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SUZLON ENERGY LIMITED

Powering Ahead.....

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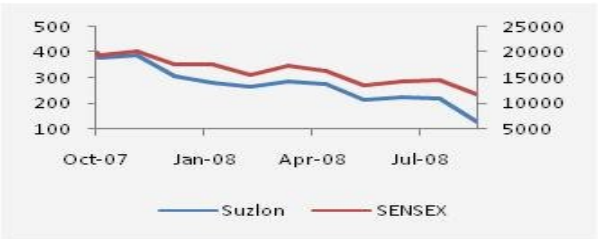
Initiating Coverage — Suzlon Energy Limited

Recommendation	BUY
CMP	Rs.127.1
Sector	Energy

Stock Details

BSE Code	532667
NSE Code	SUZLON
Market Cap (Rs. Cr.)	19,026.2
Free Float (%)	34.11%
52- week High/Low	460/125
Avg. volume NSE	74,62,299
Face Value	2
Shares o/s (No.)	149.70 crs
Beta	1.14

Relative Performance	1Mth	3Mth	1Year
Suzlon	-41.7%	-41.1%	-67.8%
Sensex	-19.0%	-12.3%	-40.5%



Shareholding Pattern as on 30th June 2008

Promoters	65.89%
FII	21.75%
Institutional	3.64%
Others & Public	8.74%

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Snapshot:

Suzlon Energy Limited (Suzlon) started its operations in 1995 and was incorporated as a public company in September 2005. The company is headquartered in Pune, India and employs around 12,000 people. Suzlon along with its subsidiaries engages in the manufacturing and sale of wind turbine generators (WTGs) and components. Suzlon began with a wind farm project in the Gujarat state of India in 1995 with a capacity of 3 MW and has at the end of 2007 supplied over 6,000 MW world over.

Key Drivers for Suzlon

- Strong Order Book Position with 16,491 Crs. of orders to be executed over the next two years
- Strong industry growth prospects to drive volume demand going forward
- Strategic acquisitions to help enter high growth markets and get control over the supply chain
- Significant capital expenditure plans to drive top line growth going forward
- Increasing level of backward integration to help boost volume growth as well as margin expansion going forward

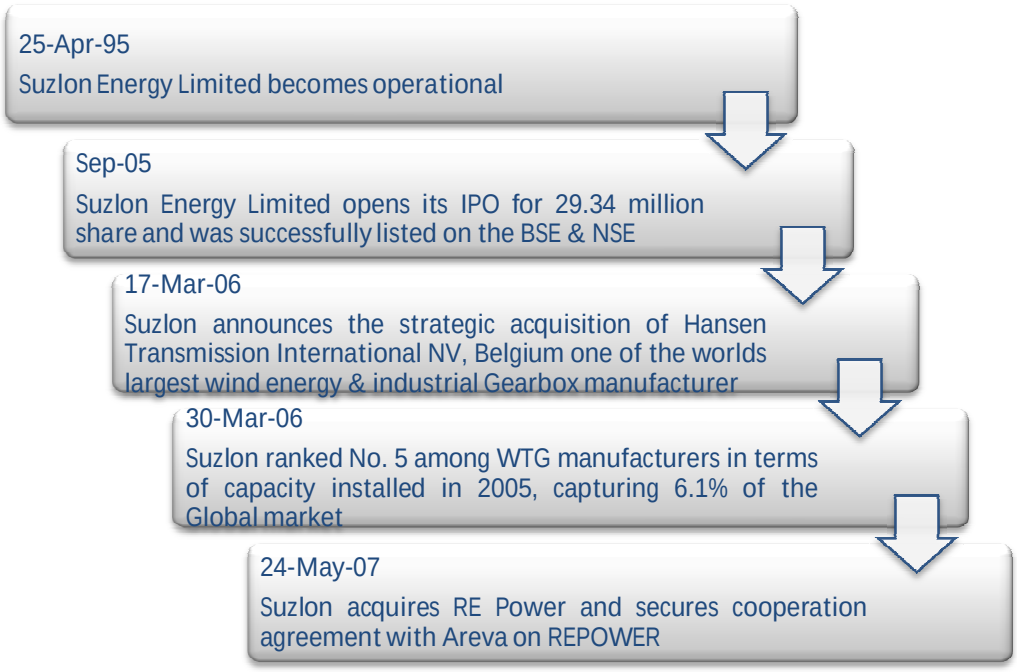
Outlook & Valuation

We expect Suzlon to report a CAGR of 38.5% during FY08 to FY12E in net sales on the back drop of strong order book position and significant expansion plans of the company. These coupled with unprecedented demand for wind energy will drive growth for the company going forward. We expect Suzlon to report net profit CAGR of 54.7% during FY08 to FY12E. At CMP of Rs. 138.7 the stock is trading at 13.0X and 8.6X its FY 09E and FY 10E diluted earnings. At current levels the stock looks undervalued and holds strong potential for upside. Therefore we assign a buy rating on the stock with the target price of Rs. 194.0 per share which is 12X FY10 Diluted EPS of Rs 16.16 implying an upside of 52.6% from current levels.

