Leclanché (FTSE:LECN SW)

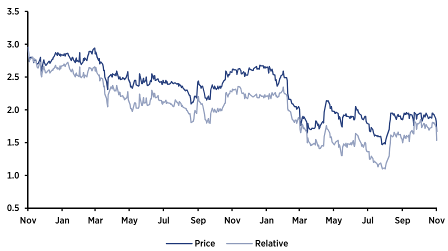
BUY

Share Price (as at close: 21/11/2018) CHF1.7

Target Price	CHF3.4 (from CHF2.8)
Upside to TP	103.7%
Market Cap (CHF'm)	134.7
Net Debt (CHF'm)	10.7
Enterprise Value (CHF'm)	145.4
Shares in Issue (m)	80.7
Free Float (%)	44.4%
Average Daily Volume (000, -3m)	81.0
12 month high/low	2.68 CHF/1.47 CHF

(%)	1m	3m	12m
Absolute	-14.4	+11.3	-32.1
FTA relative	-14.2	+20.4	-27.2

Price & price relative (-2 year)



Source: Datastream

Next News

Prelims - Q2 2019

Business

Leclanche SA is engaged in manufacturing lithium ion batteries

www.leclanche.eu

Making a splash

The Kongsberg Marine partnership creates a strong business stream for Leclanché in our view. Leclanché already has a certified marine battery system and this deal allows it to exploit this fully. The deal emphasises Leclanché's vertically integrated status, something we think is critical to protecting margin. It follows on from other deals in EV charging, distributed storage, and in India, and shows a widening opportunity set for Leclanché. We are increasing our medium term forecasts to reflect the announced 45MWh of initial sales orders and our target price increases to CHF 3.4 from CHF 2.8 as a result. With potentially far more to go for beyond this initial order, we reiterate our BUY recommendation.

Kongsberg deal capitalises on existing marine credentials

Leclanché's deal with Kongsberg allows Leclanché to capitalise on its existing marine credentials gained on the Danish e-ferry project. This includes the winning of type rating approval from Norwegian classification society DNV GL. Such a rating is a significant barrier to entry in this space and is key to the new deal in our view. Kongsberg is a major player in the marine propulsion market having recently acquired Rolls Royce Commercial Marine, the fourth largest supplier in the market.

A major market for Leclanché

The marine propulsion market is being driven towards low emission solutions by various regulations, notably from the International Maritime Organisation ("IMO"). 90% of all world trade is done by sea and shipping produces 3.5% to 4.0% of all gobal greenhouse gas emissions. NOx and SOx emissions are even higher. The IMO is looking for the majority of new ships built in the 2030s to be zero emission. We estimate that the annual market for marine storage could be between US$1bn and US$6.5bn annually for short distance shipping alone.

Initial order raises our target price

At this point we are only factoring in the initial nine vessel order from Kongsberg. Initial sales are expected in 2019 but we see the main uplift in 2020 and beyond. We have assumed an immediate increase in operating costs ahead of these sales as the company invests in further development, notably seeking additional ratings from certification authorities. This means in FY 2018 EBITDA falls to -CHF 31.4m from -CHF 27.4m and in FY 2019 to -CHF 11.8m from -CHF 7.7m. The real benefits are seen from FY2020 where EBTIDA goes to CHF 13.9m from CHF 10.8m, with similar increases out to FY 2022. Our DCF based target price rises to CHF 3.4 from CHF 2.8 as a result. This includes the dilution effect of the proposed conversion of CHF 54.7m debt into equity.

Year end December	Revenue (CHF'm)	EBIT (CHF'm)	PBT (CHF'm)	Tax (%)	EPS (FD) (CHF)	PER (x)	EV/EBITDA (x)	Div Yield (%)
2016A	28.1	-34.5	-38.6	1.4	-89.3	-1.9	-4.7	0.0
2017A	11.7	-36.1	-38.5	0.1	-69.6	-2.4	-4.2	0.0
2018E	45.5	-33.4	-35.6	0.0	-30.4	-5.5	-4.6	0.0
2019E	91.4	-17.5	-23.1	0.0	-19.7	-8.5	-9.4	0.0
2020E	172.2	11.7	6.2	18.0	4.3	38.4	10.4	0.0

Source: Company data, CFE Research estimates   Figures exclude exceptional items

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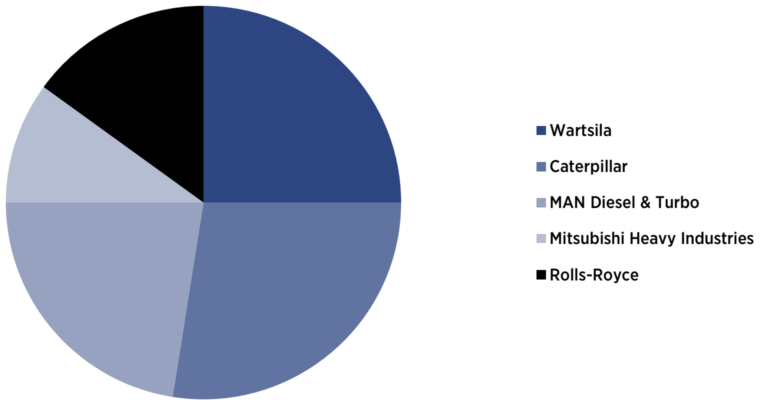
A major partnership in a major storage market

Leclanché has been selected to partner and supply Kongsberg Marine for marine hybrid power solutions. Kongsberg is a major player in marine propulsion having bought Rolls Royce Commercial Marine earlier this year. Kongsberg was already strong in marine systems acting as a major integrator. However the acquisition of Rolls Royce transforms the business. Rolls Royce is the fourth largest supplier of marine propulsion systems.

