Senvion

(CDAX, Renewables)

WARBURG RESEARCH

Hold	
EUR 12.00	
Price	EUR 11.58
Upside	3.6 %

Value Indicators:	EUR
DCF:	11.87

Share data:	
Bloomberg:	SEN GR
Reuters:	SENG
ISIN:	LU1377527517

Description:

One of the world's leading producers of wind power systems

Market Snapshot:	EUR m
Market cap:	751
No. of shares (m):	65
EV:	795
Freefloat MC:	198
Ø Trad. Vol. (30d):	622.95 th

Shareholders:	
Freefloat	26.4 %
Centerbridge/ Rapid Partners	73.6 %

Risk Profile (WRe):	2016e
Beta:	1.4
Price / Book:	2.0 x
Equity Ratio:	18 %

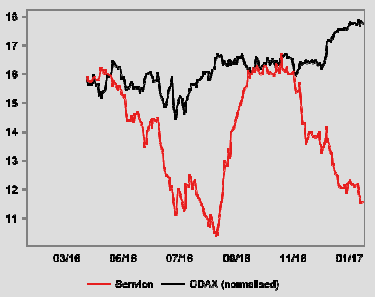
2017 - a year to skip; Initiation with Hold

We initiate coverage of Senvion with Hold and a price target of EUR 12.0, implying 3.6% upside to current share price levels. Our cautious view is based on the following expectations: **(1)** we estimate a 7% drop in group sales in FY 2017 on the back of disappointing onshore installations and increased pricing pressure; **(2)** a decline in the adj. EBITDA margin by 70bps to 8.8% as we expect a decrease on the top line to put margins under pressure; **(3)** heavy downward revisions to consensus estimates as the street is currently anticipating flattish growth and stable margins in FY 2017; **(4)** We also estimate cumulative FCF generation of a mere EUR 24m between 2016-18, as the company is just at the beginning of a massive capex cycle to catch up with peers in terms of its product portfolio. **(5)** Finally, we argue that the eagerly awaited flagship 3.4M140 turbine could fail to live up to sky-high expectations and thus we are not fully convinced of the commercial success.

Sales to drop by 7% in FY 2017 on weak order intake and pricing pressure: We estimate that onshore installations in FY 2017 will amount to less than 1,500 MW, a significant drop after 1,745 MW in FY 2015. The situation could be exacerbated by increased pricing pressure (WRe: EUR 0.97m /MW; -5% p.a.) as Senvion is set to execute projects with rather low price points in FY 2017. We anticipate sales of EUR 2.076m in FY 2017, a drop of 7% yoy. This, in turn, should put margins under pressure. We are assuming a 70bps drop in the adj. EBITDA margin to 8.8%. This is not reflected in consensus estimates. Our 2017 estimates are 7% and 13% below street expectations with respect to sales and EBITDA. Looking further ahead to FY 2018, we struggle to see substantial growth above 2016 levels and thus we estimate a sales CAGR of 1.7% p.a. between 2016-18e and a margin which is likely to remain below 2016 levels, too.

Massive capex cycle to burden FCF generation until 2018: Following Senvion's acquisition by Centerbridge in 2015, the company has ramped up its long overdue investment in the development of its product portfolio, which has been lagging behind peers, especially when it comes to a light wind product offering. We estimate cumulative capex investments of EUR 340m until FY 2018 (thereof EUR 150m capitalized R&D costs). Cumulative FCF generation in the same period is likely to amount to a mere EUR 24m. This marks the beginning of a massive capex cycle and investors will need to be patient before benefiting from any substantial FCF generation. In our view, this raises the valid question as to why investors should invest now rather than in two years' time when Senvion's investment case is subject to fewer uncertainties.

Valuation – stock is cheap for a reason: We value Senvion based on our DCF model which points to a fair value of EUR 12.0. In terms of relative valuation, the stock currently trades at a 26% discount to its European WTM peers on FY 2017 EV/ EBITDA, which we regard as the most appropriate trading multiple. However, the valuation gap to its peers has recently shrunk as the peer group has devalued following Trump's election win. Our price target of EUR 12.0, indicates that the current discount to peers is appropriate. With respect to the ongoing share buyback programme, we do not expect management to exhaust the maximum EUR 75m for the programme and more importantly, we do not expect it to provide a floor to the share price. This was proven in recent weeks, when roughly 20% of the average daily trading volume could have been attributed to the buyback programme but the share price continued to tank. We also anticipate a hefty share overhang at a share price of EUR 15.75 since this would reflect the hurdle when many investors would be "in the money" following the IPO. In addition, Centerbridge had initially planned to exit a larger portion of its investment via the IPO and thus a reduction in its stake could exert additional pressure on the shares, leaving limited room for share price gains. We initiate coverage with a Hold rating and a PT of EUR 12.0.



Rel. Performance vs CDAX:	
1 month:	-9.9 %
6 months:	-17.2 %
Year to date:	-6.0 %
Trailing 12 months:	n/a

Company events:	
16.03.17	FY 2016
11.05.17	Q1
31.05.17	AGM
11.08.17	Q2

FY End: 31.12. in EUR m	CAGR (15-18e)	2012	2013	2014	2015	2016e	2017e	2018e
Sales	2.6 %	2,294	1,759	1,922	2,140	2,234	2,076	2,310
Change Sales yoy		n.a.	-23.3 %	9.3 %	11.3 %	4.4 %	-7.1 %	11.3 %
EBITDA adj.	0.6 %	35	125	144	210	212	182	214
Margin		*1.5 %*	*7.1 %*	*7.5 %*	*9.8 %*	*9.5 %*	*8.8 %*	*9.3 %*
EBIT adj.	-2.0 %	48	80	90	154	153	122	145
Margin		*2.1 %*	*4.5 %*	*4.7 %*	*7.2 %*	*6.9 %*	*5.9 %*	*6.3 %*
EBIT		-7	79	70	-85	40	29	104
Net income	-	-12	5	32	-151	-19	-25	35
EPS	-	-12.40	4.86	32.10	-28.11	-0.30	-0.40	0.56
DPS	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FCFPS		-28.31	41.65	37.16	50.23	0.54	-0.32	0.14
FCF / Market cap		n.a.	n.a.	n.a.	n.a.	4.7 %	-2.7 %	1.2 %
EV / Sales		n.a.	n.a.	n.a.	n.a.	0.3 x	0.4 x	0.3 x
EV / EBITDA adj.		n.a.	n.a.	n.a.	n.a.	3.6 x	4.2 x	3.6 x
EV / EBIT adj.		n.a.	n.a.	n.a.	n.a.	4.9 x	6.3 x	5.3 x
P / E		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20.7 x
P / E adj.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20.7 x
Net Debt (Cash)		-3	-3	-3	-3	-11	27	18
ROCE (NOPAT)		n.a.	14.7 %	13.7 %	n.a.	8.7 %	6.5 %	22.8 %
Guidance:		FY 2016: sales of EUR 2.25-2.30bn; adj. EBITDA margin of c. 9.5%						

Analyst

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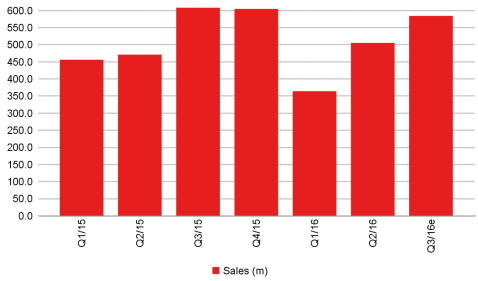
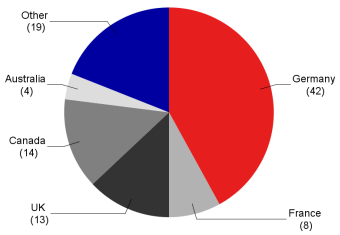
Sales development
in EUR m



Source: Warburg Research

Onshore Sales by regions
2015; in %



Source: Warburg Research

Gross profit development
in EUR m

Source: Warburg Research

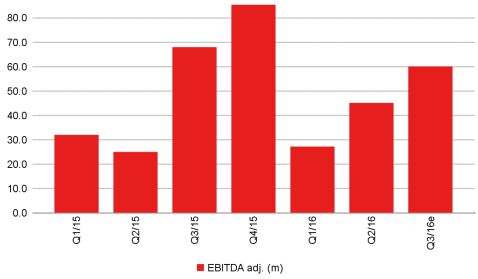
Company Background

- Senvion is a leading global developer and manufacturer of onshore and offshore wind turbine generators, headquartered in Hamburg, Germany.
- The company is operating in twenty countries with approx. 13.7 GW of cumulative installed capacity worldwide as of December 31, 2015.
- Senvion holds a strong competitive position in its core markets of Germany, the United Kingdom, France, Australia and Canada.

Competitive Quality

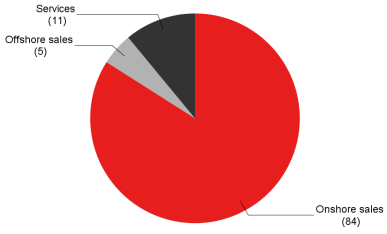
- Senvion develops, manufactures, assembles, installs and markets a competitive range of technologically advanced wind turbines with rated ouputs ranging from 2 to 6.2 MW and rotor diameters ranging from 82 to 152 meters.
- Senvion's product portfolio therefore covers almost all wind classes in both onshore and offshore markets.
- Besides the assembly business, Senvion also covers other areas of the value chain such as service and maintenance.
- The company's customer structure includes seven of the top twelve global wind utility companies (excl. Chinese participants) such as RWE, EDF, Vattenfall and Enel
- Senvion also counts large-scale wind farm developers and leading independent producers of renewable power projects among its customers.

Adj. EBITDA development
in EUR m



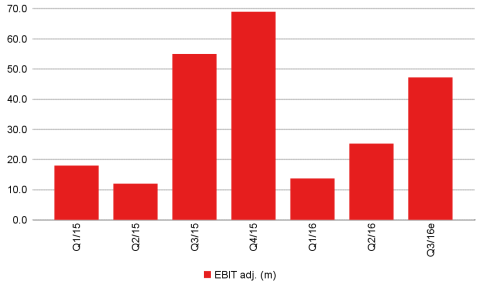
Source: Warburg Research

Sales by segments
2015; in %



Source: Warburg Research

Adj. EBIT development
in EUR m



Source: Warburg Research

Summary of Investment Case

Investment triggers

- Total onshore installations are set to slump to below **1,500 MW in FY 2017**– a stark drop from 1,744 MW in FY 2015. This can be attributed to very weak order intake from core markets in FY 2016 (EUR 1,304m; -41% yoy), in particular from Germany where Senvion is set to hold a market share of less than 10% in FY 2016 & 2017 due to a lack of product offering for low wind sites.
- We also anticipate heavy pricing pressure and therefore assume an **average price of a mere EUR 0.97m/MW (-5% yoy) for onshore wind in FY 2017** (in FY 2015: EUR 1.033m/MW) based on the company's entry to new markets such as Chile, Mexico, Peru, Scandinavia and Uruguay where we assume lower price points. Senvion's recent order wins in the so called "new markets" (411 MW in Chile and Norway) come with an average price of EUR 0.83m /MW which potentially provides a glimpse of upcoming prices.
- Consequently, **group revenues are expected to decline by 7% yoy to EUR 2,076m in FY 2017** which should put margins under pressure. We assume a 70bps drop in the adj. EBITDA margin to 8.8% in FY 2017.
- In terms of **free cash flow generation**, we estimate **cumulative FCF generation of a mere EUR 24m between FY 2016-18** as the company is poised to invest c. EUR 340m until 2018 after many years of restrained investment under the ownership of cash-strapped Suzlon. This, however, implies that Senvion is at the beginning of a massive capex cycle and raises the valid question as to why investors should invest now rather than in two years' time.

Valuation

- We value Senvion based on **our DCF model, which points to a fair value of EUR 12.0**. This value is based on a detailed planning horizon until 2019, a transition period until 2028 and our derived terminal value. Following the detailed planning period, we assume peak sales growth of 3% p.a. with a steady decline to a **sustainable growth rate of 1.5% p.a. in perpetuity**. We also assume a **peak EBIT margin (after PPA and one-offs) of 6.3%** and a long-term sustainable EBIT margin of 4.5% for our terminal growth assumption (exp. reported EBIT margin in FY 2016: 1.8%). Finally, we use a **WACC of 8.5%** to discount the estimated cash flows.
- **Our relative valuation indicates a 26% discount to the peer group** on FY 2017 EV/EBITDA multiples. However, we deem the current discount to peers as appropriate for the following reasons: Firstly, we expect heavy downward revisions to FY 2017 consensus estimates. Secondly, a lack of free cash flow generation between FY 2016-2018 as well as a lack of track record when it comes to the company's strategic shift towards new markets are grounds for the current valuation discount to peers.
- Since Senvion is currently in private equity ownership (Centerbridge holds a 73.6% stake in Senvion), we fear that the owners might seek to continue their (partial) exit from their investment in Senvion, exerting considerable pressure on the share price. **In addition, we see significant risk of a share overhang at EUR 16/ share, the hurdle when many investors would be "in the money".**

Growth

- We estimate sales CAGR FY 2016-18e of 1.7% p.a.
- Forecast for FY 2017: -7% owing to a drop in onshore installations and 5% price pressure with entry to emerging markets and introduction of auction system.

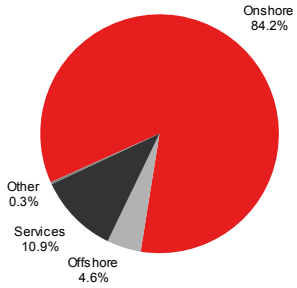
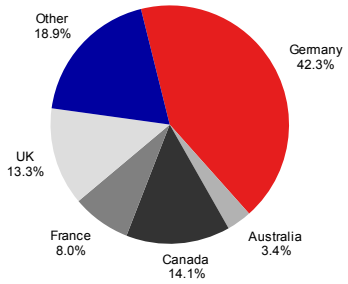
Competitive positioning

- Senvion currently lacks a competitive light wind turbine which could result in significant market share losses in Germany until 2018, in our view. Senvion is scheduled to launch its flagship light wind turbine, the 3.4M140 EBC at the end of 2017 at the earliest, although it was already presented to the market in 2015. Meanwhile competitors, such as Enercon and Nordex, are expected to have new product offerings in the market by 2018. Therefore, Senvion's 3.4M140 won't be the only show in town by 2018 and while the 3.4M140 was state of the art when it was unveiled in 2015, we are not fully convinced of its commercial success in 2018.
- In the offshore space, Senvion still benefits from its strong positioning in the 5 MW+ turbine class. As the company is currently executing a 443 MW offshore order, comprising 72 6.2MW WTGs, the company's offshore production capacity should be fully utilised until 2018. We, however, fear that Senvion could miss out on new offshore orders from 2019 onwards without a new 8 MW turbine.

Warburg versus consensus

- Our FY 2017 sales estimate of EUR 2,076m stands some 7% below consensus expectations.
- Consequently, our FY 2017 adj. EBITDA estimate of EUR 182m stands 13% below consensus expectations. We assume a 70bps decline in the adj. EBITDA margin to 8.8% as we fear that a drop on the top line would put margins under pressure.
- Our FY 2018 sales and adj. EBITDA estimates are 1% and 6% below consensus, respectively

Company Overview

	Onshore wind turbines	Offshore wind turbines	Services
Segments			
Product offering	Turbines: $3.4M_{140}$; $3.4M_{104}$ $3.4M_{114}$; $3.2M_{122}$; $3.0M_{122;}$ MM_{92} Rated power: 2.0 - 3.4 MW Hub heights (m): 59 -143	Turbines: $6.2M_{152,}$ $6.2M_{126}$ Rated power: 6.15 MW Hub heights (m): 97-124; 95-117 Wind class: IEC 1	Installation and commissioning Logistic services (transportation) Integrated services Operation & Maintenance (O&M)
Competitors	▪ Enercon ▪ Vestas ▪ Nordex ▪ GE ▪ Siemens ▪ Vensys	▪ Siemens ▪ Adwen ▪ MHI Vestas ▪ BARD	▪ Siemens ▪ Nordex ▪ Enercon ▪ Vestas ▪ Vensys
Sales CY 15 (EUR m)	1,801	99	233
% of total	84.3%	4.7%	11.0%
Share recuring	approx. 74%	approx. 13%	approx. 13%
Group sales split by business segments / onshore sales split by regions (2015)	**Revenue by business** 	**Onshore revenue by region** 	
Adj. EBITDA CY 15 in EUR m		210	
Margin in %		9.70%	
Adj. EBIT CY 15 in EUR m		154	
Margin in %		7.60%	
Customers	RWE e.on EDF VALOREM ABO WIND MITSUI&CO.		

Source: Warburg Research

Market Overview

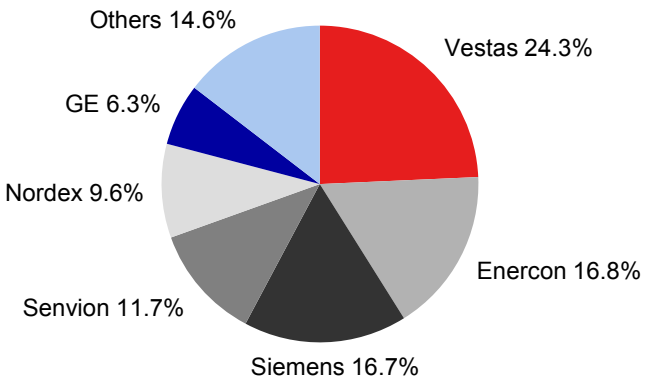
- Senvion's core markets to suffer from anaemic growth
- Unfavourable regulatory changes to result in significantly lower capacity additions in Germany and the UK.
- German onshore market volume to slump by roughly 20% by 2019 (compared to FY 2016/17 levels).
- In addition, FITs in Germany are set to decline by 16.5% in FY 2017, increasing pressure on WTMs to reduce cost of energy
- UK onshore wind market is set to decline dramatically by FY 2018
- Geographic expansion to new markets to almost double addressable market size by 8.5 GW from previously c. 9 GW.
- However, onshore installations in core markets (incl. Canada, Australia and Other) set to drop to 874MW in FY 2019 (from 1,629 MW in FY 2016e) – entry to new markets unlikely to fully offset the slump.

Sluggish growth in core markets

Sluggish growth expected in core markets

In this section we take a detailed look at Senvion's "core" onshore markets. In the past, Senvion benefited from its strong footprint in various European markets such as Germany, UK, and France. Consequently, these markets contributed roughly 65% to FY 2015 group sales.

Market share of WTMs in EMEA (2015)



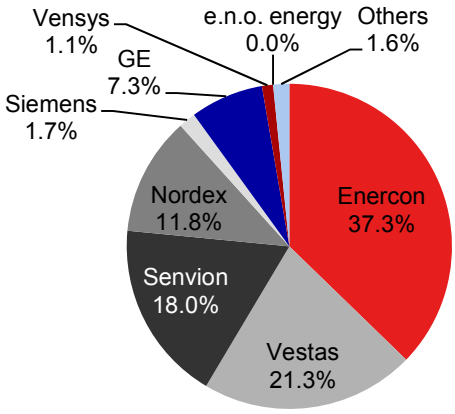
Source: Senvion, Warburg Research

However, our analysis on a country-by-country basis has led us to the conclusion that Senvion's traditional markets are unlikely to provide a source of growth going forward. More importantly, as market volumes are expected to shift from Europe to developing countries, the German turbine manufacturer needs to position itself in those markets and compete with established peers in those regions.