Year (consolidated)	Sales (Rs. cr.)	Growth	EBIDTA (Rs. cr.)	EBIDTA Margin	PAT (Rs. cr.)	PAT Margin	EPS (Rs.)	P/E(x)	P/BV
FY 08A	13,944.0	72.5%	2,253.9	16.5%	1,030.1	7.4%	7.9	17.6	2.6
FY 09E	22,543.9	61.7%	3,193.8	14.4%	1,651.4	7.3%	10.6	13.0	1.6
FY 10E	31,070.1	37.8%	4,392.3	14.4%	2,508.5	8.1%	16.2	8.6	1.4
FY 11E	40,287.3	29.7%	6,335.1	16.0%	3,967.2	9.8%	25.6	5.4	1.1
FY 12E	51,250.2	27.2%	8,834.8	17.5%	5,896.9	11.5%	38.0	3.7	0.9

Background of the company

Suzlon started its operations in 1995 and was incorporated as a public company in October 2005. The company is headquartered in Pune, India and employs around 12,000 people. Suzlon along with its subsidiaries engages in the manufacturing of wind turbine generators (WTGs) and components. Suzlon began with a wind farm project in the Gujarat state of India in 1995 with a capacity of 3 MW and has at the end of 2007 supplied over 6,000 MW world over.

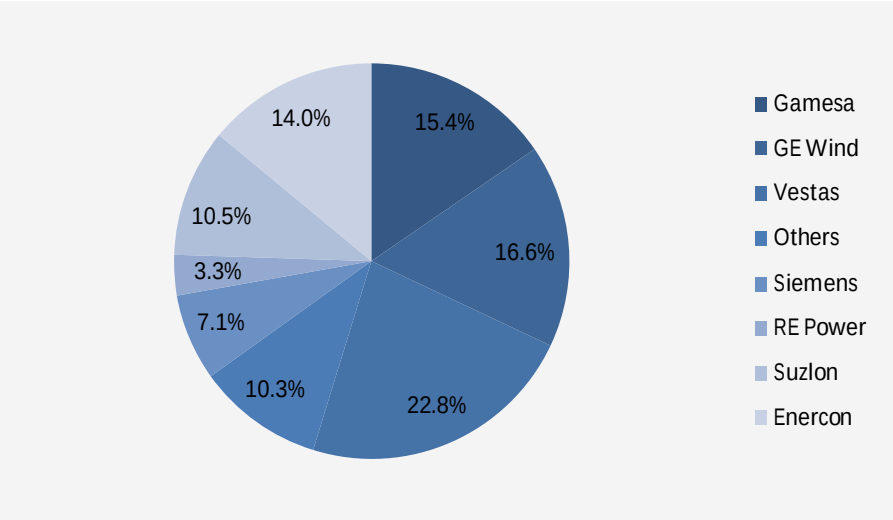


Suzlon's product range includes 0.55 MW, 0.60 MW, 1.25 MW, 1.50 MW and 2.10 MW WTGs. Further, the company also provides consultancy, design, manufacturing, installation, operation and maintenance services as well as is involved in wind resource mapping, identification of suitable sites and technical planning of wind power projects. The company primarily operates in India, China, The Americas, Europe, New Zealand, South Korea and Australia.

The Group conducts research and development activities through its subsidiaries, SEG, Suzlon Windkraft GmbH and AERT. These subsidiaries focus on designing and developing new WTG models, upgrading the company's current models and developing efficient and effective rotor blade technology for its WTGs.

Suzlon is amongst the top 5 wind turbine manufacturer globally and including RE Power has a market share of 13.8%. Whereas in India, Suzlon has maintained its market leader position for the last 8 years and has consistently maintained 50% market share, installing over 3,000 MW of wind turbine capacity in the country.

