale plant to generate USD37m EBITDA and have a payback period just above four years.
- We model for rapid growth of two FIDs per year for large-scale plants following start-up at Skive I.
- Our valuation reflects a need for equity of USD80m to fund growth at an assumed NOK50 share price.

Source: DNB Markets

Target price methodology

- Our target price is based on our SOTP reflecting the potential value of 11 PtL plants. Our SOTP is determined by a project-by-project DCF valuation using a WACC of 7.2%.
- Our bull-case fair value is based on a SOTP valuation assuming USD910/t ASP and USD-25/tonne feedstock cost in addition to a potential 10% EPC margin.
- Our bear-case fair value incorporates only Skive I and II, plus Nor I.

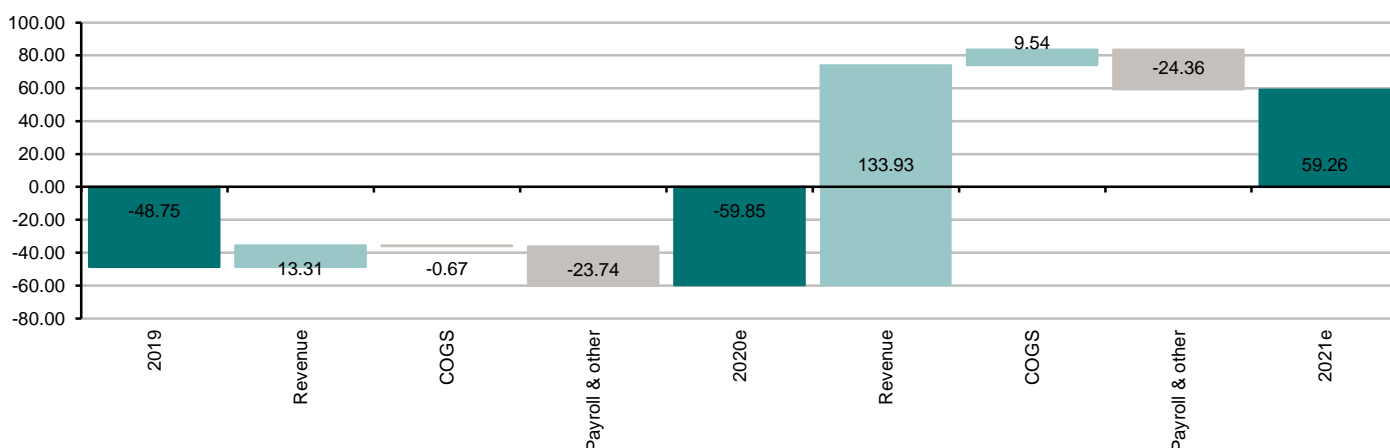
Source: DNB Markets

Upside risks to our investment case

- Increasing fossil fuel prices would boost alternative fuels' attractiveness.
- Regulatory backing for recycled carbon fuels as an alternative to traditional or even advanced biofuels.
- Enforced blending requirements of recycled content in plastics production demanding chemical recycling.
- Stricter limits on plastic waste management leading to oversupplied feedstock markets.

Source: DNB Markets

EBITDA bridge 2019–2021e (NOKm)



Source: DNB Markets (forecasts), company (historical data)

ESG overview

Sustainability assessment

	Positive	Negative
Conclusions	<ul style="list-style-type: none"> ■ We believe Quantafuel is perfectly positioned to benefit from the growing awareness of the plastic waste challenge as its chemical recycling technology creates a circular economy for plastics. ■ Chemical recycling is a fairly new market and Quantafuel is one of the first entrants that could see significant growth and opportunity with continued legislative support. 	<ul style="list-style-type: none"> ■ Despite contributing a solution to plastic waste management, there's risk of negative ESG perception as Quantafuel technology allows for continued use of plastics, and makes fuel for combustion engines. ■ Not only could the regulatory framework change in disfavour of Quantafuel, but competing solutions could come along that deteriorate the potential market share and opportunity.
Actions being taken by company	<ul style="list-style-type: none"> ■ The company is developing its chemical recycling plant structure and approaching production of recycled naphtha, which can be used in plastic production, in addition to already planning expansion opportunities. ■ Quantafuel is exploring the opportunity for delivering recycled fuels, which solves the growing concern of plastic waste management while also displacing traditional fossil fuels. 	<ul style="list-style-type: none"> ■ While the reuse of plastics is positive, there is still a risk of negative consequences of the recycled material ending up in incineration, landfill, or as marine litter. ■ Fuels produced from plastic waste are more environmentally friendly than extraction of virgin fossil fuels. However, the burning of the fuel will still release fossil energy and GHG emissions.

Key ESG drivers

Short-term

- The growing concern of plastic waste management and focus on limiting marine litter and microplastics in the environment drives the development of potential solutions, and thereby demand for Quantafuel's technology.
- The Alliance to End Plastic Waste is one of many tailwinds opening up for cleantech companies to provide tools and technologies to global chemical and fossil fuel companies.
- China's 'National Sword' ban on imported waste exacerbated the Western countries' plastic waste problem and provides incentives for solutions for energy recovery and recycling.
- Changing consumer behaviour could affect the underlying market drivers should demand for plastic products and/or combustion engine fuels change dramatically.
- Banning certain uses of plastics (e.g. single-use plastics) and finding good alternative products to take their place could limit supply of plastic feedstock and lift prices.
- Collaboration with global chemical and fossil fuel companies may bring negative rather than positive connotations in consumer perception.

Long-term

- The EU's raised ambition for plastic recycling targets creates a growing demand for waste management capabilities.
- Regulatory initiatives with long-term targets for bio-fuels and GHG emissions create an opportunity for the development of fuel alternatives.
- Higher percentage of electric cars lowers the demand opportunity for waste-based fuel.
- Significant changes to regulations could render Quantafuel's technology and business model outdated and obsolete.

Source: DNB Markets

Sustainability assessment

	Risk	Company's risk mitigation
Transition risks		
Policy and legal	<ul style="list-style-type: none"> ■ The EU legislation for recycled carbon fuels has not been entirely resolved, and the issue is still pending on how regulators and individual member states assess the technology's pros and cons. 	<ul style="list-style-type: none"> ■ Plastic to fuel was the company's initial value proposition, but the partnership with BASF has turned the priorities: naphtha production is now in the driver's seat, thereby buying the company some time to observe how the recycled carbon fuels discussion evolves.
Technology	<ul style="list-style-type: none"> ■ Chemical feedstock recycling is fairly new – the establishment of a profitable market could attract substantial additional competition above the companies and partnerships currently present. 	<ul style="list-style-type: none"> ■ The company is building crucial experience that functions as a buffer towards new participants entering the market.
Market	<ul style="list-style-type: none"> ■ A sustainability focus driving lower consumer demand for plastic products and combustion engine fuels could hurt the company's business. 	<ul style="list-style-type: none"> ■ Given the current prevalence of plastic products, the company's focus on a circular economy should help mitigate any substantial substitution risk in the near future.
Reputation	<ul style="list-style-type: none"> ■ Collaboration with fuel and plastic producers could be viewed negatively. ■ Emissions and processing losses at the plants, as well as the production process, could drive negative impressions. 	<ul style="list-style-type: none"> ■ Quantafuel is focusing on its identity as a solution to a larger problem and should thereby limit the impact of this reputational risk. ■ The company is using syngas from the production as an energy source in heating the plant.