Marine Proplusion Market Share Estimates



Source: HTF

Leclanché already has experience in marine, having supplied the Danish e-ferry project. To do this, the company has developed a marine battery system with DNV GL certification. The winning of type ratings is critical in marine and in our view is a strong barrier to entry.

The marine propulsion market is controlled by the system integrators who supply the major dockyards. As a result, Leclanché's relationship with Kongsberg is essential to gain access to this market. The marine battery value system also highlights the advantages to Leclanché in being vertically integrated, providing full solutions rather than just being a cell manufacturer.

Marine Storage Value System

Source: CFE Research estimates

Leclanché's agreement with Kongsberg comes with an initial nine vessel order representing 45MWh of battery storage. We expect these orders to be delivered over the next three years beginning in 2019 and to represent upside to our existing forecasts. We also expect follow on orders beyond the initial order. The deal is not exclusive and success here could lead to orders with other marine propulsion suppliers. Given the needs of marine, we think Leclanché could become a dominant supplier in this market. And we think it is potentially a very large market.

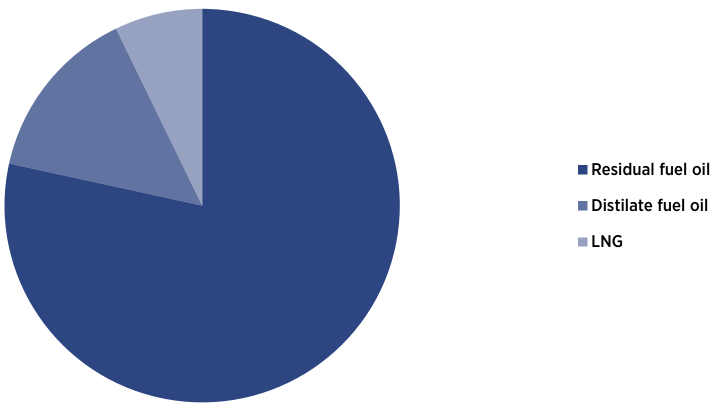
Why marine is different

Batteries are an attractive area for investors at the moment. In transport applications, most focus is on automobiles such as Teslas or Nissan Leafs. But it is in the larger scale public transport areas, such as buses, where an economic case can be made today. Nowhere is this case stronger than in the application of battery technology to shipping where power is needed for continuous operations round the clock.

Battery solutions for marine propulsion

Current marine propulsion solutions are principally fuelled by diesel engines using residual fuel oil which accounts for 78% of all marine propulsion systems. The older steam turbine powered ships could not deliver the fuel efficiency of a modern diesel and most new ships from the 1960's onwards have been built with diesel engines with turbo charging allowing for efficient power densities compared with steam turbines, even in larger vessels.

Marine Fuel Mix

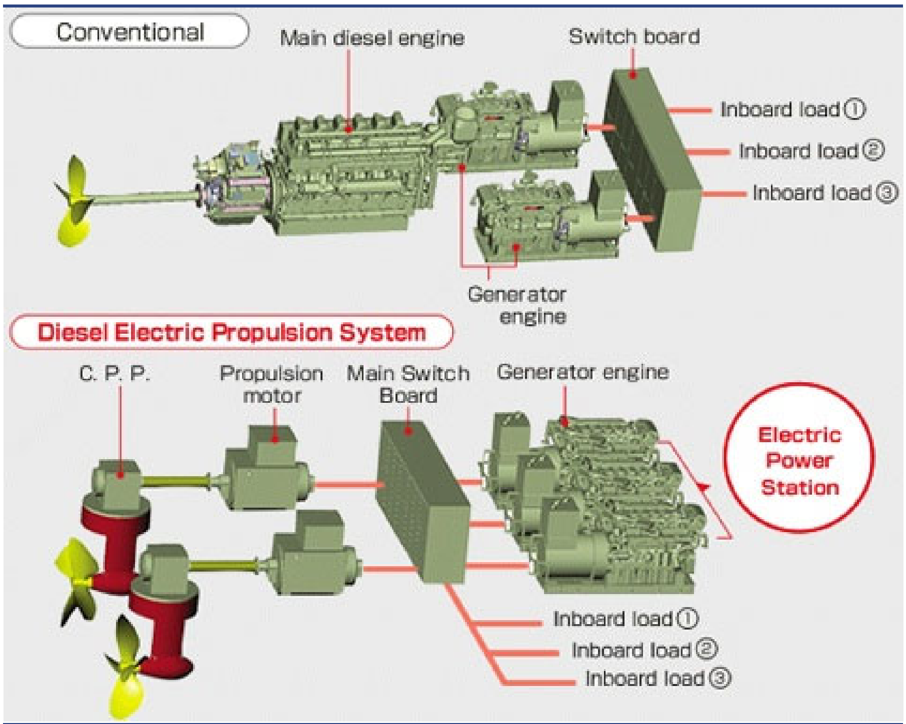


Source: Energy Information Administration (US)

In a conventional propulsion system a diesel engine delivers power through a gearbox to the propeller shaft. Because all ships also require a source of electricity to power heating, lighting and other systems, one or more additional diesel engines will drive generators to produce electricity. The auxiliary load can account for around 25% of the total power requirement.