German onshore market volume to shrink notably

In FY 2015 Senvion generated roughly 42% of its onshore revenues in Germany (EUR 762m). Thus, the domestic market is of particular importance to the German turbine manufacturer. Thanks to its strong footprint in the German wind market, Senvion raised its market share in FY 2015 by 340bps from 14.6% to 18%, ranking it the number three OEM turbine supplier in Germany in 2015.

Market share of turbine suppliers in Germany in 2015



Source: DEWI, Warburg Research

Going forward, it will be important to defend this market position as the total market size for onshore wind is set to shrink quite dramatically.

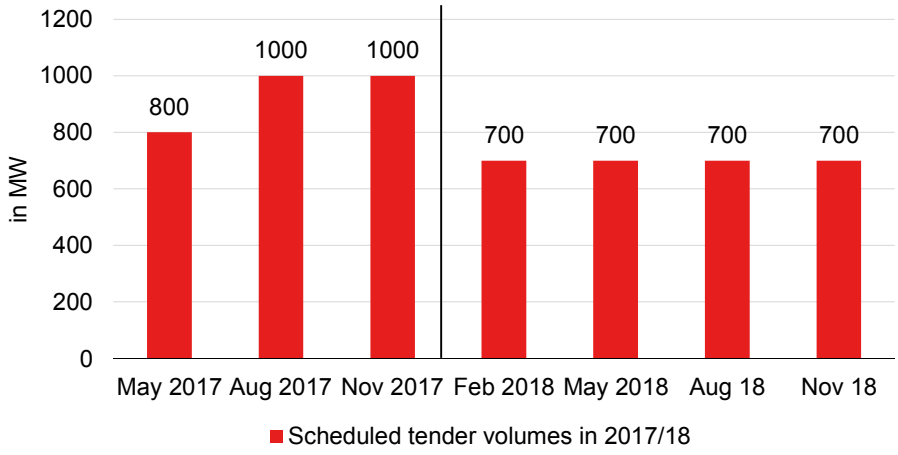
In 2015, annual onshore wind installations in Germany amounted to 3,730 MW. The German market therefore represented the largest wind market in Europe by far, followed by Poland (1,266 MW) and France (1,073 MW). The UK also represented a rather important onshore wind market in Europe in 2015 with around 650 MW of new capacity. However, the British onshore wind market is no longer of meaningful size since the ending of new onshore subsidies with the closure of Renewable Obligation (RO) to all capacities of onshore wind in the UK in April/May 2016.

New EEG 2017 law to cap new installation additions at 2.8GW

In July 2016, the German government passed the latest amendment to its renewable energy laws. The new renewable energy act (“EEG 2017”) is set to introduce an auction system for new onshore wind capacities. The current subsidy regime of guaranteed feed-in tariffs (FITs) will no longer apply from January 1, 2017. The new, market-based subsidy scheme is expected to put additional downward pressure on subsidy rates.

In addition to an anticipated heavy reduction in feed-in tariffs, new onshore wind capacity will be limited to 2.8 GW p.a. from 2017 onwards. Three auctions are already scheduled for FY 2107 which should result in a total tendered volume of 2,800 MW.

Scheduled onshore wind auctions in Germany in 2017/18

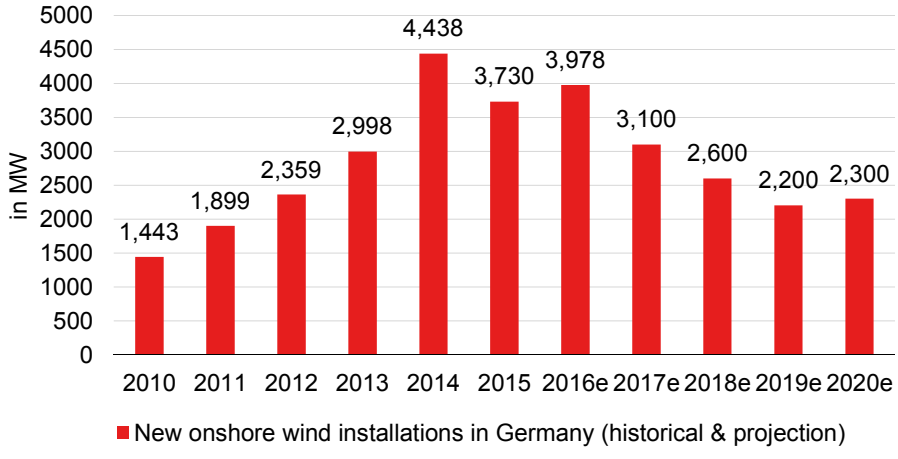


Source: Warburg Research

Clearly, the German onshore market is on track to level off at a size of 2,800 MW p.a. However, in the meantime, wind farm projects which had received planning permission by December 31, 2016, were given 24 months to complete their projects and install their turbines. Thus, for the years of 2017 and 2018 we might experience new onshore wind installation higher than the tendered 2,800 MW thanks to spill-over effects from the expired EEG 2014.

Thus, new installation figures in FY 2017 won't immediately drop to 2,800 MW but should come in at 3,000-3,500 MW. A big question mark remains, however, over the size of the onshore market in FY 2018. Bloomberg New Energy Finance expects sluggish new installation figures in 2018 based on a sharp drop in feed-in tariffs.

Projection of new onshore wind installations in Germany by BNEF



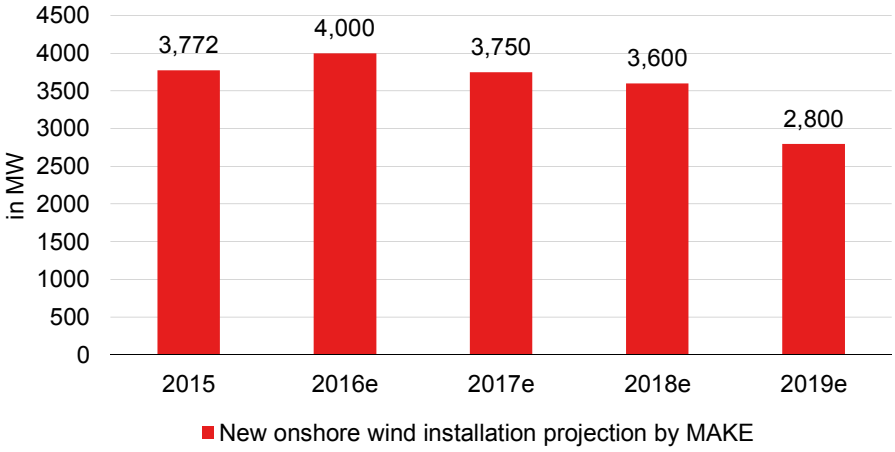
Source: Bloomberg New Energy Finance, Warburg Research

According to MAKE Consulting, which specialises in the global wind energy industry, the German onshore market is set to experience strong growth through 2018 on the back of significant spill-over effects from the current project pipeline. MAKE anticipates new capacity of 3,600 MW to come online in FY 2018.

However, we remain sceptical and assume new installations of roughly 3,000 MW in 2018 (assuming some 200 MW of projects remaining under the old EEG 2014, to materialise 12 to 24 months after receiving planning permission in 2016).

For FY 2019, we assume new capacity of 2,800 MW, in line with the onshore wind capacity target of the German administration. This implies a decline of roughly 20% compared to average annual capacity additions between 2014 and 2018.

Projection of new onshore wind installations in Germany by MAKE

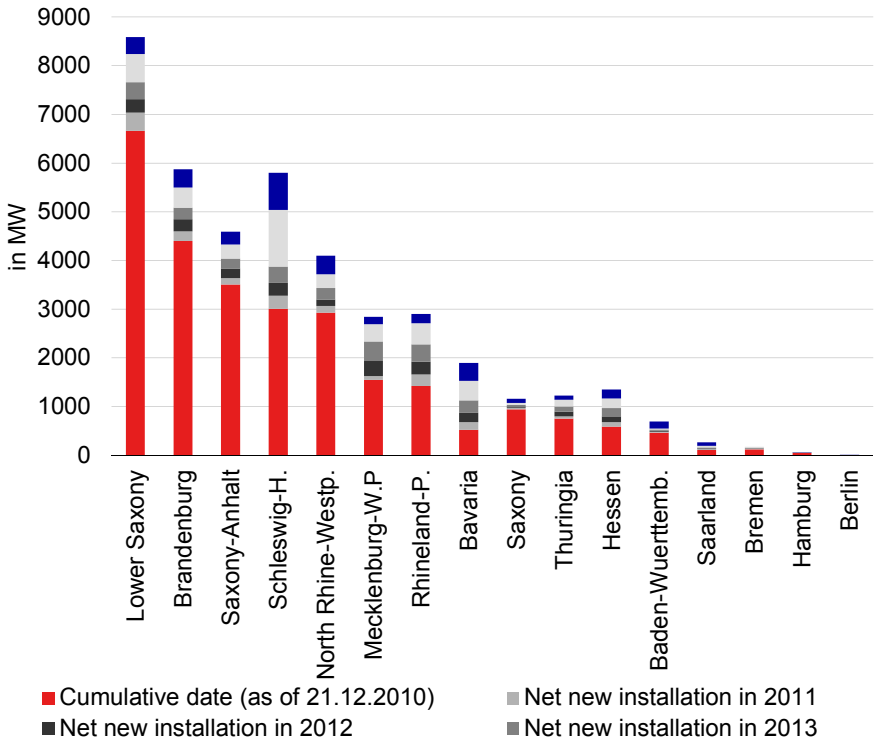


Source: MAKE Consulting, Nordex, Warburg Research

New onshore wind installations set to shift to southern Germany

As part of the new renewable energy act, EEG 2017, new onshore wind installations in the northern German states of Lower Saxony, Schleswig Holstein and Mecklenburg Western Pomerania are set to be limited to 58% of the average new installation of the last three years. This is because wind energy installations have strained grid capacities, especially in northern Germany in recent years. Under the new EEG 2017, certain parts of the grid will be strengthened and extended to ensure sufficient grid capacity for the future expansion of renewable energies in Germany. New installations in “grid extension areas” (“Netzausbaugebiete”) are thus expected to be capped at roughly 900MW p.a.

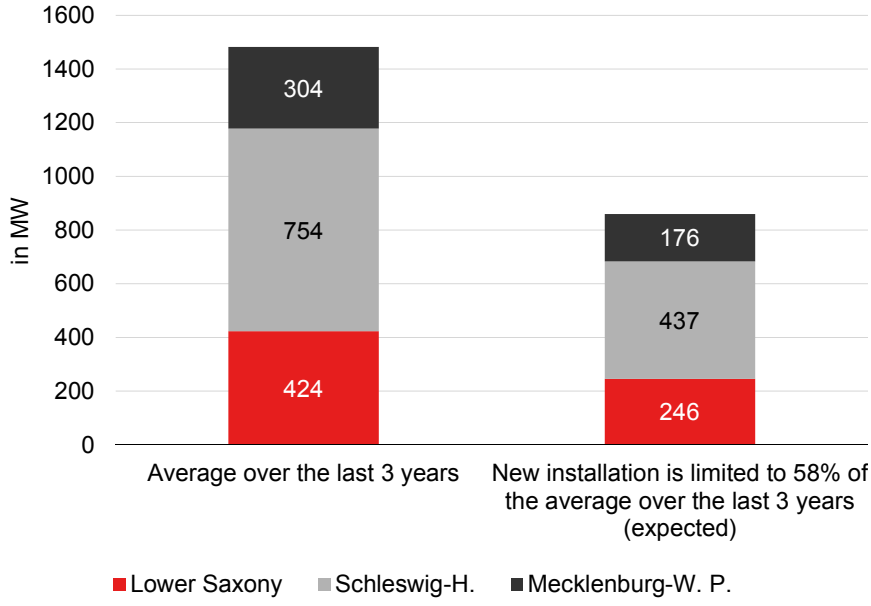
New onshore wind installation in Germany by federal states



Source: DEWI, Warburg Research

The northern states of Lower Saxony, Schleswig Holstein and Mecklenburg Western Pomerania assumed a leading role in the promotion of wind energy in Germany in recent years. According to our calculations, roughly 1,482 MW of onshore wind capacity was added in these federal states between 2013 and 2015. The new regulation is set to restrict annual capacity additions to approx. 900 MW (58% of three-year historical average).

Wind installation in grid extension areas limited to 58% of hist. average



Source: DEWI, Warburg Research

Clearly, this should result in additional growth in installation figures in southern Germany. This, in turn, should drive demand for light wind turbines since those regions are predominantly characterised by low wind sites.

Classification of wind zones in Germany according to IEC

Source: Bloomberg New Energy Finance, Warburg Research

Introduction of auction system to result in 16% drop in FITs in FY 2017

In addition to the expected drop in market volume, the German onshore market is also likely to undergo heavy cuts in subsidy rates. As mentioned above, the switch from the current subsidy regime to an auction system is set to reinforce downward pressure on tariffs.

Going forward, only the lowest bids offered by project developers will be successful until the targeted tender volume is reached. Three tender rounds scheduled for 2017 and the maximum bid for the first round in May 2017 has been set at EUR 7.0 cts./kWh. This already implies a drop of 16.5% compared to the expected feed-in tariff in January 2017 of EUR 8.38 cents/kWh.

We regard this as a clear negative for the wind energy industry as a whole in Germany but in particular for turbine suppliers as WTMs are now expected to feel the heat when it

comes to pricing.

Development of German onshore wind tariffs in 2016 under EEG 2014

	FIT	tariff degression
Q1 2016	8.79 Cent/ kWh	1.20%
Q2 2016	8.69 Cent/ kWh	1.20%
Q3 2016	8.58 Cent/ kWh	1.20%
Q4 2016	8.48 Cent/ kWh	1.20%
Q1 2017e	8.38 Cent/ kWh	1.20%

Source: Bloomberg New Energy Finance, Warburg Research

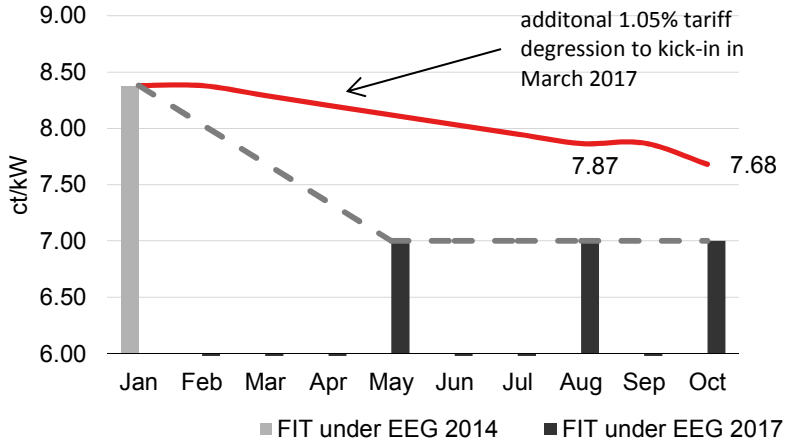
The chart below illustrates the expected development of tariffs under the old EEG 2014 regime as well as under the new EEG 2017 auction system. Projects which qualified under the old EEG 2014 will see their FITs declining from EUR 8.38 Cents/kWh at the beginning of the year to EUR 7.68 Cents/kWh in Q4 2017 (assuming a tariff degression of 2.4% in the last quarter), a drop of 8.35% within a couple of months.

However, compared to the EEG 2017 subsidy regime, a mere drop of 8.35% in FITs still looks very bearable. The new renewable energy act will precipitate a slump in FITs by at least 16% to EUR 7 Cents/kWh.

Consequently, to ensure they can make a competitive bid, project developers are likely to rush for the most efficient turbines with the lowest cost of energy. Turbine suppliers with less efficient turbines are likely to lose out.

Thus, in addition to fiercer pricing pressure, competitive pressure among turbine manufacturers is likely to intensify. Senvion's product portfolio is therefore of paramount importance to ensure onshore order wins in Germany going forward. We will elaborate on Senvion's turbine portfolio in the next section.

Expected development of FITs under EEG 2014/2017 in Germany in 2017



Source: Warburg Research

UK government turns its back on onshore wind

In 2015, Senvion installed 275 MW of wind capacity in the UK. Consequently, revenues from the UK represented roughly 13% of onshore sales in FY 2015, the third-largest onshore market for Senvion.

Taking into consideration that the total UK onshore market amounted to roughly 650 MW in 2015, Senvion achieved a whopping 42% market share.

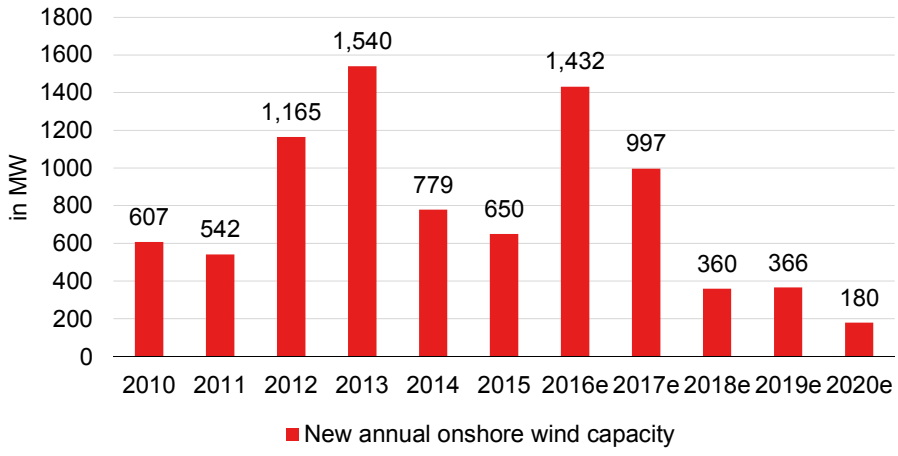
However, as already mentioned, the UK government brought forward the closure of the Renewables Obligation (RO) certificate scheme to onshore wind by one year to April 2016 (ROs represent an obligation for electricity suppliers to source a certain portion of electricity from renewable sources). Thus, the British administration has more or less withdrawn its financial support for onshore wind projects.

Broadly speaking, the Contract for Difference (CfD) scheme has replaced the RO for new solar and wind projects. The CfD scheme, guarantees a set price for the electricity produced – the so called strike price. However, the government has delayed decisions on future CfD auctions and there is currently zero visibility with respect to if and when the next CfD auction round for onshore wind will take place and how much the government is ready to commit for the promotion of this technology. There is also the wide belief that onshore wind will not be eligible for future CfD auctions at all.

Cumulative onshore wind capacity in the UK currently stands at 8.5 GW. According to various sources (such as RenewableUK), there is still an estimated 2 GW of onshore projects in the pipeline, which are either under construction or are sufficiently advanced to go ahead.

Nonetheless, once the execution of these projects is concluded, we fear the sector will grind to a halt in 2018, as can be seen from the current capacity forecast by BNEF.

UK onshore wind market to shrink



Source: BNEF, Warburg Research

To sum up, we believe the UK market is highly unlikely to be a growth driver for Senvion's onshore sales in 2018 or beyond. As long as the current UK government remains reluctant to change its view on solar and onshore wind, the UK market is likely to be negligible.