Source: DNB Markets

Sustainability assessment

	Opportunities	Company's utilisation of opportunity
Resource efficiency	<ul style="list-style-type: none"> ■ Both regulators and companies are setting targets for the portion of recycled plastics, such as the EU and its requirement for PET bottles containing 25% recycled plastic by 2025 and Nestlé targeting 15% recycled content in its plastic packaging. ■ Regulators are striving for more resource-efficient alternative fuel, such as EUs RED II directive targeting 14% of energy used in transport being produced from renewable sources by 2030. 	<ul style="list-style-type: none"> ■ The company provides an efficient solution to increasing the amount of recycled content in plastic packaging by providing plastic producers with recycled naphtha – a virgin-quality feedstock – and avoiding cascading effects of mechanical recycling. ■ Quantafuel's technology allows for waste-based fuel that does not provide incentives for further extraction of fossil fuels.
Products/Services	<ul style="list-style-type: none"> ■ Material recycling is crucial to reach targets for recycled plastic content in food- and drink packaging. 	<ul style="list-style-type: none"> ■ Together with its competitors, Quantafuel is creating an industry that delivers solutions to achieve such targets.
New markets	<ul style="list-style-type: none"> ■ Cleantech partnerships with large companies in the plastics industry driven by corporate initiatives and recycling policies open up for important investment opportunities and initial demand. ■ The Norwegian government has a target of 30% of all jettfuel sold in 2030 being biofuel. 	<ul style="list-style-type: none"> ■ Quantafuel has already established partnerships with BASF and Vitol, but there's undoubtedly opportunity for more should the company's plant setup prove efficient and valuable. ■ Quantafuel has a pilot project with Avinor to develop local production of biofuel.
Supply chain resilience	<ul style="list-style-type: none"> ■ The input cost to Quantafuel's production has the potential of being lowered should the production achieve certification as material recycling. 	<ul style="list-style-type: none"> ■ The company is exploring opportunities like this and looking at different ways to secure favourable input, hence improving its supply chain resilience.

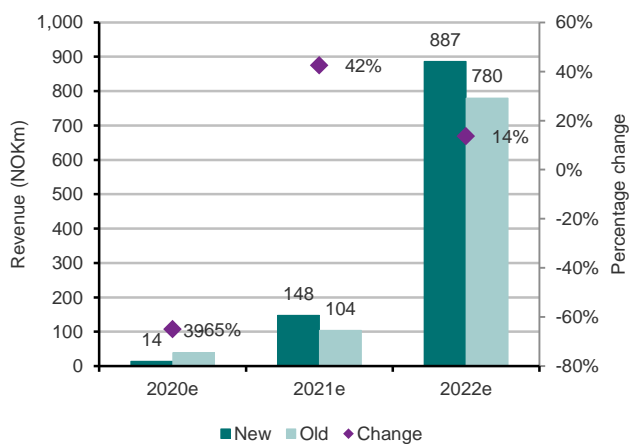
Source: DNB Markets

Estimate changes

Updated for Replast facility and latest price outlook

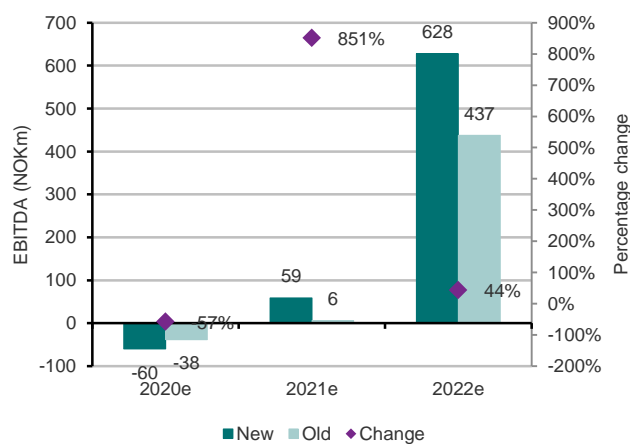
We have updated our model for the Q2 numbers and included a new small-scale facility in connection with the Replast acquisition announced for Q3. Oil markets have developed favourably for Quantafuel's outputs, leaving us more positive in our estimates for ASP, as well as for secured volumes of plastic feedstock at attractive prices. In addition, confirmation from Grønt Punkt that chemical recycling will be deemed material recycling should make feedstock cheaper. Combined, we have lifted our 2020e revenues by 65% despite the delay to Skive, 42% for 2021e and 14% for 2022e.

Changes to DNB Markets' revenue estimates



Source: DNB Markets (forecasts), company (historical data)

Changes to DNB Markets' EBITDA estimates



Source: DNB Markets (forecasts), company (historical data)

DNB Markets' estimated plant ramp-up for Quantafuel with two FIDs per year and c18 months' construction time

Name	Capacity		2020				2021				2022				2023				2024				2025				2026			
	tpd	tpa	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Skive I	60	20,000																												
Nor I	45	15,000																												
Skive II	240	80,000																												
ARA I	300	100,000																												
ARA II	300	100,000																												
BASF I	300	100,000																												
ARA III	300	100,000																												
BASF II	300	100,000																												
ARA IV	300	100,000																												
BASF III	300	100,000																												
ARA V	300	100,000																												

Source: DNB Markets

Q2 review

Quantafuel reported Q2 EBITDA of NOK-27.2m (-60% versus consensus of NOK-17.0m, -65% versus our forecast of NOK-16.5m), and net profit of NOK-100.8m (versus consensus NOK-14.0m, versus our forecast of NOK-14.6m). The company's cash position end-Q2 was NOK26.7m, down from NOK85.2m end-Q1, but excludes the NOK250m private placement on 3 July. Increased financial expenses relating to valuation of BASF convertible loan, as well as increased cost allocation to overheads.

Skive sees unchanged budget, despite start-up delays

Key suppliers have arrived in Skive and systems have been tested with gas at operating temperature, and the company is looking forward to introducing plastic feedstock and starting production. Budgeted cost of Skive was unchanged from Q4 2019 and Q1 2020.

Selected FEED partner for large-scale design and qualified as material recycler

The company has engaged Rambøll to perform FEED on a new modular design to be standard for large-scale plants in Denmark and Europe. It also signed a contract for 10kt of plastic packaging waste from Grønt Punkt Norge, and was qualified as material recycler by the Norwegian Environment Agency – positive for potential future feedstock costs.

Q2 review table

Key highlights (NOKm except per share data)	Q2 2020			Deviation (%)		Deviation, Abs		Q2 2019	DNBe
	Actual	DNB	Cons.	DNB	Cons.	DNB	Cons.	Actual	2020e
Revenues	0.0	0.0						0.0	39.5
Cost of sales	-0.7	0.0						0.0	-5.2
Payroll expenses	-18.8	-12.0						-31.0	-49.1
Other operating expenses	-7.7	-4.5						-5.6	-23.4
Non-recurring items	0.0	0.0						0.0	0.0
EBITDA	-27.2	-16.5	-17.0	-65%	-60%	-10.7	-10.2	-36.5	-38.1
Depreciation and amortisation	-1.3	0.0						0.0	-4.6
Net financial items	-65.8	-2.2						-1.6	-2.7
Profit before tax	-94.3	-18.7	-19.0					-38.2	-45.4
Tax	-6.5	4.1						0.0	-5.9
Net profit	-100.8	-14.6	-14.0	<-100%	<-100%	-86.2	-86.8	-38.2	-51.3

Source: DNB Markets (forecasts), company (historical data), Bloomberg (consensus)

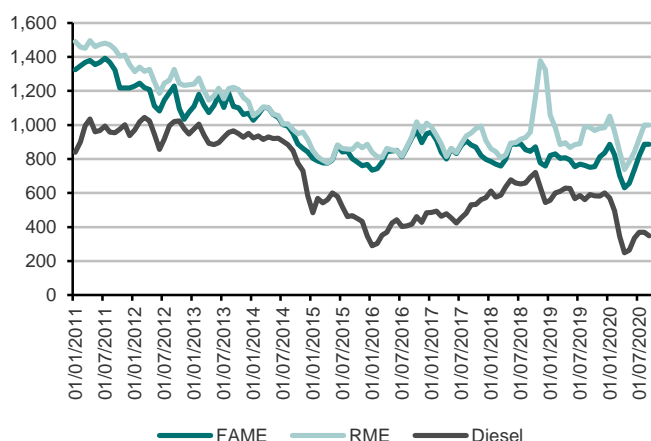
Recent developments

We have raised our average sales price to USD735/tonne for the plants' liquid production on improved relative pricing of biofuels, as well as lowered our cost assumptions on plastic feedstock, from USD50/tonne to USD30/tonne, as our base-case assumption. However, we have applied even lower costs of USD-25/tonne (i.e. generating revenues for Quantafuel) for the Danish plants and as much as USD-50/tonne for the newly announced small-scale plant in Norway due to favourable costs expected from the mechanical/chemical recycling integration. The lower input costs are driven by material recycler approvals in these regions, initially limited-scale, and a continued push from legislators to price non-recycled plastic waste.