Where vessel manoeuvrability is important, diesel electric systems are used with electric motors driven by diesel gensets.

Conventional and Diesel Electric Propulsion



Source: Yanmar

Marine propulsion economics

Diesel engines convert the energy in the fuel into useful work at the propeller with an overall efficiency of around 24%. Diesel electric systems are very slightly less efficient.

An all battery solution would be far more efficient at 68% if the power was provided by a zero carbon source.

Propulsion System Efficiencies

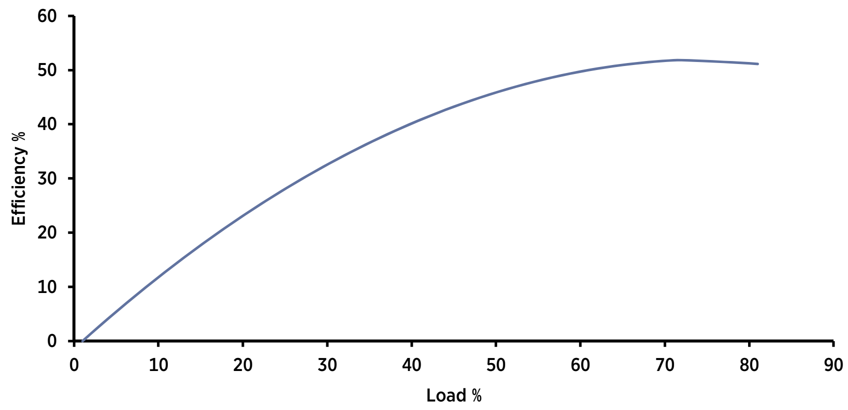
Diesel-Mechanical						
Diesel Fuel	4-S Medium-Speed Diesel Engine	Gearbox	Shaft	Propeller		Total efficiency
	0.35	0.98	0.99	0.72		0.24
Diesel-Electric						
Diesel Fuel	4-S Medium-Speed Diesel Engine	Generator	Variable Speed Drive	Propulsion Motor	Propeller	
	0.35	0.90	0.97	0.98	0.72	0.22
Battery Propulsion						
Grid power	Battery	Variable Speed Drive	Propulsion Motor	Propeller		
	0.99	0.97	0.98	0.72		0.68

Source: CFE Research estimates based on Peng Wu, UCL

The application for batteries in marine includes not only the all-electric vessel but also the diesel electric hybrid, with this latter also offering immediate economic gains in the right situations. The decision between all electric or diesel electric hybrid for an individual vessel is largely determined by the route of the vessel and the duty cycle of that vessel. These factors determine the most economic technical solution for the end customer.

One of the reasons for the low overall efficiency of diesel or diesel electric systems is that the diesel engine does not run steadily at full power. Due to varying load the duty cycle can vary so that the average power output may be as low as 25% of the total capacity. This can reduce the overall efficiency of the engine itself by more than 20% from a typical 45% down to 35%.

Diesel Engine Efficiency at Part Load



Source: CFE Research estimates

By using a battery in the drive train and allowing the diesel engine to run steadily significant savings are possible. The efficiency gain on its own can be as much as 30%.

Hybrid System Efficiency

Diesel-Electric-Hybrid

Diesel Fuel	4-S Medium-Speed Diesel Engine	Generator	Battery	Variable Speed Drive	Propulsion Motor	Propeller	Total efficiency
	0.45	0.90	0.99	0.97	0.98	0.72	0.27

Source: CFE Research estimates based on Peng Wu, UCL

In addition to the fuel savings delivered by higher efficiency, the auxiliary generators can be replaced with the load served by the battery. This reduces cost and can free up space and weight on the vessel. Reduced weight in itself reduces the power needed to manoeuvre the vessel. Running the main engine more efficiently and removing auxiliary engines reduces maintenance requirements leading to further operational cost savings.

Efficiency in theory and practice

The duty cycle of different vessels can vary enormously, so the savings will vary by the type of vessel and its actual usage.

Work has been published by the Norwegian Marine Technology Research Institute and the Norwegian School of Economics on modelling the benefits of a battery hybrid system on a typical offshore supply vessel. This shows that a new system based on a standard diesel electric configuration with added batteries for this particular duty cycle will save 8% of fuel but the additional cost of the batteries puts the payback at 12.5 years at the current oil price which is not particularly attractive. However this includes no change to the diesel engine configuration. If the benefit of using fewer engines is factored in, the payback falls to five years which is very attractive. If the oil price doubles this would fall further to 2.5 years and even a traditional package plus batteries would come down to 6.3 years. However this work was conducted when ESS costs were slightly more than double current levels. This fact alone would halve these payback periods with the headline payback at the current oil price being as low as 2.5 years.