Market Share as of December 2007



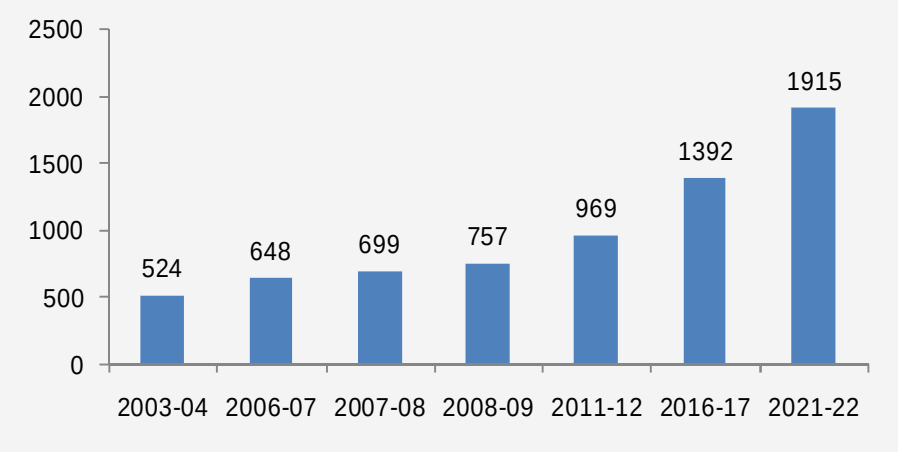
Source : Company, Nirmal Bang Research

Sector Analysis

Global Electricity Scenario

According to International Energy Outlook Report 2007, global electricity consumption is projected to rise at a CAGR of 2.4 % from 2004 to 2030. Total electricity consumption in the Non OECD region is projected to increase by an average of 3.5% per year as compared to 1.3% annual growth rate from 2004 to 2030. China is likely to have the highest growth rate of 4.4% per year. Whereas India is expected to grow by 3.9%. Africa is likely to grow at 3.5%, Middle East and Central and South America at 2.9% and non-OECD Europe and Eurasia at 2.3% from 2004 to 2030.

Global Electricity Demand (bn Kwh)



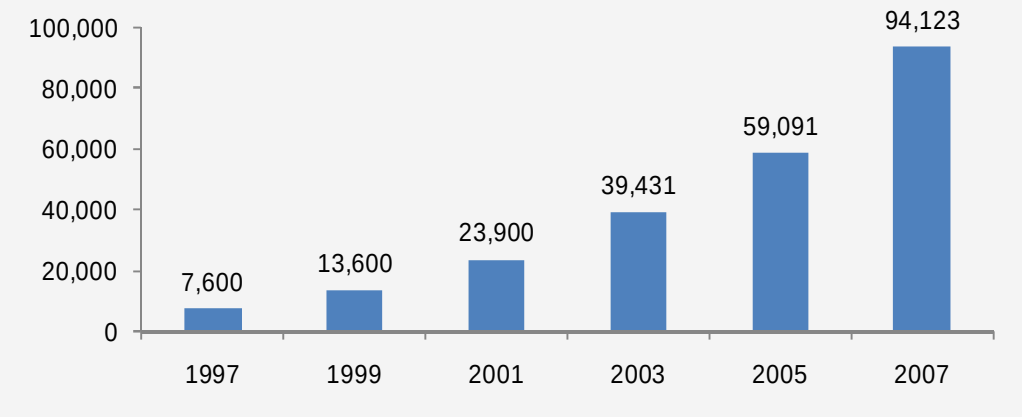
Source : Crisil, Nirmal Bang Research

Increasing Environmental Concerns too Boost Demand

Increasing pollution levels across regions have led to growing concern about the future of the globe going forward. Scientists have been monitoring the Northern Polar region. The data indicates a catastrophic threat by 2013 i.e. the Arctic becomes ice free. The events are likely to lead to significant climatic changes such as changing rainfall, rising sea levels, floods in coastal areas and thus accelerating global warming. The Arctic ice cap had been melting at a rate of around 8% per decade for the past thirty years. At that rate, it would be until 2100 for ice-cap to disappear altogether. However, recently the rate of ice melting accelerated around four times as much ice melted as compared with previous summers thereby further increasing the growing global warming concern. We believe under this scenario, rapid penetration of renewable i.e. wind energy will increase and will receive government support and help.

Renewable energy sources account for approximately only 2% of installed electricity capacity, while thermal & coal based constitutes around 41% of global electricity supply. Among renewable sources of energy, wind energy as a clean and renewable source of power has gained importance in the last decade due to favorable government policies. Wind energy installed capacity has increased from 7,600 MW in 1997 to 94,123 MW in 2007.

Wind Power Installed Capacity (MW)



Source : Crisil, Nirmal Bang Research

Going Forward

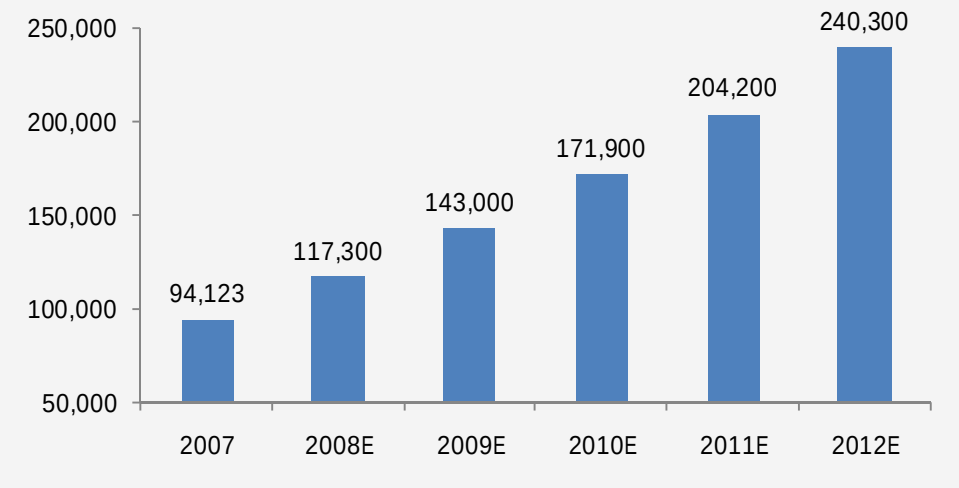
Wind energy capacity has been expanding rapidly over the years. In 2007, over 20,000 MW of wind turbines were installed registering a growth of 27% y-o-y. Furthermore, the top five countries in installed capacity are Germany (22,300 MW), the US (16,800 MW), Spain (15,100 MW), India (7,096 MW) and China (6,100 MW). Germany alone accounts for around 24% of the total world installed capacity.