French market to provide a ray of hope

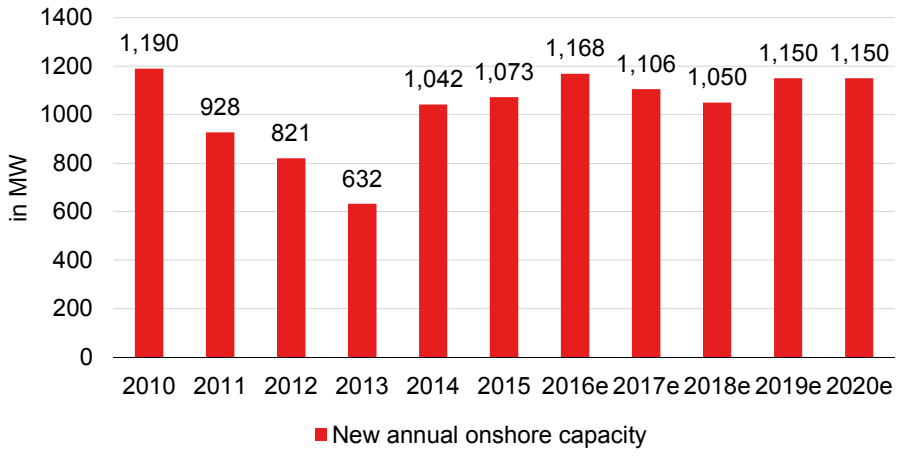
The French onshore wind market was ranked number three in Europe with 1,073 MW of new capacity in FY 2015. For Senvion, the French market represented the fourth-largest onshore market in 2015 with total sales of EUR 144m (8% of onshore sales). Furthermore, Senvion benefits from its strong positioning in France with a market share of roughly 19% in terms of cumulative installed capacity.

More importantly, we expect the French wind market to represent an important source of growth going forward. The French administration has pledged to double onshore wind capacity until 2023, which represents a much needed signal to the sector that the country is committed to promoting onshore wind.

At the end of 2015, cumulative capacity stood at 10.3 GW. The administration has set its targets at 15 GW and 21.8 GW of operating capacity by 2018 and 2023, respectively.

To reach 15 GW of capacity, installations of over 1.5 GW p.a. are required in France, higher than anything that has been achieved before. This is not yet anticipated by sources such as BNEF. Nonetheless, the French market is at least expected to remain rock solid in the coming years.

Onshore wind to thrive in France



Source: BNEF, Warburg Research

As most of the new available sites in France are light wind areas, these turbine models should be in high demand in FY 2017/18.

Canada to normalise at solid levels of roughly 1 GW p.a.

In addition to the European markets, Senvion also benefits from a solid competitive positioning in Canada. In FY 2015, the German turbine manufacturer installed 262 MW in Canada, reaching the number 2 position in the Canadian market, behind Siemens, and a market share of more than 17%.

In 2015, around 1,506 MW of new wind energy capacity was added, the third-biggest year ever for Canada. In terms of cumulative capacity, Canada has a total of 11,205 MW wind capacity installed. However, after three strong years with net capacity additions of more than 1.5 GW p.a., installation figures are set to normalise in the coming two years. For FY 2016, for instance, we estimate new onshore installations of 1,100 MW, broadly in line with forecasts by BNEF (1,193 MW) and MAKE (1,080 MW).

According to the Canadian Wind Energy Association, there are more than 2,000 MW of contracted projects in the pipeline which are expected to come online in the next two years. Consequently, we estimate that Senvion is well positioned to install approx. 200 MW of wind capacity in Canada in the coming years. Thus, for Senvion, the Canadian market represents one of the few core markets, which is not expected to shrink notably.

Expansion to new markets under pressure to pay off

As Senvion's core markets are expected to shrink or to stagnate at best, Senvion's new strategy to move into new markets is absolutely comprehensible

However, this new strategy comes with significant uncertainties. Under Suzlon's ownership, Senvion was not allowed to supply markets outside of Europe (except for Australia and Canada) and thus the company does not have a track record in its new markets. Furthermore, it is lagging behind peers in terms of expansion into emerging markets. Many European rivals have already secured a strong foothold in many of the emerging markets targeted by Senvion. Consequently, we anticipate intense competition in these markets.

To compensate for lacklustre growth in its core markets, Senvion is targeting the following new markets: Chile, Peru, Uruguay as well as India, Turkey, Mexico, Scandinavia, Ireland and Japan.

These markets were selected according to detailed criteria, such as:

1. Evaluating if Senvion's products fit local demand
2. Ensuring that successful market entry does not require sizeable local capex (i.e. no need to fulfil local content requirements to win an order)
3. Capitalizing on existing relationships with key customers and follow them as they enter new markets

Based on market data from MAKE Consulting, we estimate that new market entry will almost double Senvion's addressable market by some 8.5 GW from c. 9 GW previously.

Rather than examining the attractiveness of each of the targeted new markets based on market size and market growth, we take a bottom-up approach and elaborate on the company's secured (conditional) orders to derive our assumptions for Senvion's expected installations in those markets.

Installations in new markets to exceed 400 MW in FY 2017 – if there is no further delay of major Chile order

So far, Senvion has achieved some early success with its expansion strategy as it managed to secure 417 MW of firm and conditional orders from new markets for execution in FY 2017 (thereof 300 MW conditional order from Chile and 111 MW firm order from Norway).

Thus, in our market model, we currently forecast 417 MW of installations from new markets in FY 2017, implying a solid total market share of 5% in those markets.

However, we don't expect this to fully offset declining installation numbers in core markets such as Germany and the UK and thus we forecast a decline in onshore installations to 1,494 MW in FY 2017, a drop of 8% yoy. More importantly, the 300 MW Chile order from Mainstream Renewable Power is not yet a firm order. Hence, if the delay continues (conditional order was signed in April 2016), it could jeopardise our assumption that Senvion is set to install 417MW of orders from the new markets in FY 2017.

Looking ahead to FY 2018, we estimate 500 MW of installations from new markets, another significant increase compared to our estimate of 417 MW for FY 2017. Our assumption is mainly supported by the company's first firm framework agreement in India to supply 220 Senvion turbines with a total nominal capacity of more than 500 MW between Q4 2017 and FY 2019. For the sake of simplicity, we assume that Senvion is set to execute roughly 250MW of the framework agreement in each year. In addition, Senvion has more than 250MW of conditional orders in Scandinavia on hand. Should Senvion manage to convert a large portion of these conditional orders into firm orders in the course of FY 2017, our forecast for FY 2018 would be within reach. Finally, Senvion also concluded a conditional supply order for 42 MW in Serbia, which can also be regarded as one of Senvion's "new markets". The installation of the 21 turbines with a rated output of 2MW is expected to take place in autumn 2018. Hence, there is good reason to believe that Senvion is on track to achieve a total installation of 500MW in new markets in FY 2018.

Clearly, visibility is much lower for FY 2019 but we nonetheless estimate installations from new markets to increase further to 600 MW in total. Again the framework order in India would constitute the basis of our assumption. Our assumption of total installations of 600 MW in FY 2019, would imply a market share of 8% for Senvion in those markets.

We are currently assuming that Senvion's move into new markets will ultimately prove to be successful. However, we do not expect Senvion's onshore installation figures to grow noticeably in the period until FY 2019, except for the expected increase in installations in 2018 (thanks to a major 300 MW order from Australia) after a significant drop in 2017.

(Please see next page for a summary of our main assumptions for market growth)

Installations in core markets to drop to a mere 874 MW in FY 2019 – new markets unlikely to fully offset the slump

We expect Senvion's installations in core markets (including Canada, Australia and Others) to drop from 1,629 MW in FY 2016 to 874 MW, mainly due to a shrinking market volume in many of Senvion's core markets (such as UK and Germany) but also due to Senvion's less competitive product portfolio when it comes to a light wind product offering (see next section for Senvion's product offering).

The company's move into new markets is expected to add some 600MW of installations in FY 2019, according our market model. However, this is unlikely to offset the drop in installations in core markets. Consequently, we are forecasting a drop in onshore installations to 1,474 MW in FY 2019. To fully compensate for the drop in installations in the core markets, installations in Senvion's new markets would have to surge to 1,000 MW in 2019. This, however, would imply a market share of 12.7% for Senvion in those markets, which seems over optimistic. Hence, from the current point of view, we do not expect Senvion's entry to new markets to fully offset the slump in the core markets.

Warburg Research onshore market growth assumptions					
Annual volume (MW)	2015	2016e	2017e	2018e	2019e
Germany					
MAKE	3,772	4,000	3,750	3,600	2,200
BNEF	3,730	3,978	3,100	2,600	2,200
WRe	**3,730**	**4,000**	**3,750**	**3,000**	**2,600**
UK					
MAKE	679	1,672	778	722	356
BNEF	650	1,432	997	360	366
WRe	**650**	**1,250**	**750**	**300**	**150**
France					
MAKE	1,088	1,100	1,100	1,200	800
BNEF	1,073	1,168	1,106	1,050	1,150
WRe	**1,073**	**1,100**	**1,100**	**1,200**	**1,100**
Canada					
MAKE	1,443	1,080	1,000	1,250	1,100
BNEF	1,600	1,193	1,547	1,474	774
WRe	**1,506**	**1,100**	**1,300**	**1,400**	**1,000**
Australia					
MAKE	267	45	515	600	700
BNEF	273	126	342	1,789	1,316
WRe	**380**	**75**	**400**	**700**	**600**
Others*	2,911	1,675	1,735	1,915	2,010
New markets**	6,336	8,567	8,566	7,593	7,852
Addressable market	16,586	17,767	17,601	16,108	15,312
Market share - Senvion					
Germany	17.9%	10%	9%	14%	14%
UK	42.3%	36%	20%	10%	0%
France	14.3%	17%	17%	12%	12%
Canada	17.4%	19%	11%	13%	13%
Australia	4.2%	0%	8%	43%	0%
Others*	12.8%	24%	12%	16%	12%
New markets**	0.0%	0%	5%	7%	8%
Installation	2015	2016e	2017e	2018e	2019e
Germany	666	390	350	420	364
UK	275	445	150	30	0
France	153	185	187	144	132
Canada	262	209	145	182	130
Australia	16	0	30	300	0
Others*	372	400	215	300	248
New markets**	0	0	417	500	600
Total onshore installations	**1,744**	**1,629**	**1,494**	**1,876**	**1,474**
		-6.6%	-8.3%	25.6%	-21.4%
Offshore installations	0	200	220	170	150
Total installation (onshore+offshore)	**1,744**	**1,829**	**1,714**	**2,046**	**1,624**
		4.9%	-6.3%	19.4%	-20.6%

* includes Austria, Belgium, Netherlands, Poland, Romania, Italy, Portugal, Spain

** includes Chile, Mexico, Peru, Uruguay, Finland, Norway, Sweden, Turkey, India, Japan

Source: BNEF, MAKE Consulting Q3 2015 forecast, Warburg Research

Products

- Launch of Senvion's very first low wind turbine (3.4M140) is scheduled for the end of 2017.
- For onshore, hopes rest on the successful launch of the new low wind product, the 3.4M140 WTG to reverse expected market share losses in Germany.
- Other players such as Enercon and Nordex, however, are expected to have a similarly competitive light wind product offering by 2018.
- In offshore, Senvion currently benefits from its first-mover advantage in the class of 5 MW-plus turbines.
- However, Senvion's offshore technology risks becoming outdated by 2018. New investments in a new offshore turbine platform are inevitable, if the company is to continue to offer a competitive product platform.

Launch of flagship light wind turbine might come too late

Product portfolio might fail to impress

Fierce competition looming for the most efficient light wind turbine

Senvion's product portfolio covers a broad range of onshore and offshore turbines with a rated power output from 2 to 6.15 MW and rotor diameters ranging from 82 to 152 metres, as can be seen from the table below.

In onshore, the company is best known for its high to medium wind speed turbines. For instance, the MM92 model with a nominal power capacity of 2.05 MW, which was launched in 2005, is specifically designed for medium wind sites and represents Senvion's top-selling WTG model to date.

With respect to offshore, the company claims the number one position when it comes to the 5 MW-plus segment, with a market share of over 50% of commissioned offshore projects in Europe.

Senvion's product range at a glance

	Turbine type	Rated power (MW)	Hub height (m)	Wind class
Offshore turbines	$6.2M_{152}$	6.15	97-124	IEC 1
	$6.2M_{126}$	6.15	95-117	IEC 1
	$3.4M_{140}$ EBC	3.40	110-130	IEC 3
Onshore 3.XM Series	$3.4M_{104}$	3.40	73-100	IEC 1/2
	$3.4M_{114}$	3.40	93-143	IEC 2/3
	$3.4M_{114}$ NES	3.40	93-119	IEC 2/3
	$3.2M_{122}$ NES	3.20	86-139	IEC 3
	$3.2M_{114}$ CCV	3.20	93-100	IEC 2/3
	$3.2M_{114}$ VG	3.20	93-143	IEC 2/3
	$3.0M_{122}$	3.00	89-139	IEC 2
Onshore MM Series	MM_{92}	2.05	64-100	IEC 1/2/3
	MM_{82}	2.05	59-80	IEC 1
	MM_{100}	2.00	75-100	IEC 2/3

Source: Senvion, Warburg Research

Going forward, however, success in the onshore market is expected to be determined by the ability to offer highly competitive light wind turbines. According to MAKE, the low wind market is expected to be the dominant wind class by 2020 and is expected to account for 50% of the market in 2020 compared to a mere 29% in 2014.

Thus, Senvion's hopes rest on the launch of its flagship light wind turbine, the 3.4M140 turbine, which will be available at the end of FY 2017, one year earlier than initially planned. As already discussed in the market section of this note, Senvion is expected to lose market share in Germany in the course of FY 2016 and 2017 due to a lack of a suitable product offering for low wind sites.

Senvion's low wind flagship product - 3.4M140 WTG

Source: Senvion, Warburg Research

In 2015, when Senvion unveiled its new flagship light wind turbine at the Husum Wind fair, the 3.4M140 represented the largest turbine in its class by rotor diameter and was named the most efficient WTG for low wind speeds by MAKE (Make Consulting Trends, 2015). However in the meantime, competitors too have announced new low wind turbines.

In our view, the table below illustrates the most competitive light wind offerings in the industry (as of November 2016). In the past, Enercon, like Senvion, lacked a light wind turbine but is now expected to push into this profitable and growing niche with its E-141 EP4 WTG. More importantly, Enercon's light wind product is expected to be ready for series production as soon as in FY 2017. In addition, Enercon's E-141 was named best onshore turbine in the 3MW-plus class in 2016 by wind power publication Windpower Monthly, indicating that these new turbines might pose a serious threat to Senvion's yet to be launched light wind turbine.

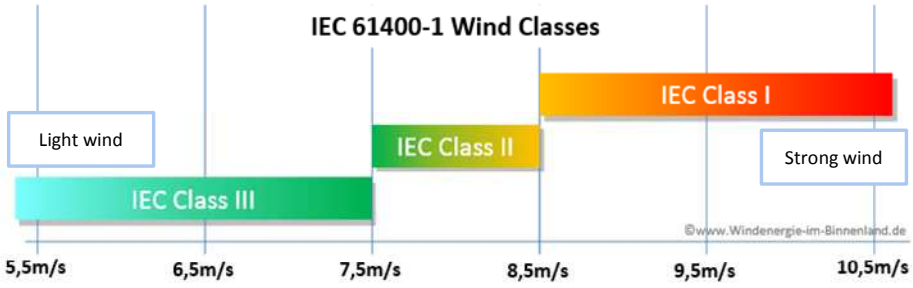
Senvion's light wind product offering compared to peer turbines

		Senvion 3.4M140 EBC	Nordex N131 3.3	Nordex N131 3.6	Enercon E-141 EP4
Prototype		2017		2016	At the end of 2016
Series production		2018	2015	In summer 2017	2017
Specifications					
▪ Nominal power	kW	3,400	3,300	3,600	4,200
▪ Rotor diameter	m	140	131		141
▪ Rotor area	m²	15,394	13478	13,478	
▪ Hub height	m	110 / 130	134 / 164	84 / 112 / 134	129 / 159
▪ Wind class		IEC 3	IEC 3	IEC 3	IEC 3
▪ Rotor speed	U/min	5.2 - 9.6	6.8 - 12.4		4.0 - 10.6
▪ Cut-out wind speed	m/s	22	20		28 - 34
▪ Cut-in wind speed	m/s	3	3		2
▪ Nominal wind speed	m/s	11	11.5		14

Source: Senvion, Nordex, Enercon, Warburg Research

Nordex, probably Senvion's closest peer, already has a strong product offering of light wind turbines. Nordex introduced the N117/2400 in 2011 and the turbine has been the best-selling model in Germany in the class of onshore turbines up to 2.9 MW and was specifically designed for the IEC 3 wind class. Nordex's successor model, the N131/3000, was named the best onshore turbine in the class of 3MW-plus turbines by the wind power publication, Windpower Monthly, in 2014 and can be regarded as one of the best light wind turbines currently on the market.

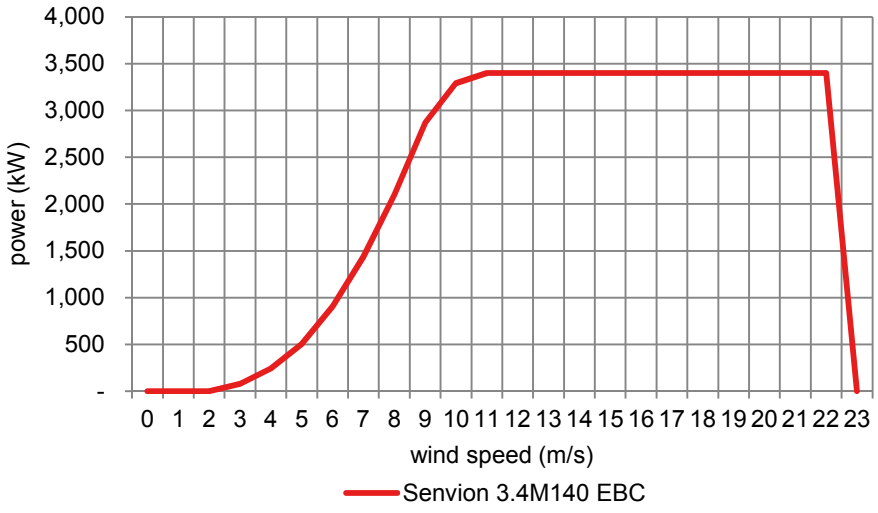
Wind site classification according to IEC standards



Source: http://www.windenergie-im-binnenland.de/siteassessment, Warburg Research

As outlined above, Senvion aims to shake up Nordex's foothold in the light wind market and regain market share in Germany with its 3.4M140 WTG.

Power curve of Senvion's 3.4M140 EBC



Source: Senvion, Warburg Research

Enercon's E-141 turbine boasts superior characteristics to Senvion's upcoming flagship turbine

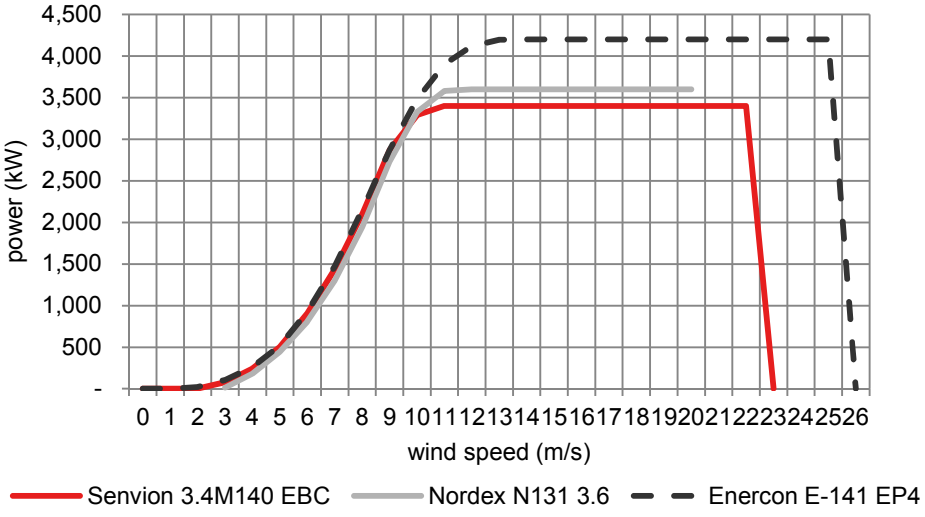
However, Senvion's 3.4M140 EBC WTG will not be the only show in town in 2018. Enercon's E141 EP4 WTG will have a larger rotor diameter than Senvion's flagship turbine and is expected to come with a higher nominal power capacity of 4.2 MW. The

chart below illustrates that Senvion's upcoming flagship turbine will not have a better energy output than, for instance, Enercon's low wind dedicated product.