Capex, Savings and Payback

			Annual saving		Payback time	
	Capex MUSD	Fuel Ton	Fuel cost 500 USD/ton MUSD	Fuel cost 1000 USD/ton MUSD	Fuel cost 500 USD/ton Years	Fuel cost 1000 USD/ton Years
Standard setup	7					
Adding batteries	8.25	200	0.1	0.2	12.5	6.3
Two engines & battery	7.5	200	0.1	0.2	5	2.5

Source: Lindstad, Eskeland and Rialland, Norwegian Marine Technology Research Institute (MARINTEK) and Norwegian School of Economics

This academic work is supported by actual real world applications. Marine classification society DNV-GL has published the savings achieved in three differing vessels fitted with battery hybrid propulsion. These show fuel savings ranging from 15% to 30% and paybacks on the investment cost of the system ranging from four to five years.

Actual Savings and Payback

	OSV	Ferry	Tug
Hybrid system cost	2,000,000	1,000,000	300,000
Annual fuel costs	2,500,000	800,000	250,000
Savings potential	15%	30%	30%
Annual savings	375,000	240,000	75,000
Payback (years)	5	4	4

Source: DNV-GL

Delivering policy benefits not taking policy subsidies

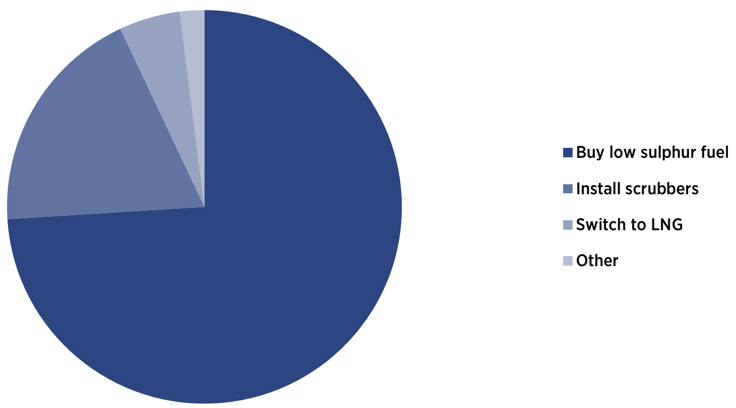
The shipping industry accounts for an estimated 2.2% of total global greenhouse gas, 18% to 30% of NOx and 9% of SOx emissions. Marine pollution is governed by the International Convention for the Prevention of Pollution from Ships, known as MARPOL 73/78. The MARPOL Annex VI as revised in 2010 and developed through the International Maritime Organization ("IMO"), limits primary air pollutants notably nitrous oxides (NOx) and sulphur oxides (SOx) as well as carbon dioxide (CO2).

The revised Annex VI sets the limit for particulate SOx matter in fuel to 3.5% from the prior 4.5% and outlines framework to progressively lower this fuel oil standard to 0.5% SOx by 2020. In key emission control areas ("ECAs") including most of the Baltic and North Sea, the tougher limits are already in force. Limits for NOx particulates are established by tier based on date of construction and engine size.

CO2 is effectively limited through overall energy efficiency. A revision in 2010 requires a minimum energy efficiency level per tonne mile for different classifications of ship. This is currently set at 10% expressed in grams of CO2 per tonne-mile and will be further reduced every five years as technological developments allow for increased energy efficiency. The target CO2 emission reduction rate for 2030 is 30% for applicable ship types. However, data show that IMO reductions will likely fall short of this target and be in the range of 17%-25% by 2030.

In summary, CO2 regulations are not a major limiting factor at present but the same cannot be said for SOx regulations. For ocean going shipping the cut to 0.5% from 3.5% by 2020 will require ship owners to switch to more expensive low sulphur fuel or find alternatives. Shipping within the ECAs already contends with these limits and this includes most of the early target markets for battery hybrid systems. However, the impact on other shipping types may start to open up these sectors in time.

Shipowner Intended Response to SOx Limits



Source: FT

While most have said they will simply buy the more expensive fuel, it does move the needle on the benefits of battery hybrid systems and at the margin at least we expect it to drive more demand.

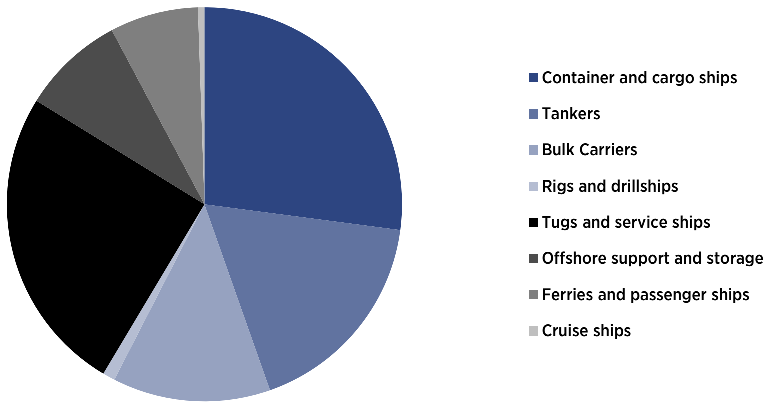
In addition to marine policy, port authorities are also becoming more concerned about pollution, especially SOx and particulates. These both can cause serious respiratory issues and are becoming political issues in many locations. There have been air quality warnings in a number of major coastal cities including Bergen, Southampton, Shanghai and Shenzhen. We see this as encouraging low emission solutions across the industry.