In terms of new installed capacity in 2007, the US continued to lead with 5,244 MW, followed by Spain (3,522 MW), India (1,730 MW), Germany (1,667 MW), China (3,449

MW) and France (888 MW). The global wind market witnessed investment of approximately US$ 37 bn in 2007 in new wind generation equipment.

Going forward, according to Global Wind Energy Council (GWEC) the global wind market is expected to grow by over 155% from current 94.1 GW to reach 240 GW of total installed capacity by 2012. This would represent an addition of 146 GW in 5 years, requiring investment of over €180 bn. The electricity produced by wind energy will reach over 500 TWh in 2012 (up from 200 TWh in 2007), accounting for around 3% of global electricity production (up from just over 1% in 2007).

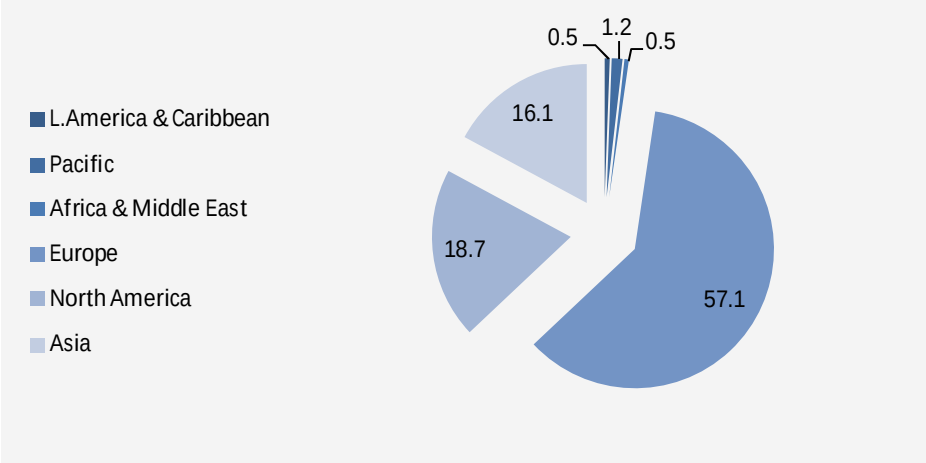
Wind Power Expected Installed Capacity Addition (MW)



Source :GWEC-Global Wind 2007 Report, Nirmal Bang Research

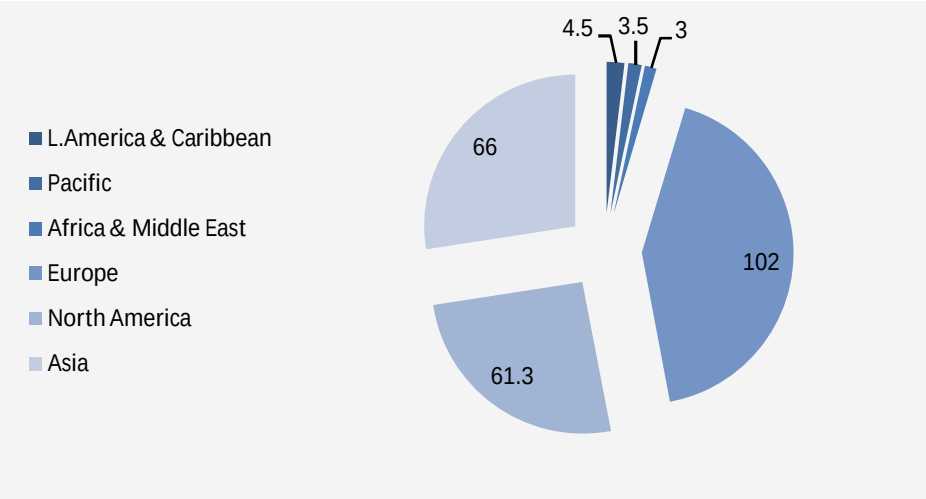
The main areas of growth will be North America and Asia, primarily driven by the US and China. The average growth rates during this five year period in terms of total installed capacity are expected to be 20.6%, compared with 23.4% during 2003-2007. In 2012, Europe is expected to have the largest wind energy capacity, with the total reaching 102 GW, followed by Asia with 66 GW and North America with 61.3 GW. Strong growth in installations is expected to be primarily driven by increasing concern for global energy security, global warming and climate change will lead to increasing demand for wind power as a source of energy. Furthermore, rapidly increasing electricity demand and wind power's cost competitiveness further increases the benefits derived from increasing use of wind energy.