The chart below also illustrates the power curve of Nordex's current low wind product offering, the N131/3.6 WTG. However, it is important to note that the turbine is already available. More importantly, we expect Nordex to unveil a new low wind turbine with a nominal power capacity of at least 4MW in Q1 2017. However, the energy output from Nordex's current turbine generation falls only marginally short of Senvion's flagship turbine at an average wind speed of 4 m/s to 9 m/s.

Thus, we fear that it will be far from easy for Senvion when its new turbine hits the market at the end of 2017. To sum up, we believe that Senvion's 3.4M140 was state of the art when it was unveiled in 2015 but its commercial success when it is expected to be launched in 2018 is no longer self-evident.

Comparison of power curves



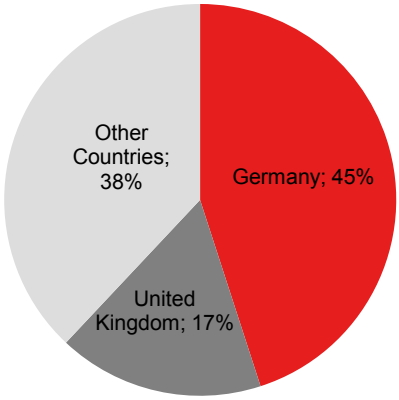
Source: Senvion, Warburg Research

Offshore product portfolio could fall behind

Senvion set itself apart from competitors in the offshore market by capitalising on its first-mover advantage. The company was the first to successfully install and connect an offshore 5 MW WTG to the grid in 2004. In 2008, Senvion once again proved its technological leadership with the launch of its 6.2M126 WTG, the most powerful turbine in the industry at that time. Consequently, Senvion now holds the leading market position in the 5 MW-plus segment in the offshore market, with a market share of over 50% of commissioned offshore projects in Europe.

In 2014, Senvion installed the prototype of the 6.2M152, the most recent addition to its offshore product portfolio. Moreover, the company is currently executing two firm orders in Germany with a total size of 443 MW, comprising 72 6.2MW WTGs. Thus, for the coming two years, the company's offshore turbine production is operating at full capacity, underlining the solid demand for Senvion's offshore turbines.

Installed offshore capacity by regions



Source: Warburg Research

Furthermore, in September 2016, Senvion won an offshore order of over 203 MW for Trianel Borkum II, consisting of 32 6.2M152 turbines. The final investment decision (FID) for the offshore project is expected in H1 2017. Thus, the order should turn into a firm order for Senvion within the next 12 months and ensure a solid offshore order backlog for 2018 and 2019.

Overview of Senvion's offshore projects

Project	Cap. of turbin	Project cap.	Period of construction	Customer
Beatrice (UK)	5 MW	10 MW	2006 - 2007	SSE
Thornton Bank I (Bel)	5 MW	30 MW	2008 - 2009	C-Power
Alpha Ventus (Ger)	5 MW	30 MW	2009 - 2010	DOTI
Ormonde (UK)	5 MW	150 MW	2011	Vattenfall
Thornton Bank II/III (Bel)	6.2 MW	295 MW	2012 - 2013	C-Power
Nordsee Ost (Ger)	6.2 MW	295 MW	2014	RWE
Nordsee One (Ger)	6.2 MW	332 MW	2016 - 2018	Northland Power
Nordergründe (Ger)	6.15 MW	111 Mw	2016 - 2018	wpd

Source: Warburg Research

Nonetheless, looking ahead, we fear the current 6.2MW platform might prove outdated and it could become increasingly difficult to win new offshore orders without a new turbine platform on offer.

In H1 2016, the average turbine capacity of new offshore projects in Germany amounted to 6 MW with an average rotor diameter of 154m and an average hub height of 110m. Thus, Senvion's current offshore turbine platform reflects the current industry average.

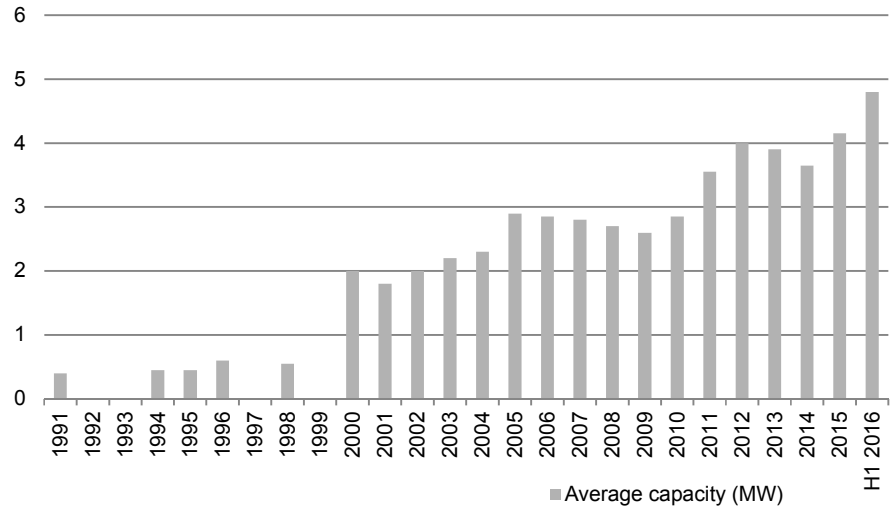
The average capacity of offshore turbines has grown by 41% from 2010 to 2015, reflecting a continuous effort by turbine manufacturers to increase energy yields at sea.

Average offshore turbine capacity to increase to 6-8 MW by 2018

According to EWEA, the deployment of 4-6 MW turbines in 2015 is expected to be followed by the gradual introduction of 6-8 MW turbines towards 2018.

This view is shared by GWEC (Global Wind Energy council) in its latest global wind energy outlook. The report argues that recent reductions in tender prices for offshore wind can be attributed to the availability of the new range of 7 and 8 MW machines.

Average offshore wind turbine rated capacity in Europe



Source: EWEA, Warburg Research

The table below illustrates that Senvion's closest competitors in the offshore space already have 8 MW offshore turbines on offer.

In September 2016, MHI Vestas already installed the first V164-8.0 turbine, the world's most powerful turbine with the largest rotor, at Burbo Bank Extension. The project, which comprises 32 turbines at the site, is planned to be completed in 2017.

Siemens has announced that a prototype of its new SWT-8.0-152 offshore turbine is planned to be built in H1 2017 and the certification is planned for 2018.

Current offshore product portfolio of peers				
		Rotor diameter	Capacity	Hub Height
Siemens	G4-platform	130m	4MW	site specific
	D7 platform	154m	6 to 8MW	site specific
Adwen	5MW platform	132-135m	5MW	102m+
	8MW platform	180m	8MW	
GE	Haliade	150m	6MW	100m+
MHI Vestas	V164-8.0	164m	8MW+	app.105m+
	V112-3.3	112m	3.3MW	140m
Senvion	6.XM	126-152m	6.15MW	95-124m

Source: Warburg Research

Lack of competitiveness in offshore is looming by 2019

In our view, 8 MW offshore turbines are likely to be perceived as the new norm from 2018 onwards. While we acknowledge that Senvion's current offshore turbine offering is on par with the offering of competitors such as Siemens, we fear that other players such as MHI Vestas will establish their 8 MW turbines in the offshore market and capitalise on their first-mover advantage.

The current 6.2M152 is rather an evolutionary development from the previous 6.2M126 model and should not necessarily be considered as an entirely new product. However, this is unlikely to satisfy customers in 2-3 years time and a new offshore platform should already be in the making.

Consequently, we fear that Senvion will fail to win new offshore orders in FY 2018/2019. This, in turn, implies that roughly EUR 200-300m of annual sales contribution from the offshore business will gradually decline.

Financials

- We expect average onshore prices per MW to drop by 5% p.a. until 2019 as the company enters emerging markets and as the auction system is introduced in Germany.
- Based on our detailed analysis of Senvion's upcoming installations in FY 2017 (WRe: 1,494 MW in 2017) as well as our average pricing assumption, we forecast group sales will drop by 7% to EUR 2,076m in FY 2017.
- As a result of a declining sales volume, we also expect operating margins to come under pressure. We forecast a decline of 70bps in the adj. EBITDA margin to 8.8% in FY 2017.
- Our FY 2017 sales and adj. EBITDA estimates stand some 7% and 13% below consensus expectations.
- In terms of FCF generation, we forecast cumulative FCF generation of a mere EUR 24m until FY 2018 due to significant capex investments in the years to come (WRe: EUR 340m in total until 2018).

Group sales to drop quite significantly in FY 2017

Top-line growth in FY 2017 is rather unlikely

Expected sales development

The table below illustrates our top-line estimates until FY 2019, based on our installation and pricing assumptions. We expect a rather clear decline on the top line in FY 2017, partly on the back of a shrinking order backlog but also due to lower pricing in the backlog.

For FY 2017, we anticipate sales of EUR 2.1bn, derived from our onshore installation assumption of 1,500 MW and a 5% decline in average prices per MW. While our pricing assumption might seem pessimistic at first glance, it is important to keep in mind that Senvion is set to execute two large orders in Norway and Chile in FY 2017 with a total nominal capacity of 411 MW. However, those wind farm projects are expected to have a total value of EUR 340m (as disclosed by CFO Manav Sharma during the Q3 2016 results conference call), implying an average price per MW of EUR 0.83m. This is likely to have a significant impact on Senvion's average pricing in FY 2017. Adjusted for those two projects, average pricing for the remaining projects would stand at EUR 1.025m/MW, in line with the average in the previous years.

Looking ahead to FY 2018, we expect a rebound in sales, driven by a recovery in installation figures in Germany and a 300 MW conditional order from Australia, which was announced by Senvion in November 2016. Nonetheless, we stick to our view that pricing is likely to deteriorate further owing to the introduction of the auction system in Germany in 2017 which should impact average prices in 2018 when those projects are executed.

Warburg Research volume and pricing assumptions until FY 2019					
Installation	2015	2016e	2017e	2018e	2019e
Germany	666	390	350	420	364
UK	275	445	150	30	0
France	153	185	187	144	132
Canada	262	209	145	182	130
Australia	16	0	30	300	0
Others*	372	400	215	300	248
New markets**	0	0	417	500	600
Total onshore installations	**1,744**	**1,629**	**1,494**	**1,876**	**1,474**
		-6.6%	-8.3%	25.6%	-21.4%
Offshore installations	0	200	220	170	150
Total installation (onshore+offshore)	**1,744**	**1,829**	**1,714**	**2,046**	**1,624**
		4.9%	-6.3%	19.4%	-20.6%
Pricing	2015	2016e	2017e	2018e	2019e
Avg. onshore revenue (EURm /MW)	1.033	1.02	0.97	0.92	0.91
yoy in %		**-1.0%**	**-5.0%**	**-5.0%**	**-1.0%**
Onshore revenues (EUR m)	1,801.2	1,665.6	1,451.2	1,731.1	1,346.6
yoy in %		-7.5%	-12.9%	19.3%	-22.2%
Avg. offshore revenue (EURm /MW)		**1.50**	**1.50**	**1.50**	**1.50**
yoy in %			0.0%	0.0%	0.0%
Offshore revenues (EUR m)	99.1	300	330	255	225
yoy in %		202.7%	10.0%	-22.7%	-11.8%
Service sales (EUR m)	233.1	268.1	294.9	324.4	356.8
yoy in %		15.0%	10.0%	10.0%	10.0%
Total revenues (EUR m)	2,139.4	2,233.7	2,076.1	2,310.5	1,928.4
		4.4%	-7.1%	11.3%	-16.5%

* includes Austria, Belgium, Netherlands, Poland, Romania, Italy, Portugal, Spain
** includes Chile, Mexico, Peru, Uruguay, Finland, Norway, Sweden, Turkey, India, Japan

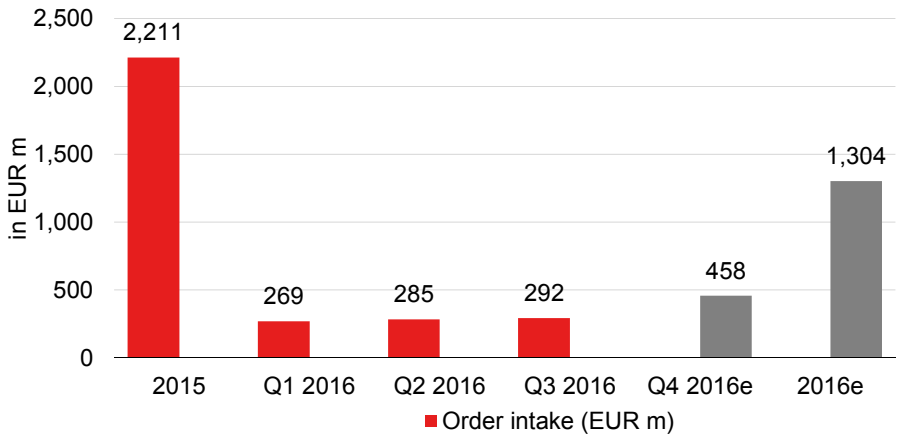
Source: Warburg Research

Slump in order intake in FY 2016….

Our rather cautious view for FY 2017 is based on the slower order intake in FY 2016 than in FY 2015. Order intake in the first nine months of 2016 amounted to a mere EUR 846m, a steep drop from last year's 9M order intake of EUR 1,908m. Even adjusted for last year's offshore orders of EUR 662m, last year's 9M order intake would have been roughly EUR 1,249m, considerably higher than this year's result.

In Q4 2016, order intake amounted to a mere EUR 458m, mainly driven by orders from Germany, France and Scandinavia. It is our understanding that Senvion once again failed to convert the 300 MW conditional order from Chile into a firm order in Q4 2016. With a total order intake of EUR 1.2bn in FY 2016 however, we struggle to see a path of growth for Senvion in FY 2017.

Order intake development in FY 2016

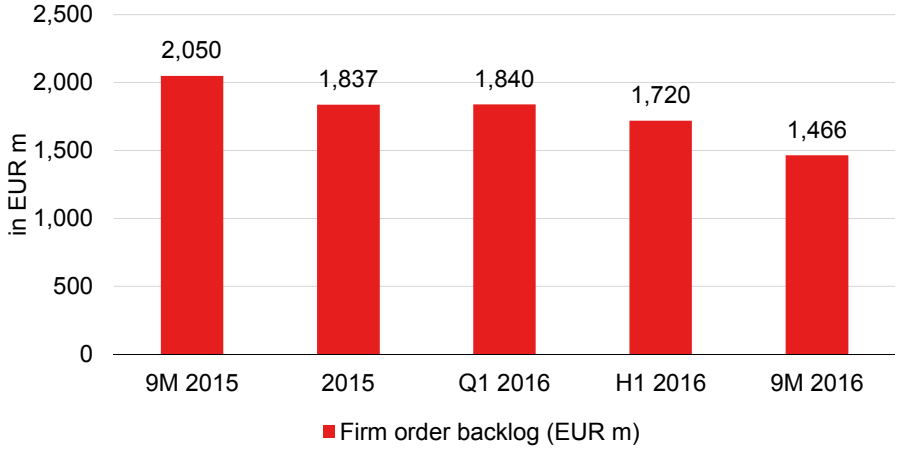


Source: Warburg Research

…has resulted in a shrinking order backlog

As Senvion is set to generate sales of at least EUR 800m in Q4 2016 to meet its FY 2016 guidance of sales in the range of EUR 2.25-2.35bn, the company is required to execute a large portion of its order backlog in the fourth quarter. Consequently, we expect Senvion's order backlog to decline further in Q4 2016.

Trailing 12-months firm order backlog

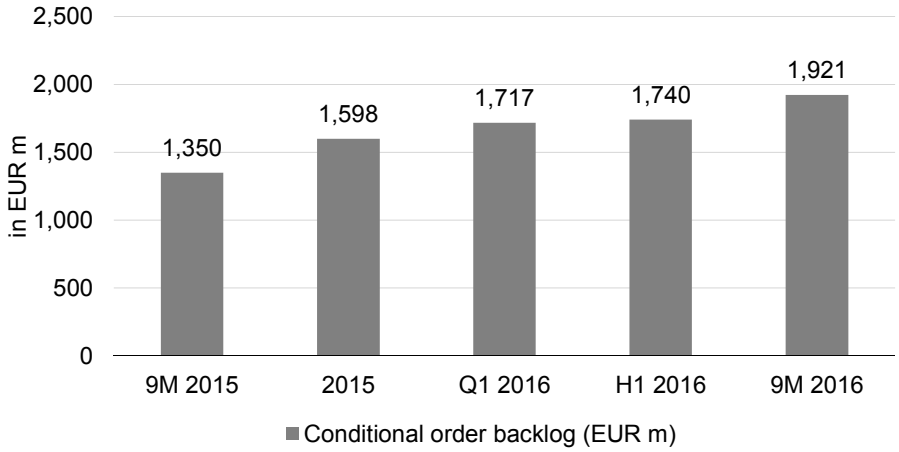


Source: Senvion, Warburg Research

Conditional order book has been growing but c. EUR 480m at risk

On a more positive note, the company's conditional backlog has grown in the course of FY 2016, as can be seen from the chart below. This can be attributed to the conditional offshore order of more than 203 MW for Trianel Borkum II in Q3 2016.

Trailing 12-months conditional order backlog



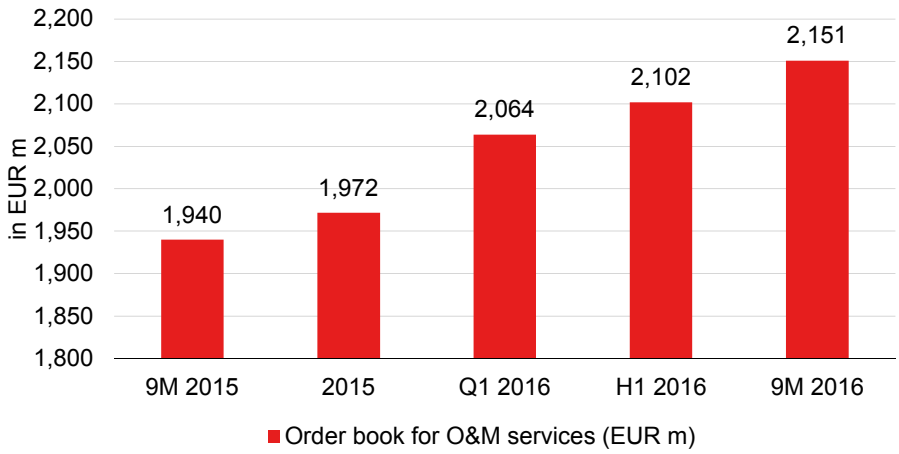
Source: Warburg Research

However, EUR 826m of the total conditional order backlog stem from conditional German contracts. During the Q3 2016 conference call, management stated that roughly 25% of the total conditional order backlog (i.e. EUR 480m) is at risk if German wind projects do not receive planning permission by year-end. These orders would be declassified into the order pipeline and would be subject to the auction process in FY 2017. Clearly, this would represent a blow to Senvion's growth prospects for FY 2017 and 2018 as conversion of those orders into firm orders would be significantly delayed.