Unlike other clean technologies, battery hybrid propulsion is primarily driven by economics. It does not require policy support. However it does provide policy benefits. The increased efficiency and reduction in fuel usage does lead to lower emissions. This benefits ship owners through better publicity and stronger relationships with policy makers and governments.

Size of market

The marine market is fairly diverse. Battery propulsion has already been deployed in ferries, tugs, fishery vessels and offshore support. According to the International Maritime Organisation ("IMO"), the total commercial shipping fleet at 1 January 2016 was 90,917 vessels. This breaks down as follows.

Global Feet by Vessel Type



Source: International Maritime Organisation

The immediate targets for hybrid battery systems and all electric propulsion are passenger ships including cruise liners and ferries, tugs and offshore support vessels. These make up over 40% of all shipping. Initiatives such as the Norwegian move to electrify its ferry fleet support these areas as immediate targets.

The market will split between new builds and retrofits. The economics of new build are ahead of those for retrofitting although the latter still makes good economic sense. New builds are running at over 2,000 vessels per annum with just over 1,000 in the immediate target areas identified above. Retrofitting could become very significant but at present we assume just 2% of all vessels in the target markets undertake it annually.

The amount of storage required varies with vessel type and size and also with the expected duty cycle. As a result there is a range of storage capacity that might be expected in each area of potential demand. We have used the likely ranges by vessel type to derive market size ranges.

Market Share Estimates

	Total fleet size	Annual new build rate	Potential Energy Storage per vessel		Retrofit market @ 2.5% pa		New build market		Total market	
	(# of Vessels)	(# of Vessels pa)	Low (MWh)	High (MWh)	Low (MWh)	High (MWh)	Low (MWh)	High (MWh)	Low (MWh)	High (MWh)
Container and cargo ships	23,051	719	1.50	5.00	na	na	na	na	na	na
Tankers	14,917	190	1.50	5.00	na	na	na	na	na	na
Bulk Carriers	10,996	230	1.50	5.00	na	na	na	na	na	na
Rigs and drillships	865	185	4.00	20.00	na	na	na	na	na	na
Tugs and service ships	21,488	266	1.00	3.00	537	1,612	266	798	803	2,410
Offshore support and storage	7,165	596	0.75	10.00	134	1,791	447	5,960	581	7,751
Ferries and passenger ships	6,164	155	1.50	8.00	231	1,233	233	1,240	464	2,473
Cruise ships	448	17	5.00	10.00	56	112	85	170	141	282
Total market size estimate	85,094	2,358			959	4,748	1,031	8,168	1,989	12,916

Source: CFE Research estimates based on IMO data

This shows that the annual market could range between 2GWh and 13GWh. Using an average unit revenue of US$500 per kWh this gives a market value ranging between US$1.0bn and US$6.5bn annually. This compares with Transparency Market Research which estimates the global marine hybrid propulsion market to be worth US$5.3bn by 2024. The ESS element of the total propulsion system is typically between 50% and 60% so at US$2.7bn this external estimate is reasonably consistent with our range.

Leclanché's advantage in marine

Marine is a market for specialists

The marine energy storage market has a number of key differences from other storage markets. While these are largely differences of degree, they are material and dealing with them is a challenge and we think success here creates a sustainable barrier to entrants. Not every battery can fulfil every application and there are very different needs between the requirements of an infrequently driven small domestic car and a 11kt ferry operating to a daily schedule. One key issue for marine is safety.

Safety

The shipping industry takes safety extremely seriously given the seriousness of situations that might ashore be more easily contained. Fire is one of the key risks that concerns those regulating shipping.

According to the Royal Institution of Naval Architects, "fire remains one of the top three causes of loss for marine vessels in the World Fleet, and is a major risk for Ro-Ro ferries, due to their open decks, and Passenger Ships due to ever increasing passenger numbers. The risk of fire may never be eliminated, but its effects can be mitigated" (Fire at Sea, Royal Institution of Naval Architects 2014). In Europe a study by the Marine Incident Response Group found that ship fires posed the greatest risk to maritime safety compared to other types of maritime incidents.