Wider premiums for biofuels

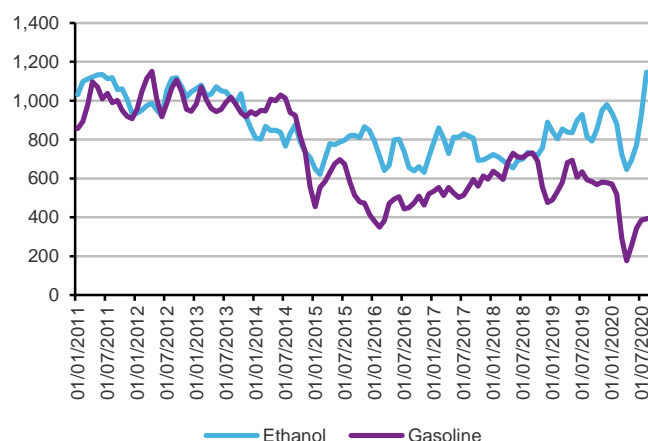
Since our previous report, the premium price attained by biofuels has increased and would imply a higher price for Quantafuel's products relative to fossil-alternative fuels. As we understand the initial pricing at the Skive plant is linked to fuel prices, this translates to an increased average sales price in our estimates. The assumed 50/50 split on premium pricing relative to fossil fuel is maintained.

Diesel and biodiesel prices



Source: Bloomberg (underlying data), DNB Markets (further calculations)

Gasoline versus ethanol prices



Source: Bloomberg (underlying data), DNB Markets (further calculations)

Further push to plastics recycling by EU

The EU's proposed levy on non-recycled plastic packaging waste from this summer potentially adds an additional cost to countries' non-recycled waste of EUR800/tonne. We understand the proposal would be implemented from 1 January 2021, but legislation needs to be finalised and approved swiftly in order to meet the implementation deadline. Revenues from the levy/tax are intended as member states' contributions to the EU budget and are one of the income streams the EU will use to help repay loans it will take to cover the EUR750bn Covid-19 recovery plan, according to Argus.

We believe the levy/tax identifies the cost of unmanaged plastic waste and, if implemented, incentivises member states to develop recycling infrastructure and seek solutions to secure approved recycling of waste in order to avoid the EUR800/tonne cost, and would increase member state's willingness to pay waste managers such as Quantafuel to handle their waste streams. Hence, this should increase availability of plastic waste for chemical recycling and lower the cost of feedstock (potentially into negative territory).

Quantafuel approved as material recycler in Norway

In addition, Quantafuel has received approval as material recycler from Grønt Punkt in Norway, which increases its access to attractively priced feedstock, of which some has already been secured at attractive prices for the Skive I plant.

Valuation

BUY reiterated; target price raised to NOK84

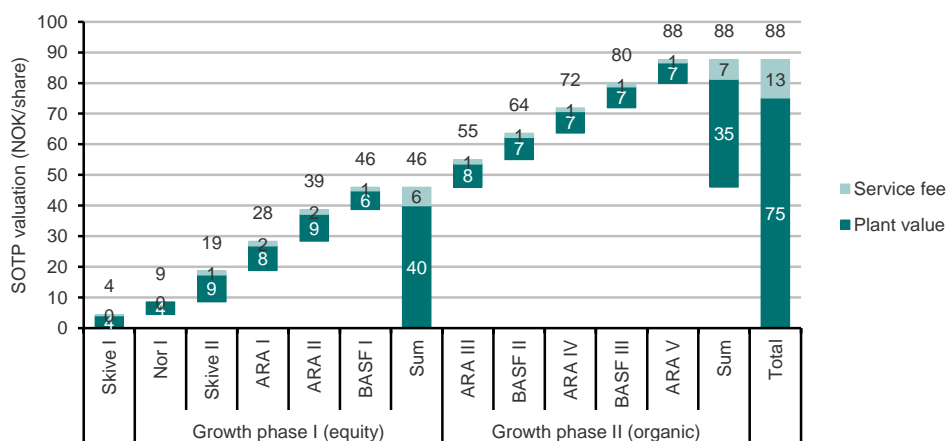
We reiterate our BUY recommendation and have raised our target price to NOK84 (NOK23.1), based on our SOTP reflecting a total of 11 plants with aggregate capacity to manage c900ktpa of mixed plastic waste. Our valuation assumes initial growth financed by USD80m in additional issued equity. We assume a NOK50 share price on the issued equity as we believe confirmation that the technology is working at Skive ahead of financing the next growth phase would lift the share price further.

Our SOTP-based valuation is supported by multiples-based relative valuation versus ESG-oriented peers, indicating a fair value of NOK185/share based on median 2022e multiples and estimates, which would increase to NOK400 using our 2023 estimates and similar multiples.

SOTP valuation

Our SOTP valuation is based on our assumed project pipeline for growth in two phases – the first covering the recently announce small-scale plant in Norway (relating to the Replast acquisition), Skive II (i.e. the second plant in Denmark), two plants with Vitol (i.e. ARA I and ARA II), and the initial large-scale plant with BASF (i.e. BASF I). In the first phase, we model for several equity raises in conjunction with announced FIDs to facilitate growth, hence diluting the SOTP on a per-share basis. We have modelled for a total of USD80m in equity raised to realise the plants listed above, and assumed an issue price of NOK50/share (close to the current share price). This implies 140.2m shares outstanding once the company is fully funded, and we estimate a phase I SOTP value of USD708m, or NOK46/share at a USDNOK of 9.1. Of this, 87%, or NOK40/share, relates to Quantafuel's proportionate ownership in the plants, while the remainder relates to the value of its service fee contracts over a 10-year period from plant start-up.

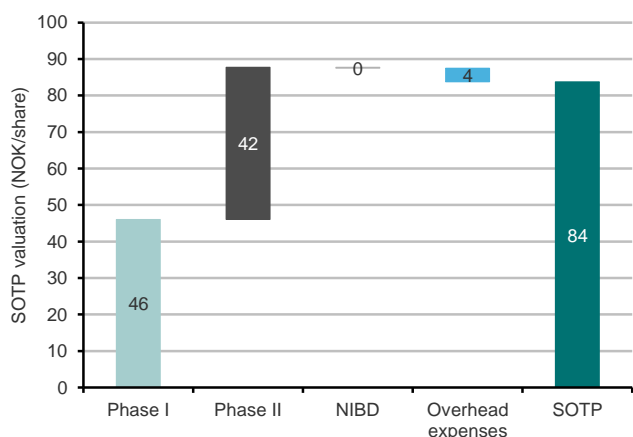
DNB Markets' SOTP valuation of Quantafuel's plants and service revenues



Source: DNB Markets

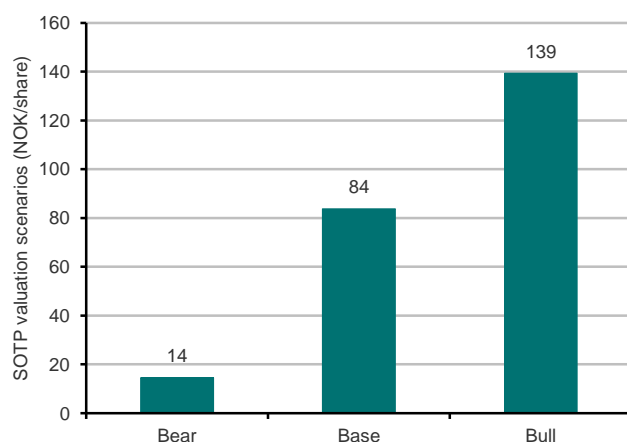
In the second growth phase, we estimate that the company will generate sufficient cash to continue its growth trajectory, and thus avoid further equity raises. We estimate an additional NOK42/share in value for the five additional plants with Vitol (i.e. ARA III – V) and BASF (i.e. BASF II – III) for a total SOTP valuation of NOK88/share. To arrive at the fair valuation, we have also included the company's NIBD and deducted the value of run-rate overhead costs of NOK12m per quarter, to arrive at our final SOTP valuation of NOK84/share.