Region Wise installed Capacity - 2007 (MW)



Source :GWEC-Global Wind 2007 Report, Nirmal Bang Research

Expected Region Wise installed Capacity - 2012 (MW)



Source :GWEC-Global Wind 2007 Report, Nirmal Bang Research

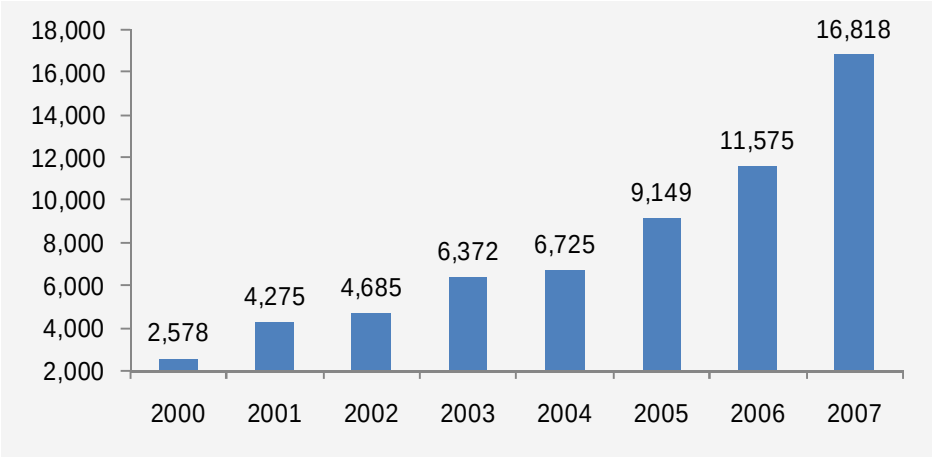
United States of America (USA)

Electricity demand In the US is expected to increase substantially. According to estimates US will need approximately 120 GW of new generation facility in order to maintain the stability of the country's electricity system. This would require an investment of approximately US$ 300 bn by 2016.

In 2007, the US wind energy registered strong growth of 45% y-o-y by installing 5,244 MW and taking the total capacity to 16,818 MW. According to GWEC, American wind farms will generate approximately 48 bn Kwh in 2008 supplying approximately 1% of the US electricity supply. Currently in US, 22 states have set mandate for 10% to 20% under the Renewable Portfolio Standard (RPS). Michigan alone has the capacity to produce approximately 321936 MW of offshore wind energy whereas onshore capacity is estimated at approximately 16,500 MW.

The US wind energy has witnessed strong expansion primarily on the back of federal incentive for wind energy, the production Tax credit. (PTC). The PTC provides a 1.9 cent per Kwh for electricity generated with wind turbines over the first 10 years of a project's operations and is a critical factor in funding new wind farms. However, the PTC and tax incentives are set to expire at the end of 2008. Historically when the PTC was not extended before its expiration date, new installations have fallen drastically by 93% in 2000, 73% in 2002 and 77% in 2004. Furthermore, in September 2008, the Senate has proposed an extension of renewable energy production incentives up to January 2010. The proposal will be sent to the House of Representatives for consideration.

USA Wind installed Capacity (MW)



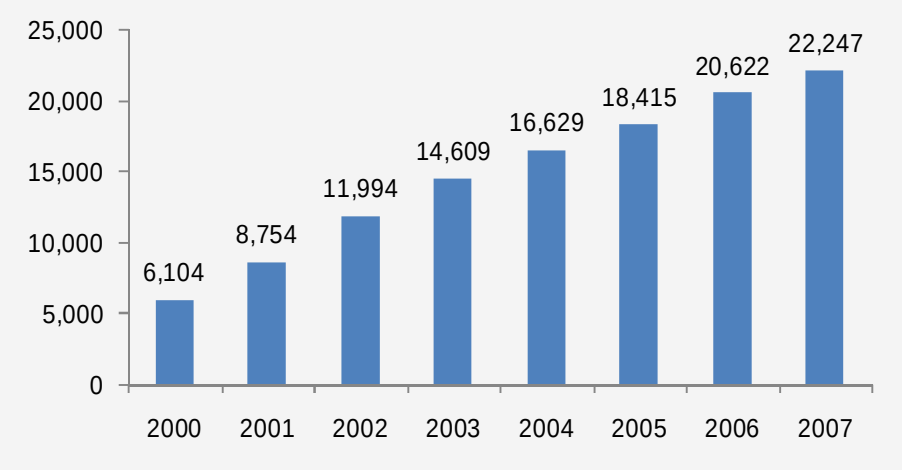
Source :GWEC-Global Wind 2007 Report, Nirmal Bang Research

Germany

Germany has the highest wind power installed capacity in the world, accounting for 23.6% of total global capacity. Wind power contributes approximately 7% of the country's total electricity consumption. According to the EU Renewable Directive, 12.5% of Germany's electricity consumption was to be met by renewable energy by 2010. However, this target was achieved in 2007 with a share of 14%. Therefore in the country's recent energy and climate package, the German government increased its target for 2020 to 25 to 30%, up from the previous target of 20%.