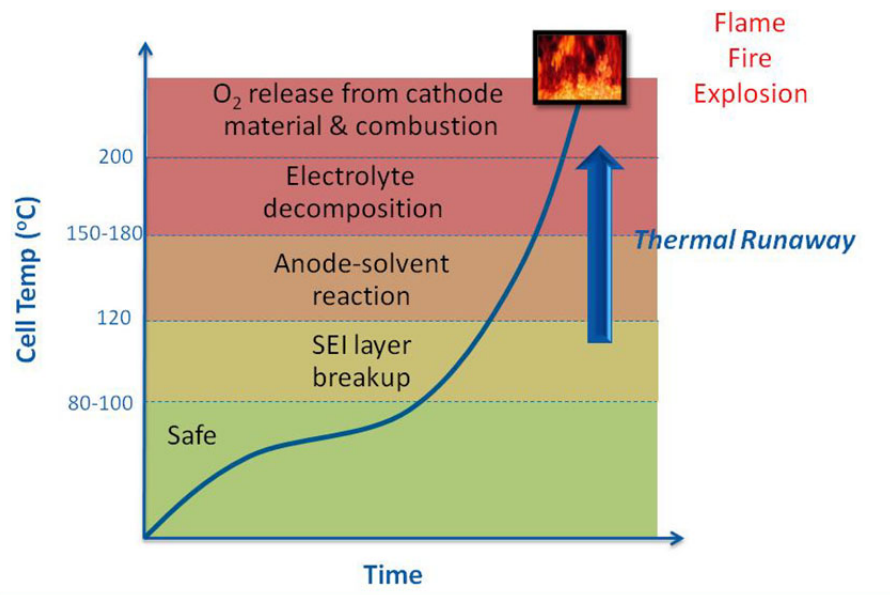
Lithium ion batteries have had some well-publicised issues with thermal runaway which can in certain circumstances lead to fire. There have been a number of well-publicised incidents involving lithium ion batteries catching fire including the Samsung Galaxy Note 7, the Boeing 767 Dreamliner and the Tesla Model S.

Lithium Ion Seen as Prone to Thermal Runaway – potentially catastrophic at sea

Source: AJ Gill/You Tube

Thermal runaway is initiated where overheating is generated from either an internal anomaly or external disruption. If the heat reaches a point where an exothermic reaction between electrode and electrolyte takes place then further heat is generated creating a vicious circle. If gases generated from this overheating are not vented there is an explosion hazard on top of the fire hazard.

Thermal Runaway



Source: NREL

Lithium ion is especially susceptible to thermal runaway. Overcharge, over-discharge, over-temperature, short circuit, crush and nail penetration may all result in a catastrophic failure, including the pouch rupturing, the electrolyte leaking, and fire. The electrolyte is flammable, overheating can lead to large amounts of flammable gas being generated in a short period of time and a lithium ion fire will re-ignite if extinguished without the heat being removed.

The Leclanché design advantage

The Leclanché solution controls thermal propagation at a module level using a foam release mechanism, backed up by water cooling. The battery management systems manages heat at a cell level allowing individual cells to be shut down in the case of problems without affecting the rest of the system. The modules come in vibration damped IP65 containers. This approach has been key to winning the DNV type rating. While other suppliers have won type ratings, the foam suppression is unique to Leclanché and provides a high level of robustness and isolation making it attractive to operators.

Reliability – up the creek without a kWh

You can't paddle a boat without energy so any failure of the propulsion system to deliver that energy can have serious consequences afloat. Even if fire can be avoided, simple failure can have very serious consequences leading to loss of control. Ships effectively out of control have caused extensive damage to berths, locks, bridges as well as to other moored ships. Marine insurance mutual, UK P&I Club, estimates that main engine failure and electrical blackouts account for 7% of third party claims.

The cell level management in the Leclanché design allows it to shut down individual cells without any major loss of overall function of the system. Clearly this is key to the overall reliability of the propulsion unit.

Leclanché becoming recognised as a leading marine solution

An absolute requirement for installation of any system on a sea going vessel is the need for type approval by a marine classification society such as Lloyds Register or DNV-GL. The securing of type ratings from the various classification societies is essential to operate a vessel in the relevant waters.

This approval is only awarded following significant testing and validation. Given the design of the offering and the experience across the business we expect the company to continue to win type approval and certificates of conformity. We see this as a barrier to entry against weaker competitors.

Leclanché's existing approval with DNV GL shows that it can win these. Once secured, there is a fair degree of flexibility in applying the approval to new installations, so the initial approval is key. Leclanché is now seeking approvals from Bureau Veritas, Lloyds and RINA. In time it will add others including the Chinese CCS. However for Chinese vessels operating in European waters the key approvals are from those already being progressed.

Competition

Leclanché is one of very few credible suppliers of energy storage systems to the marine industry. The main competitors are as follows.

Corvus Energy has a strong history in the marine storage market. It has a large installed base of ESS in the maritime market. In March 2016 the company announced a multi-year supply agreement with LG Chem for the provision of cells. Corvus now provides systems based on these cells with a cooling solution added which can be air or liquid cooled.

Zem is Oslo based and has achieved type ratings for its solutions, working with DNV-GL on guidelines for marine batteries. It is focused on marine solutions and ZEM stands for “Zero Emission Marine”. It uses cells from LG Chem although they have also worked with Nissan on cell degradation.

Saft manufactures cells and supplies completed ESS across many sectors including marine. It was bought by Total in 2016 for US$1bn. It has recently been awarded the ESS for the high profile RSS Sir David Attenborough, a.k.a. Boaty McBoatface. The sale was made to integrator Rolls-Royce Marine who are now partnering with PBES.

LG Chem is a major Korean chemical company and a manufacturer of lithium ion batteries. It normally supplies cells to ESS suppliers such as Corvus and Zem and will supply Siemens (see below). It also competes with these customers through the supply of complete ESSs to integrators although service and support is limited.