Risked SOTP valuation of Quantafuel



Source: DNB Markets

Bull- and bear-case valuation scenarios



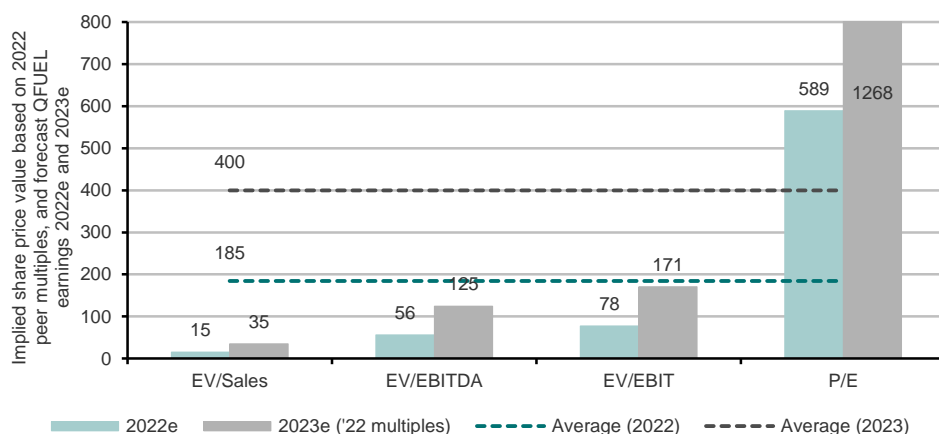
Source: DNB Markets

Furthermore, our bull-case fair value is based on a similar SOTP valuation assuming USD25/tonne in income for feedstock and ASP of USD910/tonne (reflecting advanced biofuel price net of profit share agreement), in addition to a potential 10% EPC margin on each project for Quantafuel, bringing the valuation up to NOK139/share. Our bear-case fair value incorporates only Skive I and II, plus Nor I, for a value of NOK14/share. Our SOTP is based on a project-by-project DCF valuation using a revised WACC of 7.2% (on par with peer Vow), and we provide a sensitivity analysis on our assumptions below.

Relative valuation multiples

In the current start-up phase, the near-term multiples for Quantafuel are less relevant, and we have to look to 2022–2023e for positive results and comparable valuation multiples to peers. Based on a basket of similarly ESG-oriented stocks, we find support for our valuation. Based on median 2022 multiples for EV/Sales, EV/EBITDA, EV/EBIT, and P/E, we arrive at an average implied valuation of NOK185/share. However, extending similar multiples to 2023 forecasts for Quantafuel, the median valuation would be NOK400/share – reflecting the strong growth potential in the investment case.

Relative multiples-based valuation for ESG peer group



Source: Bloomberg (underlying data), DNB Markets (further calculations)

Note: Peers include Hexagon Composites, Nel, Scatec Solar, Tomra, and Vow

Sensitivity analysis

First and foremost, the company is sensitive to assumptions regarding feedstock costs and obtainable prices on its sold output. Thus, we have conducted a sensitivity analysis at various prices with a similar methodology to our SOTP valuation. We have adjusted the need for

equity raises accordingly by using a rule-of-thumb FCF limit on when the pipeline is self-funded, but stress that the values are only indicative.

SOTP valuation sensitivity to exogenous input parameters (NOK)

Average sales price (USD/tonne)	Feedstock cost (USD/tonne)										
	280	230	180	130	80	30	-20	-70	-120	-170	-220
135	-77	-68	-59	-50	-41	-32	-24	-15	-6	3	13
235	-60	-51	-42	-33	-24	-15	-6	3	12	22	32
335	-42	-33	-24	-15	-7	2	12	21	32	43	53
435	-25	-16	-7	2	11	21	31	42	52	65	75
535	-7	1	11	21	31	42	52	64	74	85	95
635	10	20	30	41	51	64	74	84	98	109	119
735	30	41	53	63	73	84	97	108	119	130	140
835	52	62	73	86	97	108	118	129	140	150	161
935	72	86	96	107	118	128	139	150	161	171	182
1,035	96	106	117	128	139	149	160	171	182	192	203
1,135	117	127	138	149	160	170	181	192	203	213	224
1,235	138	148	159	170	181	191	202	213	223	234	245
1,335	159	169	180	191	201	212	223	234	244	255	266

Source: DNB Markets

As shown in the table above, the valuation is highly sensitive to changes in input and output prices, which highlights the regulatory uncertainty surrounding how recycled carbon fuels will be treated in the future. Also, the absence of any existing market for chemical recycling feedstocks leaves room for guesswork. We continue to stress the heightened uncertainty before the business case is further de-risked by: 1) a successful start-up at Skive I; and 2) next FID taken to show the way forward. However, we believe we are being reasonably cautious with respect to average sales prices and other assumptions in our modelling. Also, any deviation from our estimated equity issue price of NOK50 would also affect the final valuation.

SOTP valuation sensitivity to WACC assumption (NOK)

WACC sensitivity										
10%	9.2%	8.7%	8.2%	7.7%	7.2%	6.7%	6.2%	5.7%	5.2%	4.7%
54	59	64	70	76	84	92	102	114	128	145

Source: DNB Markets

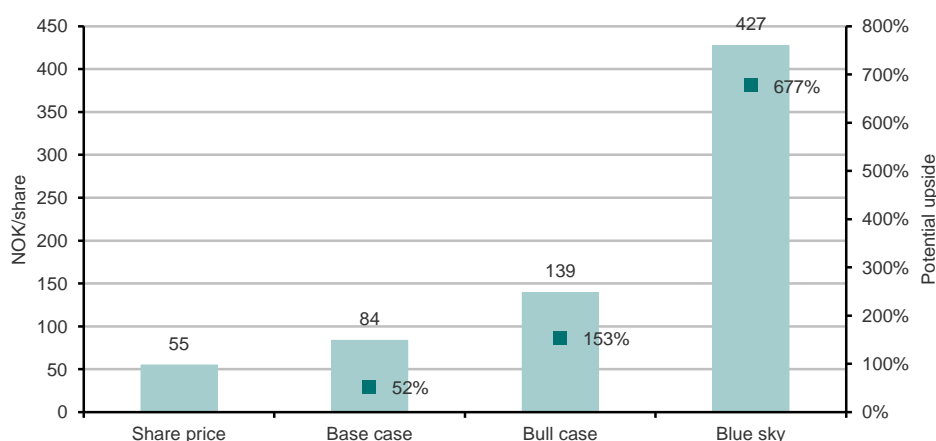
SOTP sensitivity to issue share price assumption (NOK)

Issue share price sensitivity										
25	30	35	40	45	50	55	60	65	70	75
76	78	80	82	83	84	85	85	86	86	87

Blue sky scenario with +650% potential upside

In our view, we maintain relatively prudent assumptions in our base-case forecasts, but in order to illustrate the de-risked upside potential in the investment case, we have run our model based on USD600/tonne feedstock costs (broadly aligned with the proposed EU tax net of logistics, sorting and cleaning) and achieved average sales price on par with advanced fuels of USD1,500/tonne. This results in a de-risked SOTP valuation (including EPC margins) of NOK427/share – i.e. more than 650% upside potential from the current share price.