Service sales expected to grow at double-digit rates in the mid term

Senvion's service business, in contrast, was the fastest-growing business segment in FY 2016. In the first nine months of the year, service revenues grew by 22% yoy as the company capitalised on its growing installed base and the higher renewal rate for its service contracts. As a result, the company's service order book grew by some 9% since December 31, 2015, as can be seen from the chart below.

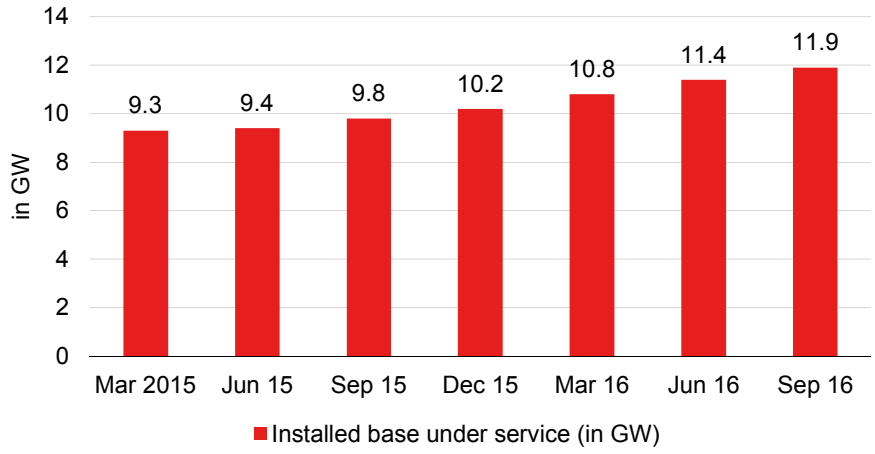
Trailing 12-months service order backlog



Source: Senvion, Warburg Research

The company has almost 12 GW of installations under service coverage which should enable Senvion to benefit from the annuity-like revenue profile of the business going forward.

Nearly 12 GW of installations under service



Source: Senvion, Warburg Research

On the back of convincing renewal rates of more than 80% and a growing installed fleet, we share the company's view that the service business is likely to grow at double-digit rates in the medium term. We therefore estimate service sales CAGR of 10% between 2017 and 2019.

Lack of volume growth and pricing pressure to put margins under pressure

As outlined above, we fear that Senvion might be facing a period of anaemic growth in FY 2017. We estimate a 6% yoy decline in installation numbers and 5% pricing pressure in FY 2017. We therefore estimate a 7% decline in group revenues (growth in service sales should offset some of the decline in the project business) to EUR 2,076m in FY 2017.

This, however, should have an adverse impact on margins as well, since we doubt that Senvion can offset lower revenue volume with ad-hoc cost-cutting measures. Thus, we estimate a 70bps decline in the adj. EBITDA margin from 9.5% in FY 2016 to 8.8% in FY 2017.

With an expected return to top-line growth in FY 2018, we estimate a rebound in the margin. However, we fear that pricing pressure, which we continue to estimate at 5% in FY 2018, is likely to prevent a stellar margin increase.

We acknowledge that stronger growth in the service business is likely to support margins, as we estimate that Senvion's service business generates an EBIT margin of roughly 15%, which is broadly in line with the service margin of peers such as Nordex. This could add approximately EUR 4m p.a. to the company's EBIT, which represents rather minor margin support in light of potentially strong pricing pressure.

With respect to FY 2017/18, our estimates do not assume any adverse one-offs. However, we estimate PPA expenses of EUR 93m and EUR 41m in FY 2017 and 2018, respectively.

P&L overview: No margin expansion on the cards

FY End: 31.12. in EUR m	CAGR (15-18e)	2014	2015	2016e	2017e	2018e
Sales	2.6 %	1,921.8	2,139.5	2,233.7	2,076.1	2,310.5
yoy		9.3 %	11.3 %	4.4 %	-7.1%	11.3 %
Gross profit	8.5 %	488.1	490.1	607.9	557.9	625.6
Gross margin		*25.4 %*	*22.9 %*	*27.2 %*	*26.9 %*	*27.1%*
EBITDA	0.6 %	144.0	210.4	212.3	182.1	214.3
EBITDA-margin		*7.5 %*	*9.8 %*	*9.5 %*	*8.8 %*	*9.3 %*
EBIT	-2.0 %	90.1	154.0	153.3	121.9	145.0
EBIT-margin		*4.7 %*	*7.2 %*	*6.9 %*	*5.9 %*	*6.3 %*
Net Income	-	32.1	-150.8	-19.1	-25.2	35.0
EPS	-	32.10	-28.11	-0.29	-0.39	0.54
DPS	-	0.00	0.00	0.00	0.00	0.00

Source: Warburg Research

Consensus estimates look too upbeat for FY 2017

In light of our cautious view for FY 2017, we believe that consensus estimates are still too upbeat, posing significant downside risk. There have been some downward revisions to FY 2017 estimates recently and we believe the release of the FY 2016 figures will serve as a catalyst for fresh downward revisions.

Consensus is anticipating somewhat flat top-line development in FY 2017. This, however, looks rather optimistic to us. As we argued earlier, even with a very strong Q4 2016 order intake, new orders in FY 2016 should amount to EUR 1.5bn at best, a decline of more than 30% yoy. Thus, onshore sales in FY 2017 are likely to experience a notable drop, leaving limited room for growth in group sales.

In terms of profitability however, consensus estimates do not assume a margin expansion until FY 2018. Consensus expects the EBITDA margin to hover around 9.5% in the coming years, in line with the expected margin in the current fiscal year.

Thus, our FY 2017 EBITDA estimate of EUR 182m stands more than 13% below consensus. As outlined above, this is based on our assumption that a decline on the top line in FY 2017 is likely to have an adverse impact on margins as well.

Warburg estimates vs consensus			
As of: 27.12.2016	**2016e**	**2017e**	**2018e**
Sales	**2,252.6**	**2,228.2**	**2,333.7**
yoy in %	*5.3%*	*-1.1%*	*4.7%*
Sales (WRe)	**2,233.7**	**2,076.1**	**2,310.5**
yoy in %	*4.4%*	*-7.1%*	*11.3%*
Delta WRe estimates (absolute)	-19.0	-152.2	-23.3
Delta WRe estimates (relative)	*-0.8%*	*-6.8%*	*-1.0%*
EBITDA adjusted	**215.0**	**209.8**	**228.8**
yoy in %	*2.2%*	*-2.4%*	*9.0%*
Margin in %	*9.5%*	*9.4%*	*9.8%*
EBITDA adjusted (WRe)	**212.3**	**182.1**	**214.3**
yoy in %	*0.9%*	*-14.2%*	*17.7%*
Margin in %	***9.5%***	***8.8%***	***9.3%***
Delta WRe estimates (absolute)	-2.7	-27.7	-14.5
Delta WRe estimates (relative)	*-1.3%*	*-13.2%*	*-6.3%*
EBIT adjusted	**156.2**	**155.9**	**173.9**
yoy in %	*1.4%*	*-0.2%*	*11.5%*
EBIT adjusted (WRe)	**153.3**	**121.9**	**145.0**
yoy in %	*-0.5%*	*-20.5%*	*18.9%*
Delta WRe estimates (absolute)	-2.9	-34.0	-28.9
Delta WRe estimates (relative)	*-1.9%*	*-21.8%*	*-16.6%*

Source: FactSet , Warburg Research

Capex cycle to remain at peak levels until FY 2018

With respect to cash generation, we fear that Senvion will struggle to demonstrate a strong cash profile as the company is likely to suffer from depressed profitability and high capex investments until FY 2018. While the company has made great strides with respect to working capital discipline, we believe that the peak has been reached and net working capital is likely to normalise to -2% of sales by FY 2018.

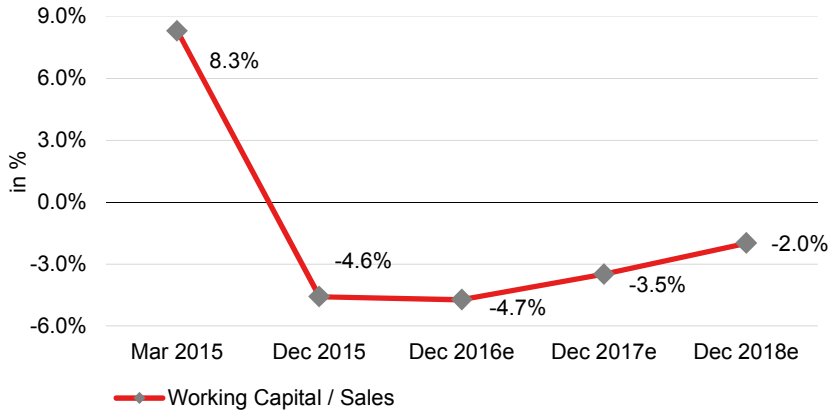
Strong working capital ratio leaves little room for improvement

Following the acquisition of Senvion by Centerbridge in 2015, Senvion benefited from a notable improvement in its working capital management. Under the supervision of Centerbridge, the net working capital to sales ratio improved from 8.3% (at the end of March 2015) to -4.7% at the end of FY 2015. This can be attributed to a change in accounting systems. Previously Senvion recognized revenues based on accrued costs, which resulted in early recognition of sales but also increased pre-production of components. Following the Centerbridge takeover, Senvion switched to a system of revenue recognition based on milestones. This set an incentive to reduce inventory levels and increase the efficiency of working capital management.

The net working capital to sales ratio improved even further in the course of FY 2016 to -6.4% at the end of September 2016 as a result of better alignment of supplier payment terms to project milestones and higher advance payments (represent roughly 15% of wind turbine order intake).

However, we doubt there is much scope to reduce net working capital any further, especially as growth is expected predominantly in LatAm and other emerging markets, where payment targets are usually less strict. Moreover, as we are assuming that competition will intensify among the WTMs, we doubt that Senvion can increase advance payments or the receivables collection period. Hence, we expect to see a normalisation of the net working capital ratio in the coming years and we therefore estimate a net working capital ratio of -2% in FY 2018. However, we don't expect changes in working capital to pose significant headwinds to cash flow generation until FY 2018.

Working capital management improved significantly



Source: Warburg Research

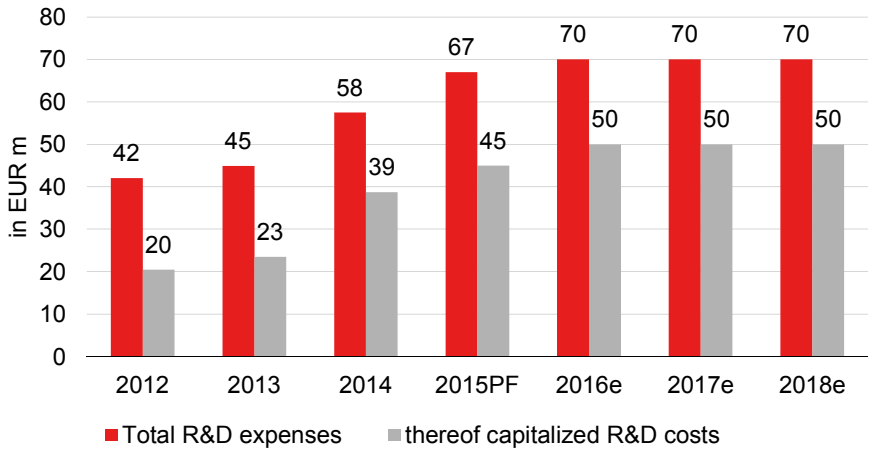
Total capex spend to amount to EUR 340m until FY 2018

In our view, the next years will be characterised by extraordinarily high capex investments. This is unlikely to abate before FY 2019 as the company needs to catch up in terms of R&D and growth investments. We therefore estimate that total capex investments will exceed 5% of sales between FY 2016 and FY 2018.

Senvion lowered its capex investments quite significantly when it was part of the cash-strapped Suzlon group. Thus, the company now needs to ramp up its investments in R&D and physical capacities.

R&D investment is necessary to ensure market introduction of the eagerly awaited 3.4M140 light wind turbine as well as the recently announced medium wind turbine 3.6M140 in FY 2018. We therefore expect R&D spend to remain above historical levels until FY 2018.

Expected development of R&D expenses

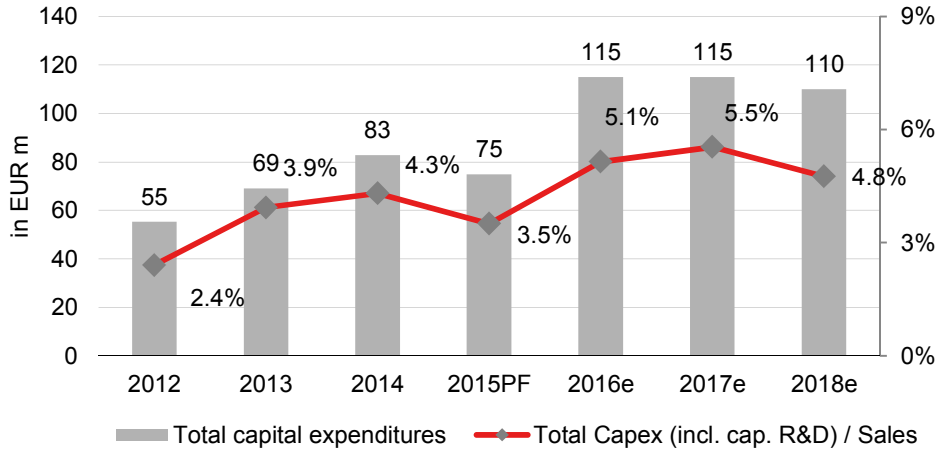


Source: Warburg Research

In addition, total capex investments also include investments in physical capacities such as production facility upgrades and growth capex for the internationalisation strategy. Senvion's expansion into new markets in LatAm (Chile, Mexico, Peru and Uruguay), Scandinavia and India requires, in certain cases, local content for the production.

Hence, we estimate total capex investments (including capitalised R&D costs) to amount to EUR 115m, EUR 115m and EUR 110m in FY 2016, 2017 and 2018, respectively.

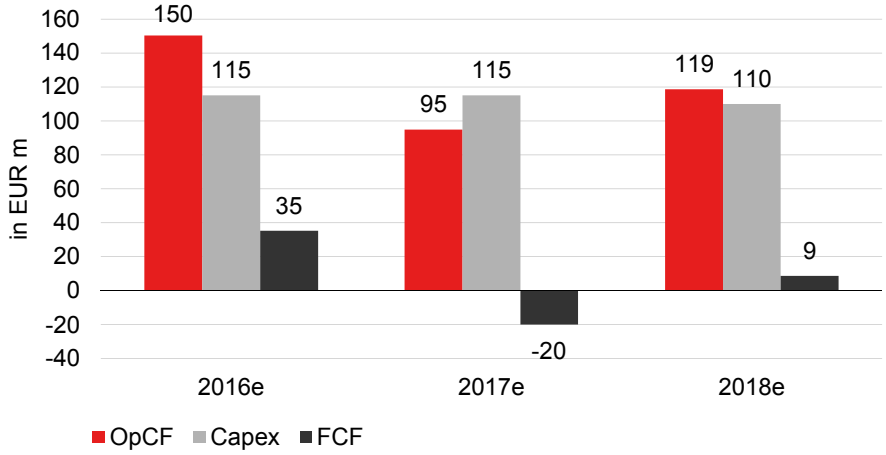
Investments to remain at record highs until FY 2018



Source: Warburg Research, Senvion

As a result of the sustained high level of capex investments, we do not expect Senvion to generate a meaningful cumulative free cash flow in the period FY 2016-2018.

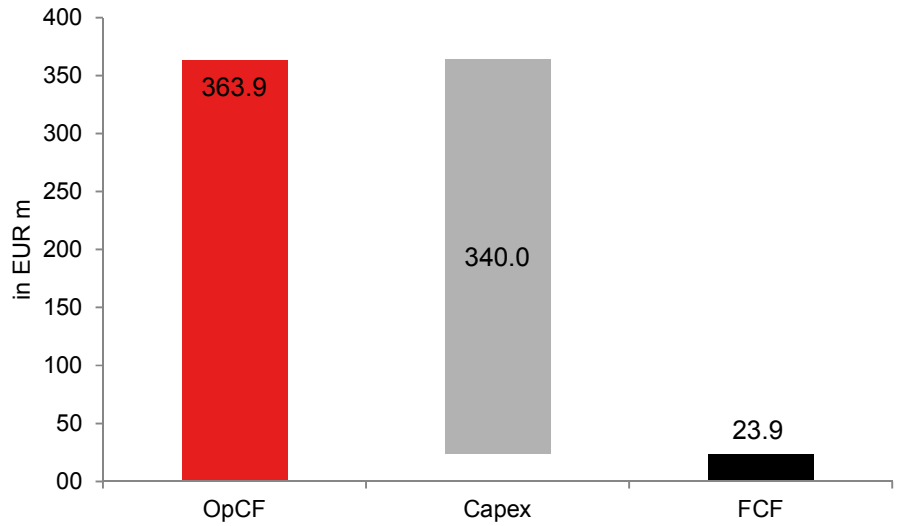
Free cash flow generation to remain subdued



Source: Warburg Research

We forecast that cumulative FCF (before acquisitions) in 2016-2018 will amount to a mere EUR 23.9m.

Cumulative free cash flow generation 2016-2018

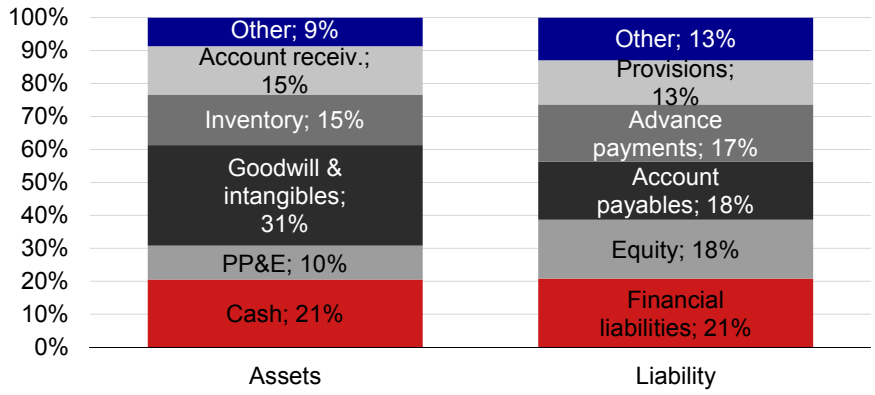


Source: Warburg Research

Healthy balance sheet but redemption of high yield bond should be top priority

We regard the company's balance sheet structure as rather healthy with a net cash position of EUR 3m as of December 31, 2015. More importantly, since fixed assets represent roughly 10% of total assets, one can rightly draw the conclusion that the company has a very asset-light business model.

Expected balance sheet structure at the end of FY 2016

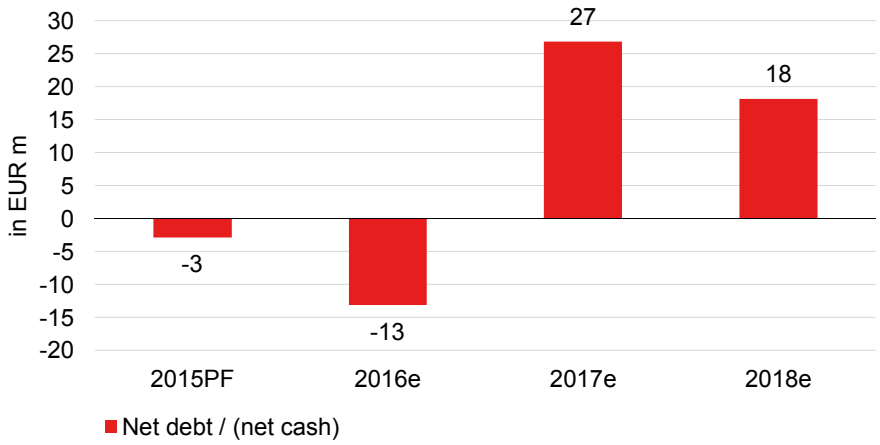


Source: Warburg Research

The company's net cash position improved even further to EUR 19m in the first nine months of the year. However, Senvion's strong balance sheet benefits from advance payments which amounted to roughly EUR 291m at the end of FY 2015 (and EUR 310m as of September 30, 2016).