PBES is led by the former founder and CEO of Corvus Energy. It has strong relationship with major integrators including GE, Siemens, ABB Rolls Royce, NES and Wartsila, and has won type approval for a number of specific installations. Cells are principally sourced from Xalt Energy.

Siemens is a major marine propulsion integrator which has very recently announced that it is developing its own electricity storage system. This will be targeted at land-based stationary power storage including frequency response but will include a marine offering that will tie Siemens in its role as a downstream integrator. It will be based on cells from LG Chem.

EST Floattech is a Dutch based provider of ESS and clean shipping solutions. It is based around lithium polymer technology. This has a higher energy density than standard lithium ion batteries but cycle life is generally shorter. As a result it has certain attractions in smaller vessels where space is limited.

Overall we see this as a relatively concentrated market with enough demand for all.

Financials

Forecast changes

The 45MWh of additional sales in the new order are expected to be spread equally over the next three years with three vessels completed in each year. For prudence however we assume a year's lag as we do not know where in the year deliveries will commence. This means that FY 2020 will see the main increase in sales with similar increases in FY 21 and 22. However we also assumed that Leclanché has already incurred higher costs to deliver this deal and that these will impact the current year (FY 18) as well as further out. We expect these costs to be compensated by higher pricing but there will be an inevitable lag in this.

As a result of the initial higher costs, our FY 18 EBITDA falls to -CHF 31.4m from -CHF 27.4m and in FY 19 to -CHF 15.3m from -CHF 7.7m. Then in FY 20 we expect EBTIDA to rise to CHF 13.9m from CHF 10.8m, with revenue rising to CHF172.2m from CHF 157.8m. We expect similar increases out to FY22.

Valuation

Given the high growth and turnaround nature of the company we continue to view a DCF approach as the most useful for valuation purposes. We continue to use a WACC based on a cost of equity of 11.95% and a cost of debt of 7.25% which combine to give us 8.8% overall. Our terminal value assumes an annually declining cashflow of 1% in real terms and gives a terminal EV/EBIDTA of 9.5x which we do not see as demanding in this fast growing sector. We have already factored in the impact of the conversion of CHF 54.7m of debt into equity in our number of shares. The overall calculation gives a valuation of CHF 3.4 based on these new forecasts, up from CHF 2.8.

Risks

To date funding has been the main risk faced by the company but this has now abated. Otherwise the key risks are failure to gain traction and competitive response. Traction is clearly growing and the marine partnership together with the previously announced Indian JV should augment this in the medium term. The strength in controls from earlier acquisitions and form the potential north American deal help to provide a barrier to competition.

Financial model

Income Statement (CHF'm)

Year end December	2016A	2017A	2018E	2019E	2020E
Stationary	20.4	3.1	32.3	55.8	76.6
Mobile	0.3	0.4	6.3	28.3	88.0
Speciality	4.5	6.0	6.1	6.3	6.4
EPC/Service	2.8	2.2	0.6	1.0	1.1
SG&A and Central Costs	***0.0***	***0.1***	***0.1***	***0.1***	***0.1***
Group revenue	**28.1**	**11.7**	**45.5**	**91.4**	**172.2**
Stationary	-13.5	-8.7	1.8	10.3	15.5
Mobile	-2.3	-4.8	-5.1	3.1	23.7
Speciality	-2.8	-2.3	-2.3	-2.4	-2.3
EPC/Service	0.3	-0.1	-1.9	-1.8	-1.7
SG&A and Central Costs	-16.3	-20.2	-25.9	-26.7	-23.5
Adjusted operating profit	**-34.5**	**-36.1**	**-33.4**	**-17.5**	**11.7**
Associates and other income	0.0	0.0	0.0	0.0	0.0
Adjusted EBIT	**-34.5**	**-36.1**	**-33.4**	**-17.5**	**11.7**
Finance Costs	-4.1	-2.5	-2.2	-5.6	-5.5
Adjusted PBT	**-38.6**	**-38.5**	**-35.6**	**-23.1**	**6.2**
Exceptional items	0.0	0.0	0.0	0.0	0.0
Reported PBT	-38.6	-38.5	-35.6	-23.1	6.2
Reported tax	0.6	0.1	0.0	0.0	-1.1
Adjusted tax rate	1.4%	0.1%	0.0%	0.0%	18.0%
Reported PAT	-38.1	-38.5	-35.6	-23.1	5.1
Minority interests	0.0	0.0	0.0	0.0	0.0
Discontinued businesses	0.0	0.0	0.0	0.0	0.0
Earnings attributable to shareholders	-38.1	-38.5	-35.6	-23.1	5.1
Shares in issue (m)	42.7	69.7	117.1	117.1	117.1
Average weighted capital (FD) (m)	42.7	55.3	117.1	117.1	117.1
Adjusted EPS (FD) (CHF)	**-89.3**	**-69.6**	**-30.4**	**-19.7**	**4.3**
Reported EPS (FD) (CHF)	-89.3	-69.6	-30.4	-19.7	4.3
DPS (payable) (CHF)	0.00	0.00	0.00	0.00	0.00