Blue sky scenario shows considerable upside to Quantafuel share price



Source: DNB Markets

Forecast changes – P&L

(NOKm)	New			Old			Change		
	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e
Revenues	14	148	887	39	104	780	-26	44	107
Cost of sales	-2	8	16	-5	-10	-74	4	18	90
Gross profit	12	156	902	34	94	706	-22	62	197
Operating expenses	-72	-96	-275	-72	-88	-268	0	-9	-7
EBITDA	-60	59	628	-38	6	437	-22	53	190
EBITDA adj	-60	59	628	-38	6	437	-22	53	190
EBITDA margin (%)	nm	40.1	70.8	-96.5	6.0	56.1	nm	34.1	14.7
Depreciation	-4	-11	-72	-5	-9	-74	1	-2	1
Impairment of PPE	0	0	0	0	0	0	0	0	0
EBITA	-63	49	555	-43	-3	364	-21	51	192
EBIT	-63	49	555	-43	-3	364	-21	51	192
EBIT adj	-63	49	555	-43	-3	364	-21	51	192
Associated companies	0	0	0	0	0	0	0	0	0
Net interest	-65	-12	-45	-3	-13	-47	-62	1	3
Net financial items	-65	-12	-45	-3	-13	-47	-62	1	3
PBT	-128	37	511	-45	-16	317	-83	53	194
Taxes	-15	-8	-116	-6	3	-73	-9	-12	-44
Minorities	-13	-9	-157	-11	-4	-107	-2	-5	-51
Net profit	-156	20	237	-62	-17	137	-94	36	100
Adjustments to net profit	0	0	0	0	0	0	0	0	0
Net profit adj	-156	20	237	-62	-17	137	-94	36	100
<i>Per share data (NOK)</i>									
EPS	-1.31	0.15	1.70	-0.49	-0.11	0.85	-0.81	0.26	0.86
EPS adj	-1.31	0.15	1.70	-0.49	-0.11	0.85	-0.81	0.26	0.86
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Other key metrics (%)</i>									
Revenue growth	nm	969.8	500.1	high	162.6	652.1	nm	807.2	-151.9
EBIT adj growth	nm	nm	1044.1	-18.8	-93.2	-12538.5	nm	nm	13582.6
EPS adj growth	nm	nm	1068.5	-68.3	-77.6	-868.8	nm	nm	1937.2
Avg. number of shares (m)	119	134	139	126	152	161	-7	-17	-22
Capex	-188	-1,231	-1,823	-123	-1,286	-1,979	-65	56	156
OpFCF	-248	-1,171	-1,196	-161	-1,280	-1,542	-87	109	346
Working capital	-32	-28	2	-23	-23	7	-10	-5	-4
NIBD adj	-204	537	1,501	-376	266	1,681	172	271	-180

Source: DNB Markets

Quarterly numbers

(NOKm)	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020e	Q4 2020e	Q1 2021e	Q2 2021e	Q3 2021e
Revenues	0	0	0	0	0	0	0	14	26	27	47
Cost of sales	0	0	-2	0	-1	-1	0	1	1	1	3
Gross profit	0	0	-2	0	-1	-1	0	14	28	28	50
Operating expenses	-7	-37	-20	16	-17	-26	-12	-17	-21	-21	-27
EBITDA	-7	-37	-22	16	-18	-27	-12	-2	6	7	23
Depreciation	0	0	0	-3	-1	-1	0	-1	-2	-2	-3
Impairment of PPE	0	0	0	0	0	0	0	0	0	0	0
EBITA	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
EBIT	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
Associated companies	0	0	0	0	0	0	0	0	0	0	0
Net interest	-8	-2	-14	9	6	-66	-3	-3	-3	-3	-3
Net financial items	-8	-2	-14	9	6	-66	-3	-3	-3	-3	-3
PBT	-15	-38	-36	22	-13	-94	-15	-6	2	2	16
Taxes	0	0	0	-35	-13	-7	3	1	0	0	-4
Minorities	0	0	0	2	-10	-2	0	-1	-2	-2	-2
Net profit	-15	-38	-36	-11	-36	-103	-11	-6	-1	-1	11
Adjustments to net profit	0	0	0	0	0	0	0	0	0	0	0
Net profit adj	-15	-38	-36	-11	-36	-103	-11	-6	-1	-1	11
Dividend paid	0	0	0	0	0	0	0	0	0	0	0
Avg. number of shares (m)	9	10	10	11	112	112	125	129	133	133	136
<i>Per share data (NOK)</i>											
EPS	0.00	0.00	0.00	0.00	-0.32	-0.92	-0.09	-0.04	-0.01	-0.01	0.08
EPS adj	0.00	0.00	0.00	0.00	-0.32	-0.92	-0.09	-0.04	-0.01	-0.01	0.08
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Growth and margins (%)</i>											
Revenues, QOQ growth	nm	nm	nm	nm	nm	nm	nm	nm	91.5	1.1	76.9
Revenues, YOY growth	nm	nm	nm	nm	nm	nm	nm	nm	nm	534453.4	nm
EPS adj, YOY growth	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
Gross margin	nm	nm	nm	nm	nm	nm	nm	104.3	104.3	104.3	106.1
EBITDA adj margin	nm	nm	nm	nm	nm	nm	nm	nm	24.4	25.2	48.7
Depreciation/revenues	nm	nm	nm	nm	nm	-26100.0	nm	-7.9	-7.9	-7.9	-6.9
EBIT adj margin	nm	nm	nm	nm	nm	nm	nm	-24.3	16.5	17.4	41.8
Net profit margin	nm	nm	nm	nm	nm	nm	nm	nm	5.0	5.8	27.2

Source: Company (historical figures), DNB Markets (estimates)

Adjustments to quarterly numbers

(NOKm)	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020e	Q4 2020e	Q1 2021e	Q2 2021e	Q3 2021e
EBITDA	-7	-37	-22	16	-18	-27	-12	-2	6	7	23
Gains and losses	0	0	0	0	0	0	0	0	0	0	0
EBITDA adj	-7	-37	-22	16	-18	-27	-12	-2	6	7	23
EBITA	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
Gains and losses	0	0	0	0	0	0	0	0	0	0	0
EBITA adj	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
EBIT	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
Gains and losses	0	0	0	0	0	0	0	0	0	0	0
EBIT adj	-7	-37	-22	13	-19	-29	-12	-3	4	5	20
Net profit	-15	-38	-36	-11	-36	-103	-11	-6	-1	-1	11
Gains and losses	0	0	0	0	0	0	0	0	0	0	0
Other adjustments	0	0	0	0	0	0	0	0	0	0	0
Net profit adj	-15	-38	-36	-11	-36	-103	-11	-6	-1	-1	11

Source: Company (historical figures), DNB Markets (estimates)

Annual P&L

(NOKm)	2017	2018	2019	2020e	2021e	2022e
Revenues	2	0	0	14	148	887
Cost of sales	-4	0	-1	-2	8	16
Gross profit	-2	0	-1	12	156	902
Operating expenses	-28	-35	-48	-72	-96	-275
EBITDA	-29	-35	-49	-60	59	628
Depreciation	-1	-1	-3	-4	-11	-72
Impairment of PPE	0	0	0	0	0	0
EBITA	-29	-36	-52	-63	49	555
EBIT	-29	-36	-52	-63	49	555
Associated companies	0	0	0	0	0	0
Net interest	-5	-15	-17	-65	-12	-45
Net financial items	-5	-15	-17	-65	-12	-45
PBT	-34	-51	-69	-128	37	511
Taxes	0	-19	-31	-15	-8	-116
Effective tax rate (%)	0	-36	-45	-12	22	23
Minorities	0	1	-52	-13	-9	-157
Net profit	-34	-69	-152	-156	20	237
Adjustments to net profit	-1	0	0	0	0	0
Net profit adj	-35	-69	-153	-156	20	237
Dividend paid	0	0	0	0	0	0
Avg. number of shares		6	10	119	134	139
<i>Per share data (NOK)</i>						
EPS		-12.28	-15.55	-1.31	0.15	1.70
EPS adj		-12.28	-15.55	-1.31	0.15	1.70
DPS		0.00	0.00	0.00	0.00	0.00
<i>Growth and margins (%)</i>						
Revenue growth	nm	-95.3	nm	nm	969.8	500.1
EPS adj growth	nm	nm	nm	nm	nm	1068.5
Gross margin	nm	12.0	nm	88.9	105.4	101.8
EBITDA margin	nm	nm	nm	nm	40.1	70.8
EBITDA adj margin	nm	nm	nm	nm	40.1	70.8
Depreciation/revenues	-37.4	-582.8	nm	-25.4	-7.3	-8.2
EBIT margin	nm	nm	nm	nm	32.8	62.6
EBIT adj margin	-1407.9	nm	nm	-458.8	32.8	62.6
PBT margin	nm	nm	nm	nm	24.9	57.6
Net profit margin	nm	nm	nm	nm	19.4	44.5