In future, however, we forecast a swing to a net debt position in FY 2017 on the back of weaker operating cash flow generation and a EUR 30m cash outflow for the ongoing share buyback programme.

Expected net debt development



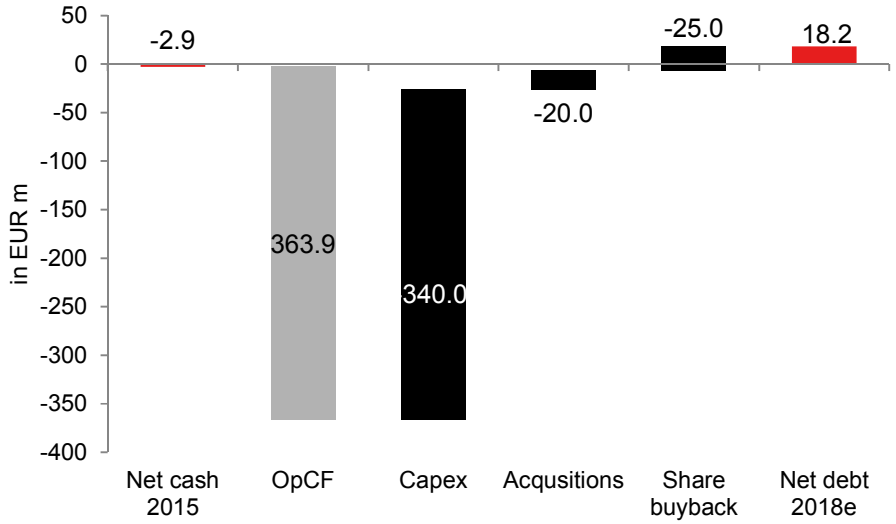
Source: Warburg Research

Despite its low net indebtedness, it is important to note that the company has a senior secured note outstanding (Green bond) with a principal amount of EUR 400m due November 2020. The high yield bond was issued in April 2015 to refinance Senvion's acquisition. The note bears interest at a fixed rate of 6.625% p.a. and Senvion therefore incurs net interest expenses of EUR 26.5m per year which is clearly inefficient, considering the company's solid balance sheet structure.

To reduce the interest burden, one might expect Senvion to refinance the bond or at least a portion of the outstanding amount early. The bond is callable on, and after, May 15, 2017 at par plus 50% of the coupon (103.313%). To our understanding, however, the company is not planning to redeem a portion of the bond in FY 2017 but reserves the right to purchase its Senior Secured notes for cash in open market purchases or by privately-negotiated transactions. The main intention is to avoid premium fees for the early redemption of the bond.

Finally, the chart below illustrates our assumptions with respect to payments for acquisitions (Kenersys & EUROS) and the ongoing share buyback.

Net debt / (net cash) bridge for FY 2015-2018e



Source: Warburg Research

Share Price Development

- Management launched a EUR 75m share buyback programme following a dramatic share price slump to c. EUR 10 (the shares initially floated at EUR 15.75).
- However, we don't expect management to exhaust the maximum amount and estimate a total buyback volume of EUR 25m.
- More importantly, while the initial effect was positive, the buyback has not proven very effective in recent weeks since the shares continued to decline following the Q3 2016 results.
- Finally, we anticipate a massive share overhang at a price of EUR 15.75 since this would reflect the hurdle when many investors would be "in the money" following the IPO. In addition, the current owner Centerbridge (73.6% stake) had initially planned to sell a larger portion of its stake via the IPO. We fear that a reduction of the stake could exert additional pressure on the share price.

Share buyback programme unlikely to drive share price going forward

Recent development supported by share buybacks

Although the company went public less than a year ago, in March 2016, investors have already had quite a turbulent time.

Back in February 2015, Senvion announced its plan to go public in the first half of 2016. In a first step, ahead of the IPO, the company planned to offer up to 29.9m shares (around 46% stake) for a price of between EUR 20.00 and EUR 23.50 to institutional investors as part of a private placement. That would have resulted in a valuation between EUR 1.3bn and 1.53bn. The actual IPO was scheduled to take place one day after the private placement.

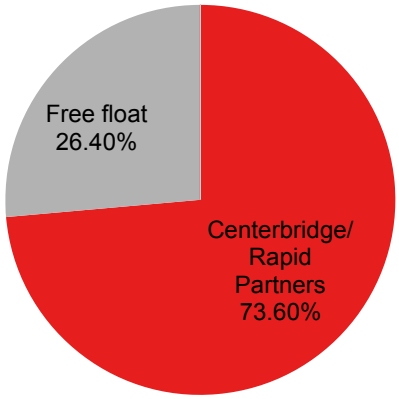
However, Senvion cancelled its plans for an IPO one day before the end of the offer period on March 16, 2016. The reasons were not disclosed.

One week later, on March 21, Senvion reassessed the situation and announced it would resume the floatation process with changed parameters. The price range was adjusted to EUR 15.50 to EUR 17.00 per share. The maximum volume was reduced to 18.7m (16.25m + 2.4m overallotment) shares. More importantly, the issued shares should stem from Centerbridge and Arpwood, providing a partial exit for both private equity houses.

Finally, on March 23, Senvion went public with an issuing price of EUR 15.75 for nearly 18.7m shares. Total offer volume amounted to EUR 294m with a market capitalization of EUR 1.02bn. After a stabilization period, Centerbridge and Arpwood retained a 73.6% stake in Senvion. Furthermore, Centerbridge and Arpwood agreed to a lock-up period of six months, which expired on September 25, 2016.

However, we expect a share overhang at a share price of roughly EUR 16 since we believe that many investors could decide to take profits one they are back "in the money" following the IPO. In addition, we believe Centerbridge would welcome an exit sooner rather than later. Thus, we fear that the shares won't have sufficient breathing room to remain above the EUR 16 hurdle on a sustainable basis.

Shareholder structure (as of April 30, 2016)



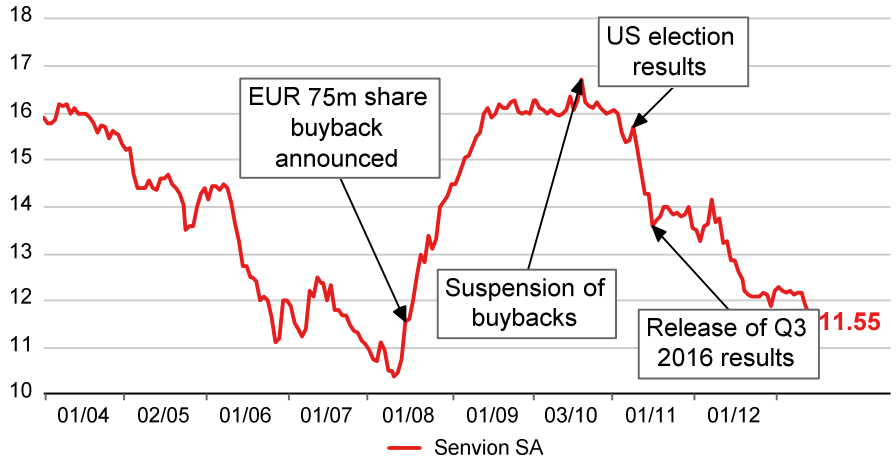
Source: Senvion, Warburg Research

Following the successful IPO in March, the shares followed a downward trend. This was mainly driven by a slower than expected order intake in the course of the fiscal year.

The shares reached a trough at EUR 10.40 on August 10, 2016. However, only five days later, management decided to initiate a share buyback programme for a maximum of EUR 75m over the next two years. The repurchase of shares can be made within a price range of EUR 10 to EUR 35 per share for up to 6.5m shares (10% of issued share capital).

Following the announcement and the commencement of the buyback programme on August 26, 2016, the shares recovered to c. EUR 16 but did not exceed this very important mark.

Share price development

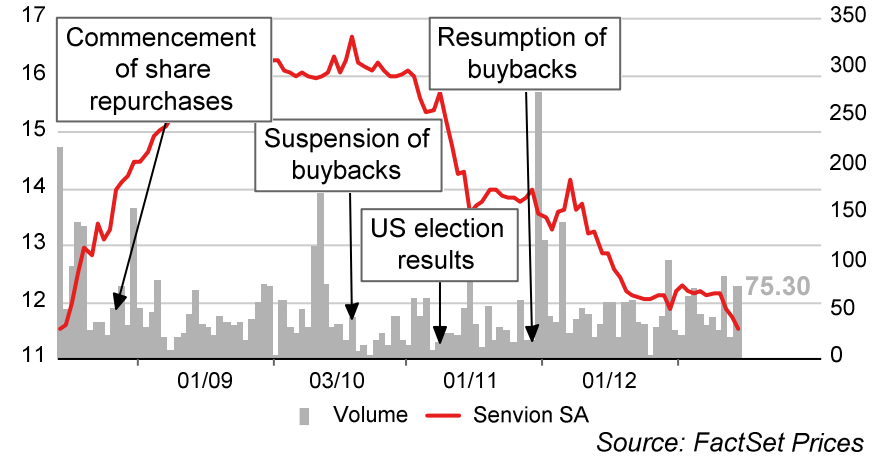


Source: FactSet Prices

Source: Warburg Research

The share buyback is being carried out by a credit institution, which makes independent decisions regarding the timing of the repurchase of shares, without the involvement of the company.

Share price development since start of share buyback programme

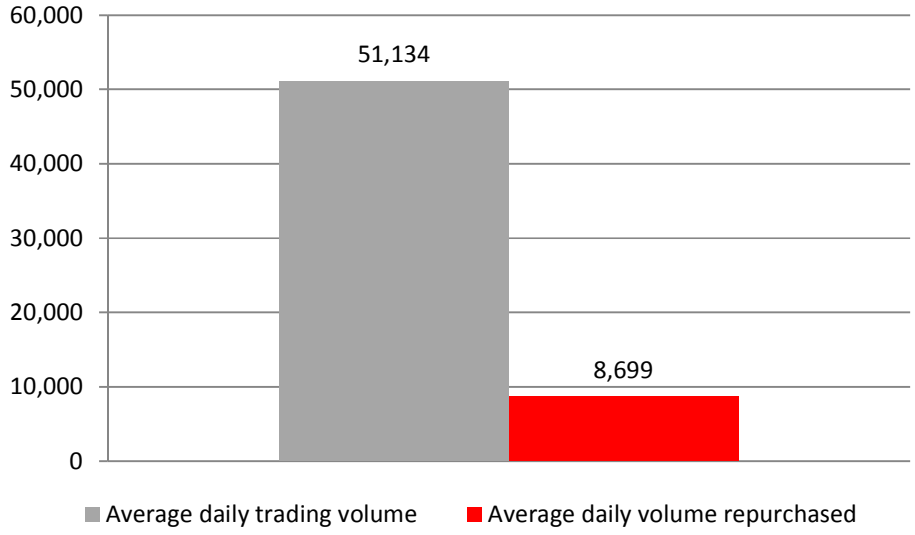


Source: FactSet Prices

Source: FactSet, Warburg Research

Between August 26 and October 18, 321,846 shares were bought back, significantly driving daily trading volume. Senvion repurchased roughly 8,700 shares per day.

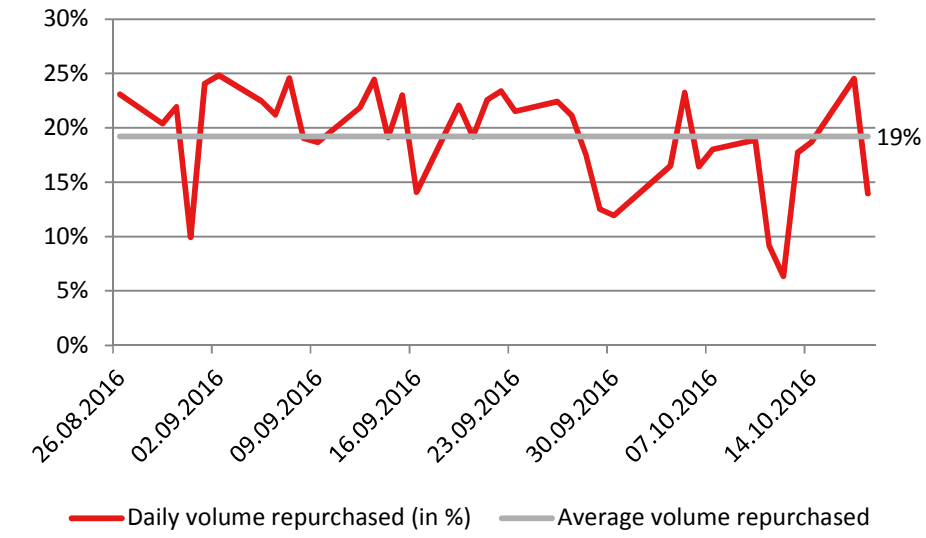
Average daily trading volume vs daily repurchases (26/08 – 18/10/2016)



Source: Senvion, Bloomberg, Warburg Research

Consequently, roughly 19% of the total daily trading volume is attributable to the share buyback programme, which is quite high considering that it is not permitted to repurchase more than 25% of the average daily trading volume of the shares (in XETRA trading over the last 20 trading days).

Around 19% of total daily volume was attributable to share buybacks



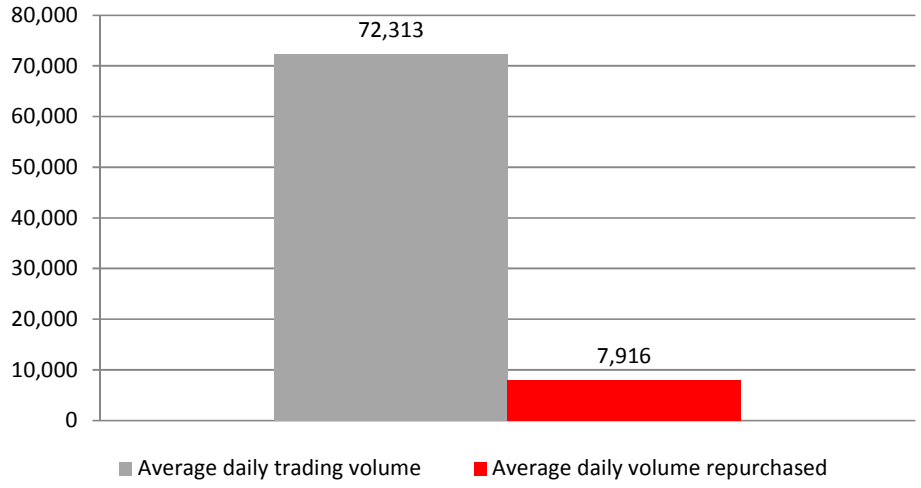
Source: Senvion, Bloomberg, Warburg Research

Senvion spent EUR 5m in total between August and October 2016 on the share buyback programme.

The company suspended its buyback programme ahead of the release of its Q3 2016

results on November 15, 2016. Following the share price slump after the release of the Q3 2016 results and Trump's election win, Senvion resumed its share repurchase programme. Between November 29 and December 16, 2016 the company bought back 111,000 shares and spent some EUR 1.5m.

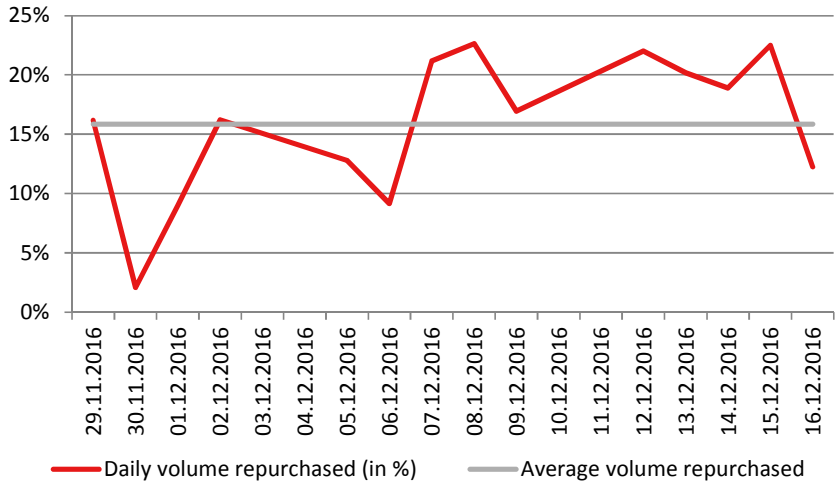
Average daily trading volume vs daily repurchases (29/11 – 16/12/2016)



Source: Senvion, Bloomberg, Warburg Research

Once again, the company's buyback programme represented a significant portion (16%) of the total average daily trading volume.

Share repurchases represented 16% of daily trading volume (29/11 – 16/12/2016)



Source: Senvion, Bloomberg, Warburg Research

However, this time the company's buyback programme did not support the share price and the company's shares dropped 9% from EUR 13.85 to EUR 12.6 on December 16, 2016.

Share buyback programme unlikely to drive share price going forward

While the company's share buyback programme represented a significant driver of the shares until October 2016, it failed to deliver such support in December 2016. The shares dropped quite significantly to below EUR 13.

More importantly, management does not regard the share repurchase programme as a tool to prevent low valuation levels. Hence the programme won't provide an effective floor to the share price. To our understanding, the company's announcement of the share buyback programme back in August was rather an attempt to signal confidence in times of significant volatility when the shares suddenly dropped to EUR 10.

However, this also implies that the share buyback programme will not be used as a means to take advantage of low share price levels, nor was the programme intended to return funds to shareholders as the company is in the midst of an extensive capex programme.

To sum up, we do not expect management to boost share prices as it is not committed to a certain share price level. Consequently, investors should not base their investment rationale on the company's share buyback programme.

We currently estimate that Senvion might spend a total of EUR 17.5m on the share buyback programme in FY 2017 as we expect a rather turbulent year. However, we do not expect management to exhaust the maximum amount of EUR 75m for the programme. We estimate a total cash outflow of EUR 25m for share repurchases (thereof EUR 7.5m in FY 2016).

Poor share price development reflects industry weakness but not necessarily company-specific issues yet

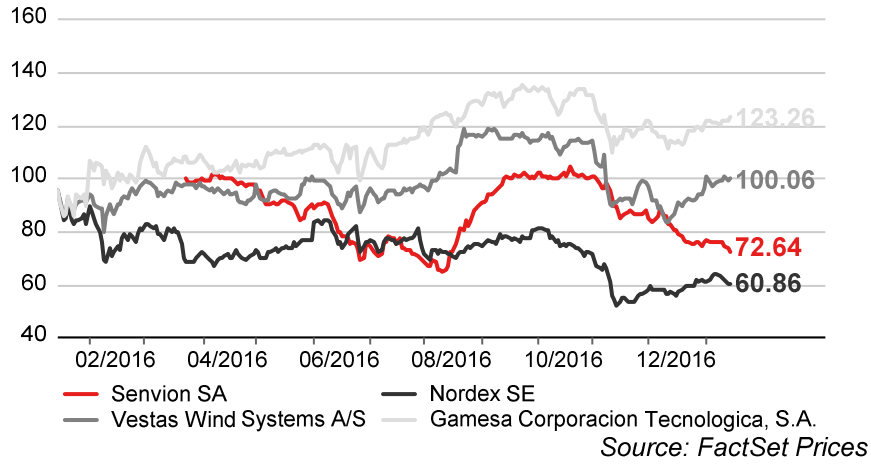
Senvion's share price development and the performance of its direct peers shows that it was not a particularly successful year for most of the WTMs as investors seem to fear the introduction of the auction system in Europe as well as a Trump presidency, which is expected to inhibit the development of onshore wind in the US.