Source: Company data, CFE Research estimates

Performance Metrics

Year end December	2016A	2017A	2018E	2019E	2020E
Revenue growth (%)	54.1	-58.2	288.1	100.8	88.4
Adjusted EBITDA growth (%)	n.a.	n.a.	n.a.	n.a.	n.a.
Adjusted EBIT growth (%)	n.a.	n.a.	n.a.	n.a.	n.a.
Adjusted PBT growth (%)	n.a.	n.a.	n.a.	n.a.	n.a.
Adjusted EPS growth (%)	n.a.	n.a.	n.a.	n.a.	n.a.
DPS payable growth (%)	n.a.	n.a.	n.a.	n.a.	n.a.
Dividend cover (x)	n.a.	n.a.	n.a.	n.a.	n.a.
Adjusted EBITDA margin (%)	-109.4	-292.3	-68.9	-16.8	8.1
Adjusted EBIT margin (%)	-123.1	-307.5	-73.3	-19.1	6.8
Interest cover (x)	8.4	14.7	14.9	3.1	2.1
Net cash/(debt)/adjusted EBITDA (x)	0.6	0.6	0.3	3.6	-5.3
Net cash/(debt)/equity (%)	363.4	-198.2	-35.6	-782.9	-614.2
Net working capital/revenue (%)	24.0	211.5	67.7	56.4	44.3
Operating cashflow conversion (%)	101.8	123.5	111.6	205.4	-100.4
Return on assets employed (%)	-151.2	-90.4	-69.4	-25.3	12.4
Return on equity (%)	713.8	-350.7	-118.6	-331.8	42.3

Source: Company data, CFE Research estimates

Cashflow Statement (CHF'm)

Year end December	2016A	2017A	2018E	2019E	2020E
Operating profit	**-34.5**	**-36.1**	**-33.4**	**-17.5**	**11.7**
Depreciation and amortisation	3.8	1.8	2.0	2.1	2.3
Other non-cash movements	5.9	4.7	0.2	0.2	0.2
Change in working capital	-10.3	-14.9	-6.1	-20.7	-25.9
Other cash movements	0.0	0.0	0.0	0.0	0.0
Operating cashflow	**-35.2**	**-44.5**	**-37.2**	**-35.8**	**-11.7**
Taxation paid	0.0	-0.1	0.1	0.0	0.0
Finance costs	0.0	-0.1	-2.2	-5.6	-5.5
Investment income	0.0	0.0	0.0	0.0	0.0
Capitalised intangibles	0.0	0.0	0.0	0.0	0.0
Capital expenditure (net)	5.1	-2.5	-4.2	-2.3	-2.3
Free cashflow	**-30.1**	**-47.2**	**-43.7**	**-43.8**	**-19.5**
Other investing activities	0.0	0.0	0.0	0.0	0.0
Acquisitions/disposals (net)	-3.4	-4.1	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	0.0
Shares issued/(repurchased)	3.8	40.2	54.7	0.0	0.0
Other financial	16.3	8.8	0.0	0.0	0.0
Movement in net cash/(debt)	**-13.5**	**-2.3**	**11.0**	**-43.8**	**-19.5**
Net cash/(debt) b/fwd	-5.9	-19.4	-21.7	-10.7	-54.5
Movement in net cash/(debt)	-13.5	-2.3	11.0	-43.8	-19.5
Net cash/(debt) c/fwd	**-19.4**	**-21.7**	**-10.7**	**-54.5**	**-74.0**

Source: Company data, CFE Research estimates

Balance Sheet (CHF'm)

Year end December	2016A	2017A	2018E	2019E	2020E
Goodwill	0.0	0.0	0.0	0.0	0.0
Intangible fixed assets	6.9	4.5	4.5	4.5	4.5
Tangible fixed assets	9.2	10.6	12.8	12.9	13.0
Net working capital	6.7	24.8	30.8	51.6	76.3
Assets employed	**22.8**	**39.9**	**48.1**	**69.0**	**93.8**
Other assets/(liabilities)	0.8	1.6	1.6	1.6	1.6
Net cash/(debt)	-19.4	-21.7	-10.7	-54.5	-74.0
Pension deficit	-9.5	-8.5	-8.5	-8.5	-8.5
Deferred tax	0.0	0.0	0.0	0.0	0.0
Provisions	-0.1	-0.3	-0.5	-0.7	-0.9
Net assets	**-5.3**	**11.0**	**30.0**	**7.0**	**12.0**
Minority interests	0.0	0.0	0.0	0.0	0.0
Shareholders funds	**-5.3**	**11.0**	**30.0**	**7.0**	**12.0**

Source: Company data, CFE Research estimates

Valuation Metrics

Year end December	2016A	2017A	2018E	2019E	2020E
EV / Revenue (x)	5.1	12.3	3.2	1.6	0.8
EV / Adjusted EBITDA (x)	-4.7	-4.2	-4.6	-9.4	10.4
EV / Adjusted EBIT (x)	-4.2	-4.0	-4.3	-8.3	12.4
PER (x)	-1.9	-2.4	-5.5	-8.5	38.4
Yield (%)	0.0	0.0	0.0	0.0	0.0
FCF yield (%)	-22.5	-35.3	-32.7	-32.7	-14.6
NAV/Share (CHF)	-12.5	15.7	25.6	5.9	10.3

Source: Company data, CFE Research estimates

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