Source: Company (historical figures), DNB Markets (estimates)

Adjustments to annual P&L

(NOKm)	2017	2018	2019	2020e	2021e	2022e
EBITDA	-29	-35	-49	-60	59	628
Gains and losses	-1	0	0	0	0	0
EBITDA adj	-30	-35	-49	-60	59	628
EBITA	-29	-36	-52	-63	49	555
Gains and losses	-1	0	0	0	0	0
EBITA adj	-31	-36	-53	-63	49	555
EBIT	-29	-36	-52	-63	49	555
Gains and losses	-1	0	0	0	0	0
EBIT adj	-31	-36	-53	-63	49	555
Net profit	-34	-69	-152	-156	20	237
Gains and losses	-1	0	0	0	0	0
Other adjustments	0	0	0	0	0	0
Net profit adj	-35	-69	-153	-156	20	237
<i>Per share data (NOK)</i>						
EPS		-12.28	-15.55	-1.31	0.15	1.70
Recommended adjustment		0.00	0.00	0.00	0.00	0.00
EPS adj		-12.28	-15.55	-1.31	0.15	1.70

Source: Company (historical figures), DNB Markets (estimates)

Cash flow

(NOKm)	2017	2018	2019	2020e	2021e	2022e
Net profit	-34	-69	-152	-156	20	237
Other non-cash adjustments	0	-1	52	13	9	157
Change in net working capital	40	33	100	32	-4	-30
Cash flow from operations (CFO)	7	-36	3	-108	35	436
Capital expenditure	-25	-106	-275	-188	-1,231	-1,823
Acquisitions/Investments	1	-3	1	-3	0	0
Cash flow from investing (CFI)	-24	-109	-274	-191	-1,231	-1,823
Free cash flow (FCF)	-17	-145	-271	-299	-1,195	-1,387
Net change in debt	14	43	101	30	623	1,051
Dividends paid	0	0	0	0	0	0
Other	0	-2	-4	8	227	194
Cash flow from financing (CFF)	31	210	336	557	1,078	1,473
Total cash flow (CFO+CFI+CFF)	14	65	65	258	-118	86
<i>FCFF calculation</i>						
Free cash flow	-17	-145	-271	-299	-1,195	-1,387
Less: net interest	5	15	17	65	12	45
Less: acquisitions	-1	3	-1	3	0	0
Growth (%)						
CFO	nm	-628.9	107.4	-4115.4	132.6	1139.8
CFI	nm	-347.1	-152.3	30.4	-544.7	-48.1
FCF	nm	-732.0	-87.2	-10.1	-299.8	-16.0
CFF	nm	569.6	60.2	65.7	93.6	36.7
FCFF	nm	nm	nm	nm	nm	nm

Source: Company (historical figures), DNB Markets (estimates)

Balance sheet

(NOKm)	2017	2018	2019	2020e	2021e	2022e
Assets	61	204	597	1,052	2,161	4,047
Trade receivables	1	1	0	3	9	58
Other receivables	14	8	17	8	8	8
Current financial assets	0	0	0	0	0	0
Cash and cash equivalents	21	86	151	409	291	377
Current assets	36	95	167	419	308	443
Property, plant and equipment	25	96	359	546	1,766	3,517
Other intangible assets	1	9	20	20	20	20
Investments in associates	0	0	0	0	0	0
Non-current financial assets	0	3	6	9	9	9
Non-current assets	26	109	430	633	1,853	3,604
Total assets	61	204	597	1,052	2,161	4,047
Equity and liabilities	61	204	597	1,052	2,161	4,047
Total equity to the parent	-11	102	211	668	1,152	1,969
Minority interests	0	18	67	0	0	0
Total equity	-11	120	278	668	1,152	1,969
Trade payables	11	19	59	1	4	22
Other payables and accruals	47	33	35	42	42	42
Short-term debt	0	0	1	2	2	2
Total current liabilities	58	52	96	44	47	65
Long-term debt	0	0	117	203	826	1,877
Deferred tax liabilities	0	19	65	84	84	84
Other non-current liabilities	14	13	41	52	52	52
Total non-current liabilities	14	32	223	339	962	2,013
Total liabilities	72	84	319	384	1,009	2,078
Total equity and liabilities	61	204	597	1,052	2,161	4,047
<i>Key metrics</i>						
Net interest bearing debt	-21	-86	-32	-204	537	1,501

Source: Company (historical figures), DNB Markets (estimates)

Valuation ratios

(NOKm)	2017	2018	2019	2020e	2021e	2022e
<i>Enterprise value</i>						
Share price (NOK)		6.00	17.30	55.00	55.00	55.00
Number of shares (m)		7.27	11.17	132.5	137.1	141.6
Market capitalisation		44	193	7,288	7,538	7,789
Net interest bearing debt	-21	-86	-32	-204	537	1,501
Adjustments to NIBD	0	0	0	0	0	0
Net interest bearing debt adj	-21	-86	-32	-204	537	1,501
EV		-42	161	7,084	8,075	9,290
EV adj		-42	161	7,084	8,075	9,290
<i>Valuation</i>						
EPS		-12.28	-15.55	-1.31	0.15	1.70
EPS adj		-12.28	-15.55	-1.31	0.15	1.70
DPS		0.00	0.00	0.00	0.00	0.00
P/E		-0.5	-1.1	-42.1	377.0	32.3
P/E adj		-0.5	-1.1	-42.1	377.0	32.3
P/B		0.43	0.91	10.90	6.54	3.96
Average ROE		-126.7%	-76.5%	-32.9%	2.2%	15.2%
Earnings yield adj		-204.7%	-89.9%	-2.4%	0.3%	3.1%
Dividend yield		0.0%	0.0%	0.0%	0.0%	0.0%
EV/SALES		-414.96		512.97	54.66	10.48
EV/SALES adj		-414.96		512.97	54.66	10.48
EV/EBITDA		1.2	-3.3	-118.4	136.3	14.8
EV/EBITDA adj		1.2	-3.3	-118.4	136.3	14.8
EV/EBIT		1.2	-3.1	-111.8	166.4	16.7
EV/EBIT adj		1.2	-3.1	-111.8	166.4	16.7
EV/NOPLAT		1.5	-4.0	-143.4	213.3	21.5
EV/OpFCF (taxed)		0.3	-0.5	-30.3	-6.8	-7.1

Source: Company (historical figures), DNB Markets (estimates)