Senvion shares have lost some 27% in value since the IPO, which compares to a flattish share price development at Vestas and a gain of more than 23% at Gamesa, mainly driven by the takeover offer of Siemens. Nordex is the only WTM, with a poorer share price development than Senvion.

Even though Senvion's share price performance lagged behind peers, we do not consider the performance gap large enough to warrant a meaningful technical rebound going forward. We deem this a lot more likely for Nordex, which has underperformed significantly compared to its peers.

More importantly, as we expect Senvion to suffer from market share losses in FY 2017 as well as weaker financial results and the associated downward revisions to consensus estimates, we believe these developments are set to prevent a rebound in the share price.

Indexed share price development of wind players (as of January 2016)



Source: FactSet Prices

Source: FactSet, Warburg Research

Valuation

- We value Senvion based on our DCF model, which points to a fair value per share of EUR 12.
- In terms of relative valuation, the shares trade at a 26% discount to peers on FY 2017 EV/ EBITDA. However, following the US election, the peer group has experienced a devaluation which has resulted in a shrinking discount to peers for Senvion.
- Our PT of EUR 12 indicates that the current discount to peers is appropriate.

Absolute valuation indicates a fair value of EUR 12 per share

Absolute valuation

DCF model

We value Senvion based on our DCF model which points to a fair value per share of EUR 12.0. This value is based on a detailed planning horizon until 2019 (which, in turn, is based on our market model), a transition period until 2028 and our terminal value assumption. Our main underlying assumptions:

- Sales growth of 4.4%, -7.1% and 11.3% in FY 2016, 2017 and 2018, respectively. Based on our market model, we also forecast a drop in sales of 16.5% in FY 2019. Following the detailed planning period, we assume peak sales growth of 3% p.a. with a steady decline to a sustainable growth rate of 2% p.a. in perpetuity.
- Peak EBIT margin (after PPA and one-offs) of 6.3% and a long-term sustainable EBIT margin of 4.5% for our terminal growth assumption (expected reported EBIT margin in FY 2016: 1.8%).
- Terminal growth of 1.5%
- Stable tax rate of 30%
- WACC of 8.5%, implying a risk-free rate of 1.5% and a market premium of 5.5%
- Beta of 1.40, which reflects the cyclicality of the renewable industry

Our sensitivity analysis indicates that on average an increase in the assumed EBIT margin of +1pp, which would be a challenging target, would result in a fair value of EUR 15.0. Nonetheless, in light of difficult growth prospects, intense competition and increasing pricing pressure, we stick to our view that it would be rather difficult to expand the EBIT margin by 1% on a sustainable basis.

DCF model

	Detailed forecast period			Transitional period										Term. Value
Figures in EUR m	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	
Sales	2,234	2,076	2,310	1,929	1,987	2,037	2,088	2,140	2,193	2,237	2,282	2,328	2,363	
Sales change	*4.4 %*	*-7.1 %*	*11.3 %*	*-16.5 %*	*3.0 %*	*2.5 %*	*2.5 %*	*2.5 %*	*2.5 %*	*2.0 %*	*2.0 %*	*2.0 %*	*1.5 %*	*1.5 %*
EBIT	40	29	104	77	99	122	131	130	128	126	124	122	120	
EBIT-margin	*1.8 %*	*1.4 %*	*4.5 %*	*4.0 %*	*5.0 %*	*6.0 %*	*6.3 %*	*6.1 %*	*5.8 %*	*5.6 %*	*5.4 %*	*5.2 %*	*5.1 %*	
Tax rate (EBT)	*15.0 %*	*15.0 %*	*15.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	
NOPAT	34	25	88	54	70	86	92	91	90	88	87	86	84	
Depreciation	162	153	110	87	79	71	63	64	66	67	68	70	71	
in % of Sales	*7.3 %*	*7.4 %*	*4.8 %*	*4.5 %*	*4.0 %*	*3.5 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	
Changes in provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in Liquidity from														
- Working Capital	-7	33	27	26	19	20	11	1	12	1	1	1	1	
- Capex	115	115	110	96	89	81	84	86	88	89	91	93	71	
Capex in % of Sales	*5.1 %*	*5.5 %*	*4.8 %*	*5.0 %*	*4.5 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*3.0 %*	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	89	30	62	18	40	55	60	68	56	65	63	61	83	67
PV of FCF	82	25	49	13	27	34	34	36	27	29	26	23	29	332
share of PVs	20.44 %			36.25 %										43.31 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	14.00 %	Financial Strength	1.40
Cost of debt (after tax)	4.2 %	Liquidity (share)	1.20
Market return	7.00 %	Cyclicality	1.70
Risk free rate	1.50 %	Transparency	1.40
		Others	1.30
WACC	**8.50 %**	**Beta**	**1.40**

Valuation (m)

Present values 2028e	435		
Terminal Value	332		
Financial liabilities	416		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	419	No. of shares (m)	64.9
Equity Value	**770**	**Value per share (EUR)**	**11.87**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	0.75 %	1.00 %	1.25 %	**1.50 %**	1.75 %	2.00 %	2.25 %
1.61	9.5 %	10.03	10.13	10.25	10.37	10.50	10.63	10.78
1.51	9.0 %	10.66	10.79	10.92	11.07	11.22	11.39	11.57
1.45	8.8 %	11.00	11.14	11.29	11.45	11.62	11.81	12.01
1.40	8.5 %	11.37	11.53	11.69	**11.87**	12.06	12.26	12.48
1.35	8.3 %	11.76	11.93	12.12	12.31	12.52	12.75	13.00
1.29	8.0 %	12.19	12.37	12.57	12.79	13.03	13.28	13.55
1.19	7.5 %	13.12	13.35	13.60	13.87	14.16	14.48	14.83

		Delta EBIT-margin						
Beta	WACC	-1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.61	9.5 %	6.11	7.53	8.95	10.37	11.79	13.20	14.62
1.51	9.0 %	6.54	8.05	9.56	11.07	12.57	14.08	15.59
1.45	8.8 %	6.78	8.34	9.90	11.45	13.01	14.57	16.12
1.40	8.5 %	7.04	8.65	10.26	**11.87**	13.48	15.09	16.70
1.35	8.3 %	7.31	8.98	10.65	12.31	13.98	15.64	17.31
1.29	8.0 %	7.61	9.34	11.06	12.79	14.52	16.25	17.97
1.19	7.5 %	8.28	10.14	12.01	13.87	15.74	17.60	19.46

- The DCF model is based on a peak EBIT margin of 6.3% and a long-term sustainable EBIT margin of 4.5%.
- We cautiously estimate top-line growth of 3% p.a. at maximum and a terminal growth rate of 1.5%.

Relative valuation

In terms of relative valuation, our peer group comparison indicates that Senvion trades at a discount to its peers. Our peer group solely consists of pure-play European wind turbine peers.

To arrive at the trading multiples for the wind turbine peers, we decided to treat advanced payments from customers as part of debt to allow for a fair picture across the peer group. Consequently, we have added EUR 310m of customers' advanced payments (as of September 30, 2016) to Senvion's enterprise value calculation. We conducted the same adjustments to the EV for the other companies in our peer group (using 9M 2016 balance sheet figures).

We believe the best trading multiple to compare the peers is EV/ adj. EBITDA. Significant PPA expenses at Senvion and Nordex would otherwise distort the picture. On FY 2017 EV/ EBITDA, Senvion trades on a multiple of 5.8x. This compares to an industry average of 7.3x, which is a reflection of the devaluation of wind names, recently observed following the US presidential election. Nonetheless, this still implies a discount of roughly 26% to peers. However, Senvion trades at discount of just 16% compared to its closest peer Nordex.

Thus, if Senvion was trading in line with the industry average, this would imply a share price of EUR 16.0. However, we believe a discount is warranted based on Senvion's product portfolio which is lagging behind peers, an internationalisation strategy which still needs to prove itself, and finally its high capex needs in the years ahead.

Our price target of EUR 12.0, in contrast, implies a fair 2017e EV/ adj. EBITDA multiple of 5.9x for Senvion. Thus, we deem the current discount to peers as appropriate.

Relative valuation

Peergroup - Valuation Multiples

Company	LC	Price	MC	EV	P / E			EV / Sales			EV / EBITDA			EV / EBIT		
		in LC	in LC m	in LC m	16e	17e	18e	16e	17e	18e	16e	17e	18e	16e	17e	18e
Vestas	DKK	472.60	104,702.0	105,038.0	14.1x	14.9 x	13.6 x	1.4 x	1.4 x	1.4 x	8.0 x	8.8 x	8.3 x	10.2 x	11.4 x	10.6 x
Gamesa	EUR	19.57	5,465.3	5,663.2	18.7 x	17.0 x	15.5 x	1.2 x	0.9 x	0.9 x	8.2 x	7.3 x	7.6 x	12.4 x	9.0 x	8.2 x
Nordex	EUR	20.10	1,949.3	2,377.6	22.1x	17.5 x	13.0 x	0.7 x	0.7 x	0.6 x	8.5 x	6.9 x	6.0 x	15.4 x	12.7 x	9.8 x
Average					18.3 x	16.5 x	14.0 x	1.1x	1.0 x	0.9 x	8.2 x	7.7 x	7.3 x	12.7 x	11.0 x	9.6 x
Median					18.7 x	17.0 x	13.6 x	1.2 x	0.9 x	0.9 x	8.2 x	7.3 x	7.6 x	12.4 x	11.4 x	9.8 x
Senvion	**EUR**	**11.75**	**763.4**	**1,055.2**	**neg.**	**neg.**	**21.0 x**	**0.5 x**	**0.5 x**	**0.5 x**	**5.2 x**	**5.8 x**	**4.9 x**	**26.1 x**	**36.5 x**	**7.3 x**
Valuation difference to Median					n.a.	n.a.	-35%	163%	78%	89%	57%	26%	55%	-52%	-69%	35%
Fair value per share based on Median					n.a.	n.a.	7.63	38.20	24.39	26.21	20.96	16.00	20.69	3.24	0.57	17.42

Source: Warburg Research

Company History

Senvion, formerly known as REpower, is a German wind turbine company, headquartered in Hamburg/Germany, and the sixth-largest manufacturer of wind turbines worldwide with a market share of 6.6% (excluding China). In Europe, Senvion extended its market share to 11.7% in 2015. The company is operating in 20 countries and has an installed capacity of 13.7 GW worldwide. Senvion's main activity is the onshore business, which generates 85.1% of its revenues (2015).

The company was founded back in 2001 following the merger of several entities (Denker & Wulf and Jacobs Energie, amongst others) and was publicly listed in 2002. Suzlon acquired a majority stake in the company in 2007 and delisted the company in 2011, following a squeeze-out of the minority shareholders. REpower was renamed to Senvion in 2014 and acquired by private equity firm Centerbridge in April 2015 for EUR 1.0bn. While Senvion was not allowed to operate in emerging markets under the ownership of Suzlon, the company is now focusing heavily on its geographic expansion strategy, breaking into new markets in Chile, Peru, Uruguay as well as India, Turkey, Mexico, Scandinavia, Ireland and Japan.

Onshore business

Senvion has about 20 years of experience in the onshore business and provides its customers with wind turbines for all wind speeds. The size and height depend on the customer's needs. The hub height can be up to 160 meters. Such heights are especially suitable for Scandinavian countries or Germany where the landscape is covered by forest. The number of WTG installed per project ranges from a single turbine to 30 WTGs. Even larger projects were realised in Canada and Australia. However, an average of five WTGs are installed per project.

The WTG capacity Senvion offers its customers in the onshore business ranges from 2 to 3.4 MW. The 3.4M140 is the company's latest development. The wind turbine was developed for areas of low wind speed and was named the most efficient WTG in the market for low wind speed in 2015 by MAKE Consulting (MAKE Trends 2015).

At the end of 2015, Senvion installed about 4,377 WTGs of the MM series and 746 WTGs of the 3.XM series in the onshore business. Overall Senvion installed a capacity of 12.8 GW in the onshore market.

Offshore business

Since 2001, Senvion has been developing high-performance wind turbines for the offshore market. Today, the company has more than 10 years of experience in this business field. Senvion was the first company to successfully install a 5MW WTG in 2006. Since then, it has installed a capacity of 939 MW of offshore WTGs. All were installed in Europe and 45% were installed in Germany. In the 5MW-plus market in Europe, Senvion's market share exceeds 50% of all commissioned offshore projects.

The 6.2M152 WTG is Senvion's latest development with a capacity of more than 6 MW.

Services

At the end of 2015, Senvion held service contracts for three-quarters of its installed fleet. The average duration of a service contract increased to 10 years from 8.6 years in 2012. One of the strengths of these contracts is the stable and predictable cash flow. In FY 2015, about 10.7% of revenues were generated by O&M services.

The main services Senvion provides are the following:

- Installation and commissioning of WTGs

  As a supplier of WTGs, Senvion offers additional installation services for its customers. In 2015, 126 of 601 installed WTGs were installed by the customers themselves, while 475 were installed by Senvion's staff or subcontracted companies.

- Integrated services

  The integrated service supports the customer with the planning of wind farms and evaluation of locations and potential risks related to the project. The company also offers support with local restrictions and carries out the planning for the connection of the wind farm to electricity grids.

- Logistic services

  Delivering a WTG and organizing the transport to a wind farm is a challenging project. Senvion is able to deliver WTGs to nearly every location more than 50 kilometres offshore and to a depth of more than 40 metres.

- Operation and maintenance

  The operation and maintenance services include 24-hour remote monitoring, maintenance and repair services. While most of the onshore wind farms can be reached within approx. two hours from a service centre, 60% of faults can be diagnosed and rectified by the system remotely. Those services are offered in separate contracts.

  The "Integrated Service Package" accounts for 86% of service revenues. This package includes all spare parts and labour necessary to keep WTG operations up and running. The contract duration can range from two to 20 years. Customers requiring a more customised contract may select parts of the contract only.

  Senvion also offers standardised maintenance contracts which account for 5% of service revenues.

  The renewal rate of service contracts was about 75% in 2015.

Management

Management Board of Senvion

Dr. Jürgen M. Geißinger, CEO

Jürgen Geißinger (age: 56) joined the management board of Senvion in December 2015. His career started at the Fraunhofer Institute of Production Technology and Automation, where he gained his PhD. After working for Heidelberger Druckmaschinen, Jürgen Geißinger held leading positions at ITT, a company in the automotive industry. In 1998 he was appointed CEO of Schaeffler and held this position until 2013. During that time he was responsible for the company's growth strategy and the successful expansion to emerging markets. After leaving Schaeffler he was appointed to several supervisory boards and is still a member of the supervisory board at MTU Aero Engines and Sandvik.

Manav Sharma, CFO

Manav Sharma (age: 34) became CFO of Senvion in July 2015. He has a Bachelor Degree in Computer Engineering and a post graduate degree in Management from the Symbiosis International University in Pune. His career started at ITC – an Indian conglomerate – where he was responsible for business development, sales and marketing. Afterwards Manav Sharma worked for Ernst & Young in the field of Business Advisory. In 2008 he joined Suzlon as a Senior Manager and was later promoted "Assistant General Manager for Strategy" in the chairman's office. From there, he managed several projects in business development, portfolio management of group investments, strategy and global M&A.

Supervisory Board of Senvion

Stefan Kowski

Stefan Kowski (age: 37) leads Centerbridge's corporate private equity investment business in Europe. In 2014 he joined Centerbridge as a Managing Director. He received an MBA from Harvard Business School and previously worked in the Mergers, Acquisitions and Restructurings Department at Morgan Stanley.

Other members of the Supervisory board include Deepak Misra, Todd Morgan, Amol Jain, Matthias Schubert and Prof. Dr. Martin Skiba.

DCF model

	Detailed forecast period			Transitional period										Term. Value
Figures in EUR m	**2016e**	**2017e**	**2018e**	**2019e**	**2020e**	**2021e**	**2022e**	**2023e**	**2024e**	**2025e**	**2026e**	**2027e**	**2028e**	
Sales	2,234	2,076	2,310	1,929	1,987	2,037	2,088	2,140	2,193	2,237	2,282	2,328	2,363	
Sales change	*4.4 %*	*-7.1 %*	*11.3 %*	*-16.5 %*	*3.0 %*	*2.5 %*	*2.5 %*	*2.5 %*	*2.5 %*	*2.0 %*	*2.0 %*	*2.0 %*	*1.5 %*	*1.5 %*
EBIT	40	29	104	77	99	122	131	130	128	126	124	122	120	
EBIT-margin	*1.8 %*	*1.4 %*	*4.5 %*	*4.0 %*	*5.0 %*	*6.0 %*	*6.3 %*	*6.1 %*	*5.8 %*	*5.6 %*	*5.4 %*	*5.2 %*	*5.1 %*	
Tax rate (EBT)	*15.0 %*	*15.0 %*	*15.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	*30.0 %*	
NOPAT	34	25	88	54	70	86	92	91	90	88	87	86	84	
Depreciation	162	153	110	87	79	71	63	64	66	67	68	70	71	
in % of Sales	*7.3 %*	*7.4 %*	*4.8 %*	*4.5 %*	*4.0 %*	*3.5 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	*3.0 %*	
Changes in provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in Liquidity from														
- Working Capital	-7	33	27	26	19	20	11	1	12	1	1	1	1	
- Capex	115	115	110	96	89	81	84	86	88	89	91	93	71	
Capex in % of Sales	*5.1 %*	*5.5 %*	*4.8 %*	*5.0 %*	*4.5 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*4.0 %*	*3.0 %*	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	89	30	62	18	40	55	60	68	56	65	63	61	83	67
PV of FCF	82	25	49	13	27	34	34	36	27	29	26	23	29	332
share of PVs	**20.44 %**			**36.25 %**										**43.31 %**

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	14.00 %	Financial Strength	1.40
Cost of debt (after tax)	4.2 %	Liquidity (share)	1.20
Market return	7.00 %	Cyclicality	1.70
Risk free rate	1.50 %	Transparency	1.40
		Others	1.30
WACC	**8.50 %**	**Beta**	**1.40**

Valuation (m)

Present values 2028e	435		
Terminal Value	332		
Financial liabilities	416		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	419	No. of shares (m)	64.9
Equity Value	**770**	**Value per share (EUR)**	**11.87**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	0.75 %	1.00 %	1.25 %	**1.50 %**	1.75 %	2.00 %	2.25 %
1.61	9.5 %	10.03	10.13	10.25	10.37	10.50	10.63	10.78
1.51	9.0 %	10.66	10.79	10.92	11.07	11.22	11.39	11.57
1.45	8.8 %	11.00	11.14	11.29	11.45	11.62	11.81	12.01
1.40	8.5 %	11.37	11.53	11.69	**11.87**	12.06	12.26	12.48
1.35	8.3 %	11.76	11.93	12.12	12.31	12.52	12.75	13.00
1.29	8.0 %	12.19	12.37	12.57	12.79	13.03	13.28	13.55
1.19	7.5 %	13.12	13.35	13.60	13.87	14.16	14.48	14.83

		Delta EBIT-margin						
Beta	WACC	-1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.61	9.5 %	6.11	7.53	8.95	10.37	11.79	13.20	14.62
1.51	9.0 %	6.54	8.05	9.56	11.07	12.57	14.08	15.59
1.45	8.8 %	6.78	8.34	9.90	11.45	13.01	14.57	16.12
1.40	8.5 %	7.04	8.65	10.26	**11.87**	13.48	15.09	16.70
1.35	8.3 %	7.31	8.98	10.65	12.31	13.98	15.64	17.31
1.29	8.0 %	7.61	9.34	11.06	12.79	14.52	16.25	17.97
1.19	7.5 %	8.28	10.14	12.01	13.87	15.74	17.60	19.46

- The DCF model is based on a peak EBIT margin of 6.3% and a long-term sustainable EBIT margin of 4.5%.
- We cautiously estimate top-line growth of 3% p.a. at maximum and a terminal growth rate of 1.5%.