Furthermore, German turbine and component manufacturers generated €6 bn in exports in 2007. According to calculations from the German Wind Energy Association (BWE), there is still potential for up to 10,000 MW to be erected on already earmarked onshore sites. By 2020, the overall German onshore capacity could be at 45,000 MW. Offshore wind energy market has huge potential and is projected to reach 500 MW by 2010 and approximately 3,000 MW by 2015.

Germany Wind installed Capacity (MW)



Source :GWEC-Global Wind 2007 Report, Nirmal Bang Research

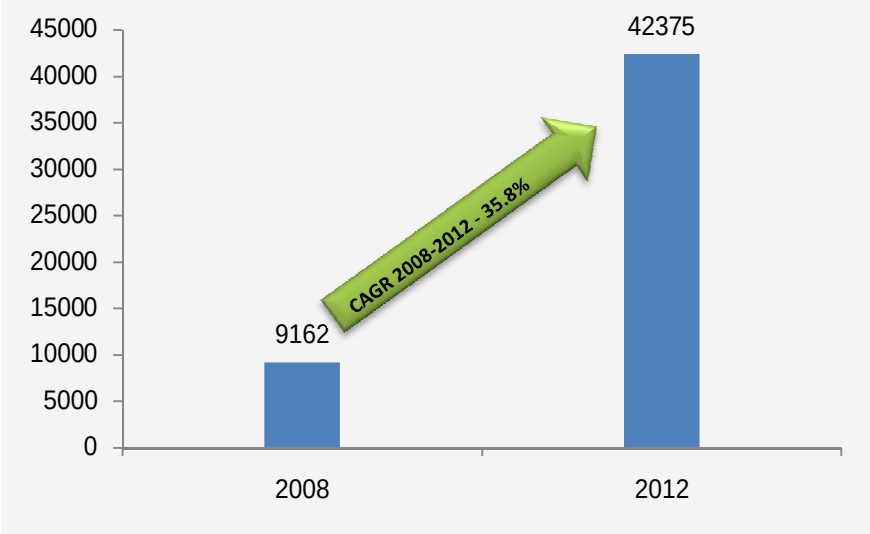
China

China is the world's fastest growing wind energy market, with an average annual growth rate of 56% in the past seven years. The country has now reached the fifth place for installed wind energy capacity, with over 6 GW at the end of 2007. Going forward, according to Chinese Renewable Energy Industry Association (CREIA) forecasts a capacity of around 50 GW by 2015. Strong demand trends in wind energy are primarily driven by ever increasing demand for electricity and reducing air pollution

In September 2007, the National Plan for Renewable Energy Development was issued. The Plan set out the national target and a mandated market share (MMS) system for the development of renewable energy. This plan officially confirms the target to increase the share of renewable energy in China's total primary energy consumption to 10% by 2010, and to 15% by 2020. Moreover, it aims to have 5 GW of grid-connected wind capacity installed by 2010 (although this figure was already exceeded in 2007), and to have about thirty 100 MW-scale wind farms established, mainly in the eastern coastal areas and "Sanbei Region" ("Three Norths Region"), thus building up three 1 GW-scale wind farm bases in Jiangsu, Hebei, and Inner Mongolia, respectively. In addition, one or two 100 MW-scale pilot offshore wind projects will be set up.

According to Chinese Renewable Energy Industry Association (CREIA), approximately 5,000 MW of new wind capacity would be installed in 2008 in China, The government target of installing 5 GW of wind power by 2010 was already exceeded in 2007, and the 2020 target of 30 GW is also likely to be exceeded well ahead of time. By the end of 2020 it is estimated that, in order to satisfy growing demand, the total power capacity in China will reach 1,000 GW.

China's Estimated Wind Energy installed Capacity (MW)