Key accounting ratios

	2017	2018	2019	2020e	2021e	2022e
<i>Profitability (%)</i>						
ROA		-52.0	-38.0	-18.9	1.2	7.6
<i>Return on invested capital (%)</i>						
Net PPE/revenues	1156.7	93909.2		3956.0	1195.5	396.7
Working capital/revenues	-2023.3	-41624.9		-232.8	-18.9	0.3
<i>Cash flow ratios (%)</i>						
FCF/revenues	-796.8	-141783.1		-2165.1	-809.2	-156.4
CFO/revenues	314.2	-35540.8		-782.8	23.8	49.2
CFO/market capitalisation		-83.4	1.4	-1.5	0.5	5.6
CFO/capex	27.5	-34.4	1.0	-57.4	2.9	23.9
CFO/current liabilities	11.8	-70.0	2.8	-243.0	74.9	668.9
Cash conversion ratio	51.2	210.1	178.4	191.9	-6097.4	-585.5
Capex/revenues	1143.3	103275.2		1362.6	833.0	205.6
Capex/depreciation	3056.6	17720.2	8199.0	5367.2	11469.3	2517.1
OpFCF margin	-2513.7	-137802.4		-1796.0	-792.9	-134.8
Total payout ratio		0.0	0.0	0.0	0.0	0.0
<i>Leverage and solvency (x)</i>						
EBIT/interest payable	nm	nm	nm	nm	4.11	12.48
EBITA adj/interest payable	nm	nm	nm	nm	4.11	12.48
Cash coverage	-5.98	-2.29	-2.81	-0.92	5.02	14.10
Net debt/EBITDA	0.75	2.45	0.66	3.40	9.06	2.39
Total debt/total capital (BV)	0.00	0.00	0.20	0.19	0.38	0.46
LTD / (LTD + equity (MV))		0.00	0.38	0.03	0.10	0.19
<i>Cash conversion cycle</i>						
Receivables turnover days	2372.4	33314.8	nm	282.3	42.9	27.2
Credit period	1099.4	nm	nm	246.7	-161.7	-502.0

Source: Company (historical figures), DNB Markets (estimates)

Important Information

Company: Quantafuel
 Coverage by Analyst: Jørgen Lian
 Date: 07/9/2020

This report has been prepared by DNB Markets, a division of DNB Bank ASA. DNB Bank ASA is a part of the DNB Group. This report is based on information obtained from public sources that DNB Markets believes to be reliable but which DNB Markets has not independently verified, and DNB Markets makes no guarantee, representation or warranty as to its accuracy or completeness. This report does not, and does not attempt to, contain everything material which there is to be said about the Company. Any opinions expressed herein reflect DNB Markets' judgement at the time the report was prepared and are subject to change without notice. The report is planned updated minimum every quarter.

Any use of non-DNB logos in this report is solely for the purpose of assisting in identifying the relevant issuer. DNB is not affiliated with any such issuer.

This report is for clients only, and not for publication, and has been prepared for information purposes only by DNB Markets, a division of DNB Bank ASA.

This report is the property of DNB Markets. DNB Markets retains all intellectual property rights (including, but not limited to, copyright) relating to the report. Sell-side investment firms are not allowed any commercial use (including, but not limited to, reproduction and redistribution) of the report contents, either partially or in full, without DNB Markets' explicit and prior written consent. However, buy-side investment firms may use the report when making investment decisions, and may also base investment advice given to clients on the report. Such use is dependent on the buy-side investment firm citing DNB Markets as the source.

Risk warning – generally high risk

The risk of investing in financial instruments is generally high. Past performance is not a reliable indicator of future performance, and estimates of future performance are based on assumptions that may not be realised. When investing in financial instruments, the value of the investment may increase or decrease, and the investor may lose all or part of their investment. Careful consideration of possible financial distress should be made before investing in any financial instrument.

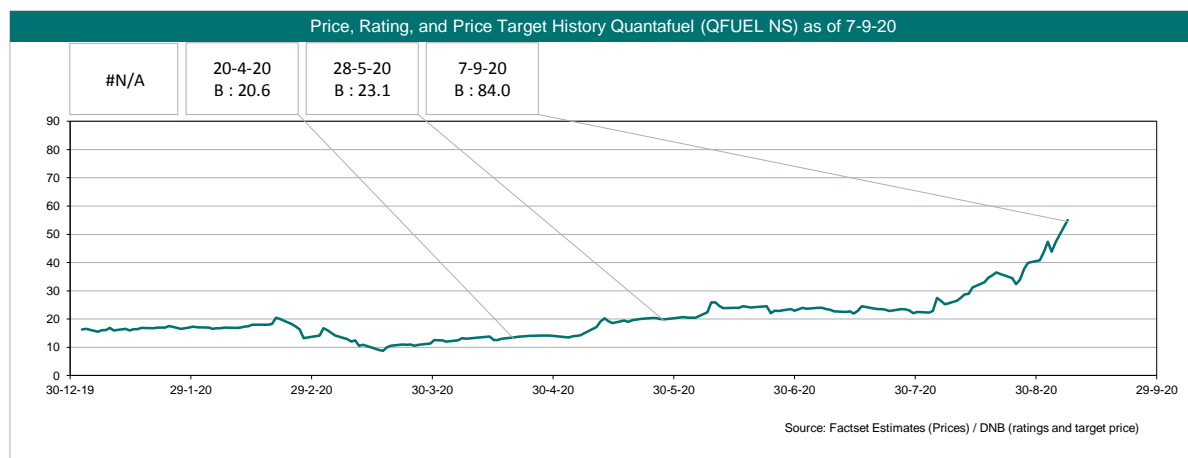
Recommendation structure

DNB Markets recommendations are based on absolute performance:

- Buy - indicates an expected return greater than 10% within 12 months
- Hold - indicates an expected return between 0 and 10% within 12 months
- Sell - indicates an expected negative return within 12 months

Price targets are based on a combination of several valuation methods such as discounted cash flow, pricing based on earnings multiples, multiple on book value, net asset value and peer comparison. Substantial material sources for coverage of this company include historical financial figures and communication with the company, and relevant third party information. If you would like further information on the valuation, methodology or underlying assumptions used in this note, please contact the analyst (contact details on front page).

Recommendations and historical target prices below may not compile all recommendations by DNB Markets, for further information please contact DNB Markets.



Conflict of interest

DNB Markets has provided investment services and/or ancillary services to the company and received compensation for it during the past 12 months.

Readers should assume that DNB Markets may currently or may in the coming three months and beyond be providing or seeking to provide confidential investment banking services or other services to the company/companies

Share positions in the company:	Analyst*	Employees**	DNB***
Number of shares	0	0	0

*The analyst or any close associates. **Share positions include people involved in the production of credit and equity research, including people that could reasonably be expected to have access to it before distribution.

***Share positions as part of DNB Group. Holdings as part of DNB Markets investment services activity are not included.

Recommendation distribution and corporate clients for the last 12 months

	Buy	Hold	Sell	No_rec	Total
Number	151	61	27	24	263
% of total	57%	23%	10%	9%	
DNB Markets client	20%	10%	3%	3%	97

Legal statement

These materials constitute research as defined in section 9-27 (1) of the Norwegian Securities Trading Regulations (Norwegian: verdipapirforskriften), and are not investment advice as defined in section 2-4(1) of the Norwegian securities trading act (Norwegian verdipapirhandelloven).

The analyst hereby certifies that (i) the views expressed in this report accurately reflect that research analyst's personal views about the company and the securities that are the subject of this report, and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in this report. DNB Markets employees, including research analysts, may receive compensation that is generated by overall firm profitability. Confidentiality rules and internal rules restricting the exchange of information between different parts of DNB Markets/DNB Bank ASA or the DNB Group are in place to prevent employees of DNB Markets who are preparing this report from utilizing or being aware of information available in the DNB Group that may be relevant to the recipients' decisions. DNB Markets and the DNB Group have incorporated internal rules and regulations in order to avoid any potential conflicts of interest.

The Report has been prepared by DNB Markets, a division of DNB Bank ASA, a Norwegian bank organized under the laws of the Kingdom of Norway and under supervision by the Norwegian Financial Supervisory Authority, The Monetary Authority of Singapore, and on a limited basis by the Financial Conduct Authority and the Prudential Regulation Authority of the UK, and the Financial Supervisory Authority of Sweden. Details about the extent of our regulation by local authorities outside Norway are available from us on request.