Valuation

	2012	2013	2014	2015	2016e	2017e	2018e
Price / Book	n.a.	n.a.	n.a.	n.a.	2.0 x	2.2 x	2.0 x
Book value per share ex intangibles	388.53	387.09	389.97	-141.05	-4.03	-4.16	-3.74
EV / Sales	n.a.	n.a.	n.a.	n.a.	0.3 x	0.4 x	0.3 x
EV / EBITDA	n.a.	n.a.	n.a.	n.a.	3.7 x	4.2 x	3.6 x
EV / EBIT	n.a.	n.a.	n.a.	n.a.	18.7 x	26.7 x	7.3 x
EV / EBIT adj.*	n.a.	n.a.	n.a.	n.a.	4.9 x	6.3 x	5.3 x
P / FCF	n.a.	n.a.	n.a.	n.a.	21.3 x	n.a.	83.9 x
P / E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20.7 x
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20.7 x
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Free Cash Flow Yield Potential	n.a.	n.a.	n.a.	n.a.	18.4 %	15.5 %	18.5 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
Sales	**2,294**	**1,759**	**1,922**	**2,140**	**2,234**	**2,076**	**2,310**
Change Sales yoy	n.a.	-23.3 %	9.3 %	11.3 %	4.4 %	-7.1 %	11.3 %
Increase / decrease in inventory	-94	12	4	-13	0	0	0
Own work capitalised	21	23	39	45	45	43	41
Total Sales	**2,221**	**1,795**	**1,965**	**2,171**	**2,279**	**2,119**	**2,351**
Material expenses	1,836	1,366	1,477	1,681	1,671	1,561	1,726
Gross profit	**385**	**429**	**488**	**490**	**608**	**558**	**626**
Gross profit margin	*16.8 %*	*24.4 %*	*25.4 %*	*22.9 %*	*27.2 %*	*26.9 %*	*27.1 %*
Personnel expenses	198	196	209	230	255	241	261
Other operating income	70	44	34	54	61	62	69
Other operating expenses	222	152	189	240	212	197	219
Unfrequent items	0	0	0	0	0	0	0
EBITDA	**35**	**124**	**124**	**75**	**202**	**182**	**214**
Margin	*1.5 %*	*7.1 %*	*6.5 %*	*3.5 %*	*9.1 %*	*8.8 %*	*9.3 %*
Depreciation of fixed assets	41	45	54	56	59	60	69
EBITA	**-7**	**79**	**70**	**19**	**143**	**122**	**145**
Amortisation of intangible assets	0	0	0	104	103	93	41
Goodwill amortisation	0	0	0	0	0	0	0
EBIT	**-7**	**79**	**70**	**-85**	**40**	**29**	**104**
Margin	*-0.3 %*	*4.5 %*	*3.6 %*	*-4.0 %*	*1.8 %*	*1.4 %*	*4.5 %*
EBIT adj.	**48**	**80**	**90**	**154**	**153**	**122**	**145**
Interest income	3	1	2	2	2	2	2
Interest expenses	16	16	20	97	65	60	65
Other financial income (loss)	0	0	0	0	0	0	0
EBT	**-20**	**26**	**52**	**-188**	**-23**	**-30**	**41**
Margin	*-0.9 %*	*1.5 %*	*2.7 %*	*-8.8 %*	*-1.0 %*	*-1.4 %*	*1.8 %*
Total taxes	-8	14	21	-32	-3	-4	6
Net income from continuing operations	**-12**	**12**	**31**	**-156**	**-19**	**-25**	**35**
Income from discontinued operations (net of tax)	0	-8	1	0	0	0	0
Net income before minorities	**-12**	**5**	**32**	**-156**	**-19**	**-25**	**35**
Minority interest	0	0	0	-5	0	0	0
Net income	**-12**	**5**	**32**	**-151**	**-19**	**-25**	**35**
Margin	*-0.5 %*	*0.3 %*	*1.7 %*	*-7.0 %*	*-0.9 %*	*-1.2 %*	*1.5 %*
Number of shares, average	1	1	1	5	65	63	63
EPS	**-12.40**	**4.86**	**32.10**	**-28.11**	**-0.30**	**-0.40**	**0.56**
EPS adj.	-12.40	4.86	32.10	-28.11	-0.30	-0.40	0.56

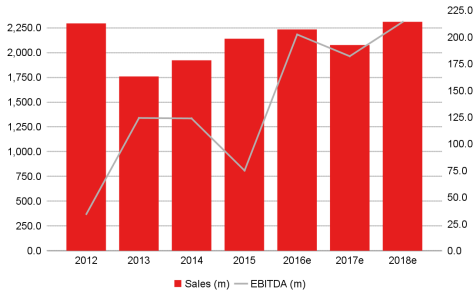
*Adjustments made for:

Guidance: FY 2016: sales of EUR 2.25-2.30bn; adj. EBITDA margin of c. 9.5%

Financial Ratios

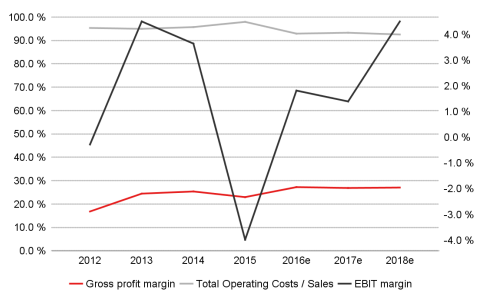
	2012	2013	2014	2015	2016e	2017e	2018e
Total Operating Costs / Sales	95.3 %	95.0 %	95.8 %	98.0 %	93.0 %	93.3 %	92.5 %
Operating Leverage	n.a.	n.a.	-1.3 x	n.a.	n.a.	4.1 x	23.0 x
EBITDA / Interest expenses	2.1 x	7.7 x	6.2 x	0.8 x	3.1 x	3.0 x	3.3 x
Tax rate (EBT)	39.4 %	52.8 %	40.7 %	17.1 %	15.0 %	15.0 %	15.0 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sales, EBITDA
in EUR m



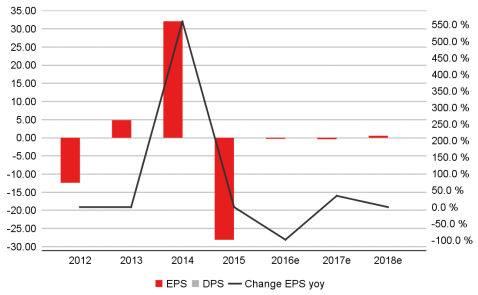
Source: Warburg Research

Operating Performance
in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

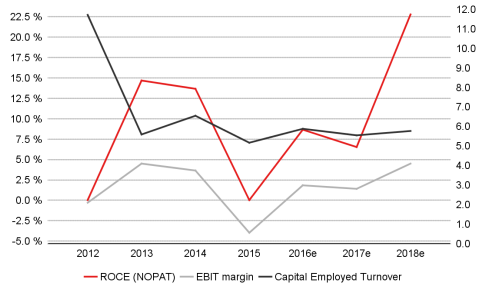
Consolidated balance sheet

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
Assets							
Goodwill and other intangible assets	105	118	142	687	634	591	600
thereof other intangible assets	89	102	126	687	634	591	600
thereof Goodwill	16	16	16	0	0	0	0
Property, plant and equipment	192	201	205	193	219	224	215
Financial assets	0	0	0	0	0	0	0
Other long-term assets	24	21	13	21	21	21	21
Fixed assets	**320**	**341**	**360**	**901**	**874**	**836**	**836**
Inventories	530	569	583	417	319	319	356
Accounts receivable	144	155	178	231	306	313	342
Liquid assets	381	270	301	419	427	390	398
Other short-term assets	171	240	208	158	158	158	158
Current assets	**1,226**	**1,235**	**1,270**	**1,225**	**1,210**	**1,180**	**1,254**
Total Assets	**1,546**	**1,576**	**1,629**	**2,126**	**2,085**	**2,016**	**2,090**
Liabilities and shareholders' equity							
Subscribed capital	9	9	9	0	1	1	1
Capital reserve	304	304	299	27	495	495	495
Retained earnings	0	3	3	7	-13	-38	-3
Other equity components	181	189	220	-103	-111	-128	-128
Shareholders' equity	493	505	532	-70	373	330	365
Minority interest	9	5	7	0	0	0	0
Total equity	**502**	**510**	**539**	**-69**	**373**	**330**	**365**
Provisions	200	242	264	280	280	280	280
thereof provisions for pensions and similar obligations	0	0	0	0	0	0	0
Financial liabilities (total)	75	75	56	903	434	434	434
thereof short-term financial liabilities	10	8	8	6	6	6	6
Accounts payable	312	331	337	382	367	341	380
Other liabilities	456	418	433	631	631	631	631
Liabilities	**1,044**	**1,065**	**1,090**	**2,196**	**1,712**	**1,686**	**1,724**
Total liabilities and shareholders' equity	**1,546**	**1,576**	**1,629**	**2,126**	**2,085**	**2,016**	**2,090**

Financial Ratios

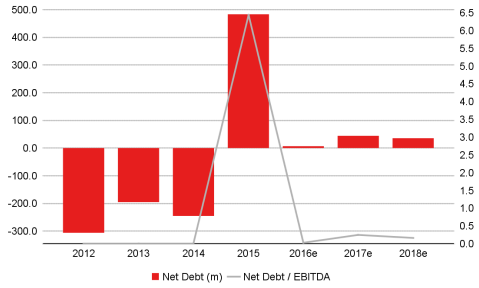
	2012	2013	2014	2015	2016e	2017e	2018e
Efficiency of Capital Employment							
Operating Assets Turnover	13.0 x	6.5 x	6.7 x	22.5 x	19.6 x	13.7 x	13.7 x
Capital Employed Turnover	11.7 x	5.6 x	6.5 x	5.2 x	5.9 x	5.5 x	5.8 x
ROA	-3.9 %	1.4 %	8.9 %	-16.7 %	-2.2 %	-3.0 %	4.2 %
Return on Capital							
ROCE (NOPAT)	n.a.	14.7 %	13.7 %	n.a.	8.7 %	6.5 %	22.8 %
ROE	n.a.	1.0 %	6.2 %	-65.2 %	-12.6 %	-7.2 %	10.1 %
Adj. ROE	n.a.	1.0 %	6.2 %	-65.2 %	-12.6 %	-7.2 %	10.1 %
Balance sheet quality							
Net Debt	-306	-195	-245	483	7	44	36
Net Financial Debt	-306	-195	-245	483	7	44	36
Net Gearing	-61.0 %	-38.3 %	-45.5 %	-696.8 %	1.8 %	13.4 %	9.7 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	644.3 %	3.3 %	24.3 %	16.6 %
Book Value / Share	493.1	505.2	532.0	-13.0	5.7	5.3	5.8
Book value per share ex intangibles	388.5	387.1	390.0	-141.1	-4.0	-4.2	-3.7

ROCE Development



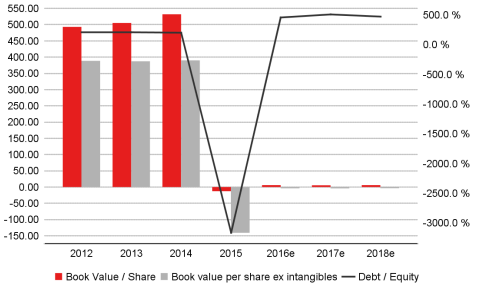
Source: Warburg Research

Net debt
in EUR m



Source: Warburg Research

Book Value per Share
in EUR



Source: Warburg Research

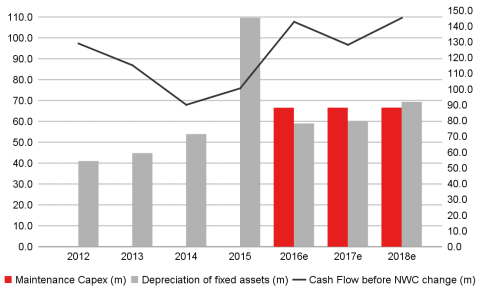
Consolidated cash flow statement

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
Net income	-12	5	32	-107	-19	-25	35
Depreciation of fixed assets	41	45	54	110	59	60	69
Amortisation of goodwill	0	0	0	0	0	0	0
Amortisation of intangible assets	0	0	0	104	103	93	41
Increase/decrease in long-term provisions	103	39	0	-17	0	0	0
Other non-cash income and expenses	-2	27	4	10	0	0	0
Cash Flow before NWC change	**129**	**115**	**90**	**101**	**143**	**128**	**145**
Increase / decrease in inventory	0	0	0	0	97	0	-36
Increase / decrease in accounts receivable	0	0	0	0	-75	-7	-29
Increase / decrease in accounts payable	0	0	0	0	-15	-26	39
Increase / decrease in other working capital positions	0	0	0	0	0	0	0
Increase / decrease in working capital (total)	-102	-4	30	321	7	-33	-27
Net cash provided by operating activities [1]	**27**	**111**	**120**	**318**	**150**	**95**	**119**
Investments in intangible assets	-23	-26	-44	-32	-50	-50	-50
Investments in property, plant and equipment	-32	-44	-39	-16	-65	-65	-60
Payments for acquisitions	0	0	0	-731	-20	0	0
Financial investments	0	0	0	0	0	0	0
Income from asset disposals	4	4	2	1	0	0	0
Net cash provided by investing activities [2]	**-51**	**-66**	**-81**	**-779**	**-135**	**-115**	**-110**
Change in financial liabilities	-9	-8	-8	872	0	0	0
Dividends paid	0	0	0	0	0	0	0
Purchase of own shares	0	0	0	0	-8	-18	0
Capital measures	0	0	0	2	0	0	0
Other	0	0	0	0	0	0	0
Net cash provided by financing activities [3]	**-9**	**-8**	**-8**	**874**	**-8**	**-18**	**0**
Change in liquid funds [1]+[2]+[3]	**-33**	**37**	**32**	**413**	**8**	**-38**	**9**
Effects of exchange-rate changes on cash	0	0	0	0	0	0	0
Cash and cash equivalent at end of period	**231**	**274**	**301**	**419**	**427**	**390**	**398**

Financial Ratios

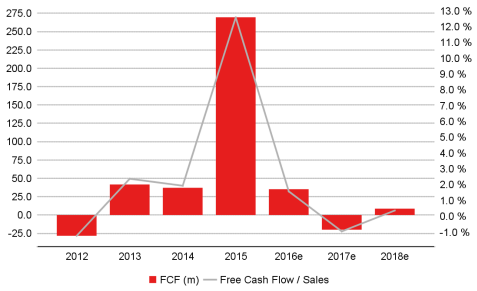
	2012	2013	2014	2015	2016e	2017e	2018e
Cash Flow							
FCF	-28	42	37	270	35	-20	9
Free Cash Flow / Sales	-1.2 %	2.4 %	1.9 %	12.6 %	1.6 %	-1.0 %	0.4 %
Free Cash Flow Potential	42	65	104	99	139	120	142
Free Cash Flow / Net Profit	228.3 %	857.1 %	115.8 %	-178.7 %	-184.1 %	79.3 %	24.8 %
Interest Received / Avg. Cash	n.a.	0.3 %	0.7 %	0.5 %	0.4 %	0.4 %	0.5 %
Interest Paid / Avg. Debt	n.a.	21.6 %	30.6 %	20.1 %	9.7 %	13.9 %	14.9 %
Management of Funds							
Investment ratio	2.4 %	3.9 %	4.3 %	2.3 %	5.1 %	5.5 %	4.8 %
Maint. Capex / Sales	0.0 %	0.0 %	0.0 %	0.0 %	3.0 %	3.2 %	2.9 %
Capex / Dep	134.7 %	154.4 %	153.7 %	30.3 %	71.0 %	75.1 %	99.7 %
Avg. Working Capital / Sales	n.a.	1.6 %	3.9 %	-0.4 %	-4.6 %	-4.3 %	-2.6 %
Trade Debtors / Trade Creditors	46.1 %	46.9 %	52.8 %	60.4 %	83.3 %	91.6 %	90.0 %
Inventory Turnover	3.5 x	2.4 x	2.5 x	4.0 x	5.2 x	4.9 x	4.9 x
Receivables collection period (days)	23	32	34	39	50	55	54
Payables payment period (days)	62	88	83	83	80	80	80
Cash conversion cycle (Days)	-25	-9	-11	-62	-80	-79	-71

CAPEX and Cash Flow
in EUR m



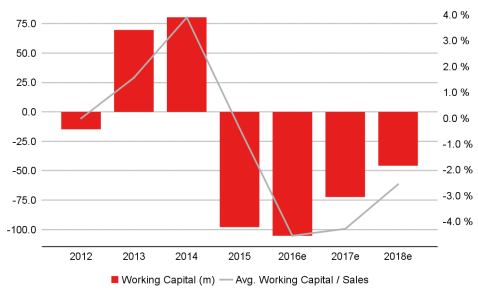
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



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-6c- The issuer holds shares of more than 5% of the total issued capital of Warburg Research or an affiliated company.

-7- The company preparing the analysis as well as its affiliated companies and employees have **other important interests** in relation to the analysed company, such as, for example, the exercising of mandates at analysed companies.

This report has been made accessible to the company analysed.

Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
Senvion	–	http://www.mmwarburg.com/disclaimer/disclaimer_en/LU1377527517.htm

INVESTMENT RECOMMENDATION

Investment recommendation: expected direction of the share price development of the financial instrument up to the given price target in the opinion of the analyst who covers this financial instrument.

-B-	**Buy:**	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	**Hold:**	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	**Sell:**	The price of the analysed financial instrument is expected to fall over the next 12 months.
"-"	**Rating suspended:**	The available information currently does not permit an evaluation of the company.

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

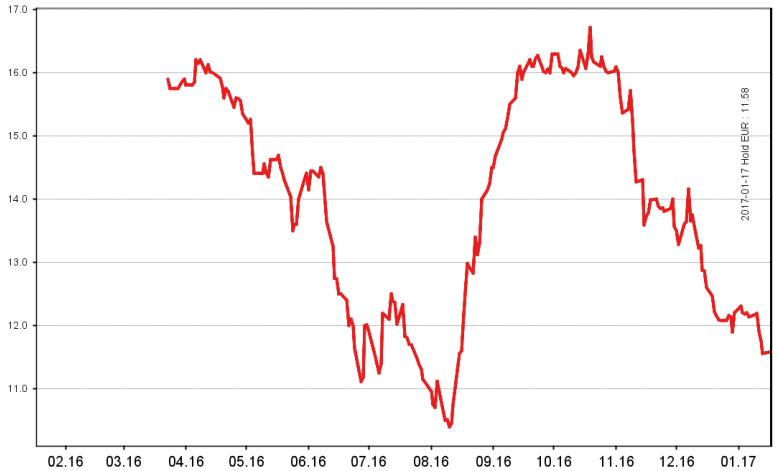
Rating	Number of stocks	% of Universe
Buy	121	63
Hold	66	34
Sell	4	2
Rating suspended	1	1
Total	**192**	**100**

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

… taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	28	72
Hold	10	26
Sell	0	0
Rating suspended	1	3
Total	**39**	**100**

PRICE AND RATING HISTORY SENVION AS OF 17.01.2017



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

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