Source :Hansen 1Q 09 Presentation, Nirmal Bang Research

India

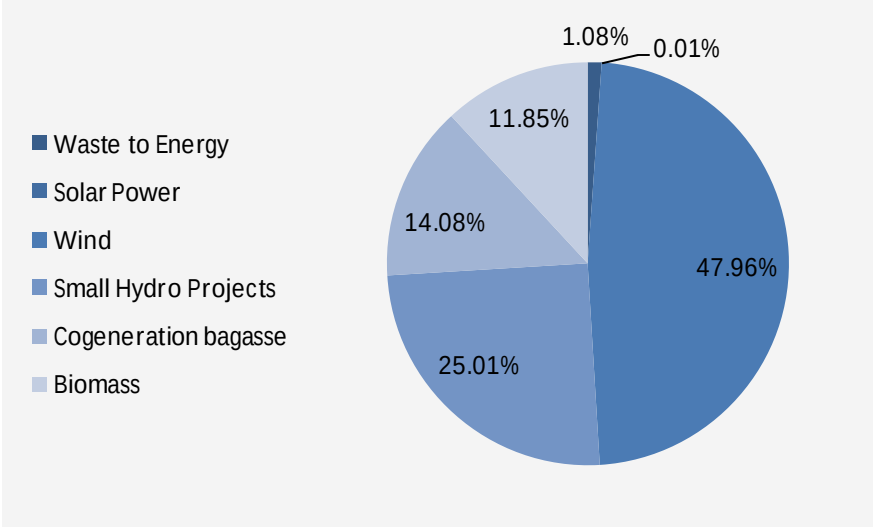
India historically has been a power deficient country, with shortfall accounting for 11% of the requirement. Demand for power is expected to grow at 6% annually to reach 913 bn Kwh in 2011-12.

Domestic Power Requirement and Availability					
All India (bn Kwh)	2007-08	2008-09	2009-10	2010-11	2011-12
Requirement	706	752	800	855	913
Availibility	629	675	717	790	878
Surplus/(Deficit)	(77)	(77)	(83)	(65)	(35)
Surplus/(Deficit) (%	-10.9%	-10.2%	-10.4%	-7.6%	-3.8%

Source: Crisil, Nirmal Bang Research

The total potential for wind power in India was first estimated by the Centre for Wind Energy Technology (CWET) at around 45,000 MW. However, since 1990, the government agencies and private sector has identified many more resource areas for a massive exercise of wind monitoring and wind resource assessment. Currently, the Indian Wind Turbine Manufacturers Association (IWTMA) estimates the potential to be of the order of 45,000 MW. Wind energy is continuing to grow strongly in India, with over 1,700 MW of new installed capacity in 2007, hitting 8,000 MW in total. This represents a year on year growth of 28%.

Share of Wind Energy in renewable energy power generation



Source :Crisil, Nirmal Bang Research

Wind energy has the highest share of the domestic renewable installed capacity at 70%. However, it accounts for only 48% of the power generated due to lower PLF owing to varying wind speeds. The total installed capacity of wind based power was 8,749 MW as of March 2008. Tamil Nadu is the leading state in terms of capacity with a total capacity of 3,873 MW in 2007-08, followed by Maharashtra (1,756 MW) and Karnataka (1,011 MW).

State Wise Wind Power Installed Capacity (MW)

State	Technical Potential	2005-06	2006-07	2007-08	Total
Tamil Nadu	2,150	858	578	380	3,493
Maharashtra	3,060	545	485	268	1,488
Karnataka	1,310	144	266	190	821
Gujarat	1,900	85	284	616	637
Rajasthan	1,050	73	112	69	470

Source: Crisil, Nirmal Bang Research

The Ministry of New and Renewable Energy (MNRE) has issued guidelines to all state governments to create an attractive environment for the export, purchase, wheeling and banking of electricity generated by wind power projects. State Electricity Regulatory Commissions (SERCs) have the mandate of promoting renewable including wind energy through preferential tariffs and a minimum obligation on distribution companies to source a certain percentage of electricity from renewable energy and 10 out of India's 29 states have set up renewable purchase obligations, requiring utilities to source up to 10% of their power from renewable sources.

Furthermore, MNRE has set a target for wind power production at 10,500 MW in the 11th five year plan. In order to achieve this target, the government has launched the new Generation Based Incentive Scheme (GBI) for wind power generation. Under the

scheme, GBI would be paid only to grid interactive plants with a capacity of 5 MW or more. The rate of GBI has been set at 50 paise per unit and would be paid for a period of 10 years.

Programme wise physical target and achievement

Year	Targets (MW)	Achievements (MW)
2002-03	200	241
2003-04	250	615
2004-05	300	1112
2005-06	450	1716
2006-07	1000	1742
10th plan	2200	5426

Source: Crisil, Nirmal Bang Research

European Union (EU)

Since 2000, the installed wind capacity has increased almost six-fold from 9.7 GW to 56.5 GW. According to European Wind Energy Association (EWEA) show that wind capacity increased by 18% y-o-y to reach a level of 56,535 MW in 2007.

The 2007 capacity increase was primarily driven by Spain with more than 40% of the total new installations. Spain set a new record in 2007, installing 3,522 MW – the highest amount for any European country in any year ever. 10% of Spain's electricity now comes from wind. There was also strong growth in France, which added 888 MW to reach 2,454 MW, and Italy, with an addition of 603 MW to reach a total of 2,726 MW.

In March 2007, EU set a binding 20% target for renewables by 2020 and asked the European Commission to put forward a legislative package. On 23 January 2008, the Commission published its Renewable Energy and Climate Change Package which called for 20% of final energy consumption to come from RES by 2020. The 20% target at the EU level has now been translated into concrete figures for the 27 EU Member States.