It is issued subject to the General Business Terms for DNB Markets and information about the terms is available at www.dnb.no. For requests regarding the General Business Terms of the Singapore Branch of DNB Bank ASA, please contact +65 6212 6144. Information about the DNB Group can be found at www.dnb.com. DNB Markets is a member of The Norwegian Securities Dealers Association, which has issued recommendations and market standards for securities companies. The Association's Internet address where the recommendations and market standards can be found is: www.vpff.no. This report is not an offer to buy or sell any security or other financial instrument or to participate in any investment strategy. No liability whatsoever is accepted for any direct or indirect (including consequential) loss or expense arising from the use of this report. Distribution of research reports is in certain jurisdictions restricted by law. Persons in possession of this report should seek further guidance regarding such restrictions before distributing this report. Please contact DNB Markets at 08940 (+47 915 08940) for further information and inquiries regarding this report, including an overview on all recommendations from DNB Markets over the last 12 Months according to Market Abuse Regulations.

Additional information for clients in Singapore

The report has been distributed by the Singapore Branch of DNB Bank ASA. It is intended for general circulation and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. You should seek advice from a financial adviser regarding the suitability of any product referred to in the report, taking into account your specific financial objectives, financial situation or particular needs before making a commitment to purchase any such product. You have received a copy of the report because you have been classified either as an accredited investor, an expert investor or as an institutional investor, as these terms have been defined under Singapore's Financial Advisers Act (Cap. 110) ("FAA") and/or the Financial Advisers Regulations ("FAR"). The Singapore Branch of DNB Bank ASA is a financial adviser exempt from licensing under the FAA but is otherwise subject to the legal requirements of the FAA and of the FAR. By virtue of your status as an accredited investor or as an expert investor, the Singapore Branch of DNB Bank ASA is, in respect of certain of its dealings with you or services rendered to you, exempt from having to comply with certain regulatory requirements of the FAA and FAR, including without limitation, sections 25, 27 and 36 of the FAA. Section 25 of the FAA requires a financial adviser to disclose material information concerning designated investment products which are recommended by the financial adviser to you as the client. Section 27 of the FAA requires a financial adviser to have a reasonable basis for making investment recommendations to you as the client. Section 36 of the FAA requires a financial adviser to include, within any circular or written communications in which he makes recommendations concerning securities, a statement of the nature of any interest which the financial adviser (and any person connected or associated with the financial adviser) might have in the securities. Please contact the Singapore branch of DNB Bank ASA at +65 6212 6144 in respect of any matters arising from, or in connection with, the report. The report is intended for and is to be circulated only to persons who are classified as an accredited investor, an expert investor or an institutional investor. If you are not an accredited investor, an expert investor or an institutional investor, please contact the Singapore Branch of DNB Bank ASA at +65 6212 6144. We, the DNB group, our associates, officers and/or employees may have interests in any products referred to in the report by acting in various roles including as distributor, holder of principal positions, adviser or lender. We, the DNB group, our associates, officers and/or employees may receive fees, brokerage or commissions for acting in those capacities. In addition, we, the DNB group, our associates, officers and/or employees may buy or sell products as principal or agent and may effect transactions which are not consistent with the information set out in the report.

In the United States

Each research analyst named on the front page of this research report, or at the beginning of any subsection hereof, hereby certifies that (i) the views expressed in this report accurately reflect that research analyst's personal views about the company and the securities that are the subject of this report; and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in this report.

The research analyst(s) named on this report are foreign research analysts as defined by FINRA Rule 1050. The only affiliate contributing to this research report is DNB Bank through its DNB Markets division ("DNB Markets/DNB Bank"); the foreign research analysts employed by DNB Markets/DNB Bank are named on the first page; the foreign research analysts are not registered/qualified as research analysts with FINRA; foreign research analysts are not associated persons of DNB Markets, Inc. and therefore are not subject to the restrictions set forth in FINRA Rules 2241 and 2242 regarding restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

This is a Third Party Research Report as defined by FINRA Rules 2241 and 2242. Any material conflict of interest that can reasonably be expected to have influenced the choice of DNB Markets/DNB Bank as a research provider or the subject company of a DNB Markets/DNB Bank research report, including the disclosures required by FINRA Rules 2241 and 2242 can be found above.

This report is being furnished solely to Major U.S. Institutional Investors within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934 and to such other U.S. Institutional Investors as DNB Markets, Inc. may determine. Distribution to non-Major U.S. Institutional Investors will be made only by DNB Markets, Inc., a separately incorporated subsidiary of DNB Bank that is a U.S. broker-dealer and a member of the Financial Industry Regulatory Authority ("FINRA") and the Securities Investor Protection Corporation ("SIPC").

Any U.S. recipient of this report seeking to obtain additional information or to effect any transaction in any security discussed herein or any related instrument or investment should contact DNB Markets, Inc., 200 Park Avenue, New York, NY 10166-0396, telephone number +1 212-551-9800.

In Canada

The Information has been distributed in reliance on the International Dealer Exemption pursuant to NI 31-103 section 8.18. Please be advised that:

- 1) DNB Bank ASA (DNB Markets) and DNB Markets, Inc. are not registered as a dealer in the local jurisdiction to make the trade. We provide our services in Canada as an exempt international dealer.
- 2) The jurisdiction of DNB Bank ASA (DNB Markets) and DNB Markets, Inc.'s head office is Norway.
- 3) There may be difficulty enforcing legal rights against DNB Bank ASA (DNB Markets) and DNB Markets, Inc. because all or substantially all of their assets may be situated outside of Canada.
- 4) The name and address of the agent for service of process for DNB Bank ASA (DNB Markets) and DNB Markets, Inc. in the local jurisdiction is: Alberta: Blake, Cassels & Graydon LLP, 855 - 2nd Street S.W., Suite 3500, Bankers Hall East Tower, Calgary, AB T2P 4J8. British Columbia: Blakes Vancouver Services Inc., 595 Burrard Street, P.O. Box 49314, Suite 2600, Three Bentall Centre, Vancouver, BC V7X 1L3. Manitoba: MLT Aikins, 30th Floor, Commodity Exchange Tower, 360 Main Street, Winnipeg, MB R3C 4G1. New Brunswick: Stewart McKelvey, Suite 1000, Brunswick House, 44 Chipman Hill, PO Box 7289, Station A, Saint John, NB E2L 2A9. Newfoundland and Labrador: Stewart McKelvey, Suite 1100, Cabot Place, 100 New Gower Street, P.O. Box 5038, St. John's, NL A1C 5V3. Nova Scotia: Stewart McKelvey, Purdy's Wharf Tower One, 1959 Upper Water Street, Suite 900, P.O. Box 997, Halifax, NS B3J 2X2. Northwest Territories: Field LLP, 601, 4920 52nd Street, Yellowknife, NT X1A 3T1. Nunavut: Field LLP, P.O. Box 1734, House 2436, Iqaluit, NU X0A 0H0. Ontario: Blakes Extra-Provincial Services Inc., Suite 4000, 199 Bay Street, Toronto, ON M5L 1A9. Prince Edward Island: Stewart McKelvey, 65 Grafton Street, Charlottetown, PE C1A 1K8. Québec: Services Blakes Québec Inc., 1 Place Ville Marie, Suite 3000, Montréal, QC H3B 4N8. Saskatchewan: MLT Aikins, 1500 Hill Centre I, 1874 Scarth Street, Regina, SK S4P 4E9. Yukon: Macdonald & Company, Suite 200, Financial Plaza, 204 Lambert Street, Whitehorse, YK Y1A 3T2.

In Brazil

The analyst or any close associates do not hold nor do they have any direct/indirect involvement in the acquisition, sale, or intermediation of the securities discussed herein. Any financial interests, not disclosed above, that the analyst or any close associates holds in the issuer discussed in the report is limited to investment funds that do not mainly invest in the issuer or industry discussed in the report and the management of which these persons cannot influence.