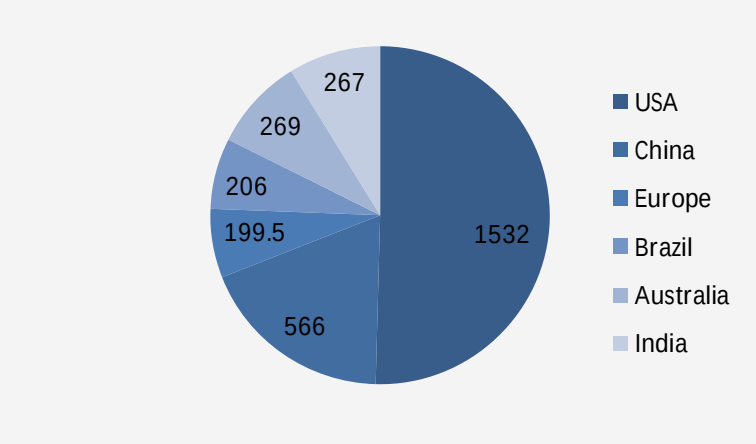
The "National Action Plans" will indicate how the agreed target for each Member State is going to be achieved and the measures that will be put into place for that. The proposal also contains measures which positively address obstacles that wind energy is currently facing, such as heavy administrative procedures and grid access issues.

Investment Rationale

- Strong Order Book Position with 16,491 Crs. of orders to be executed over the next two years

Suzlon, under its wind business currently has an order book of 3,040 MW worth Rs 16,491 crs, out of which 267 MW are in the domestic market and balance 2,772 MW is for the international market. Share of international business in total MW sales has been increasing rapidly over the years and now contributes approximately 91.2% of the total order book as compared to 8.4% in FY 2006. Currently USA contributes approximately 50.4% to the total order book position of the company.

Order Book Status (MW)

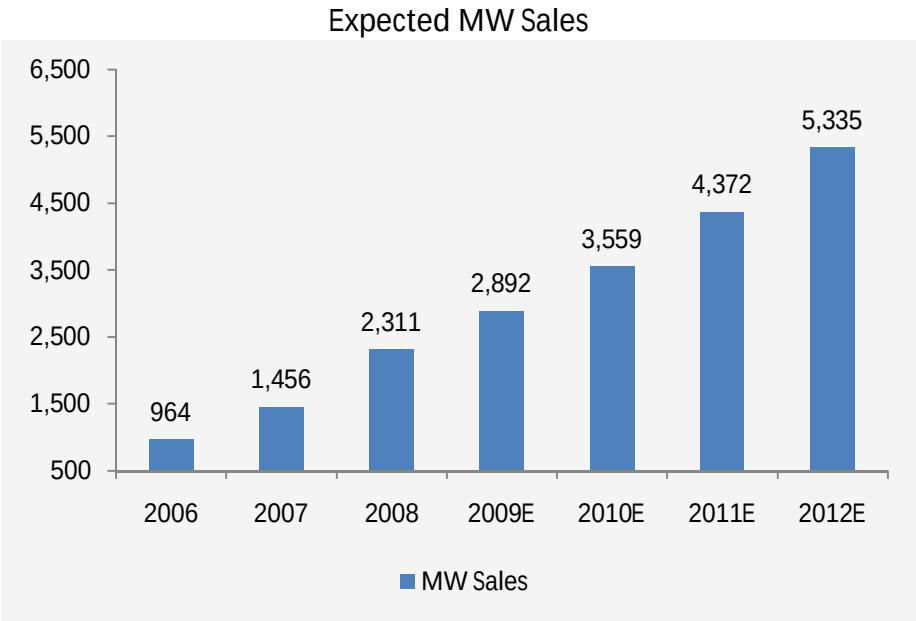


Source : Company, Nirmal Bang Research

Suzlon under its wind business currently has an order book to sales ratio of 1.04x its expected FY 09 sales. We expect Suzlon wind business sales to grow at a CAGR of 33.0% between FY 2008 and FY 2012. Whereas we expect the MW sales to increase from 2,311.4 MW in FY 2008 to 3,821.2 MW in FY 2010 and 6,022.8 MW in FY 2012.

We believe, Suzlon will witness increase in new order intake going forward primarily on the back of strong growth expected in the wind power industry. Furthermore, with increasing installed capacity the company will be in a position to take bigger orders thus leading to improvement in margins.

Even though the company has been witnessing some slowdown in new order intake primarily due to the quality issues being faced by the company for some of its products. The company has taken steps to address the issue and has made a provision of approximately US$ 29 mn for the same in Q4 FY 08. The company does not expect any further provisions to be made in this regard. Furthermore, the company has launched the Retrofit programme under which it will strengthen all the blades. The programme is expected to be completed over the next six months.



Source : Nirmal Bang Research

- Strong industry growth prospects to drive volume demand going forward

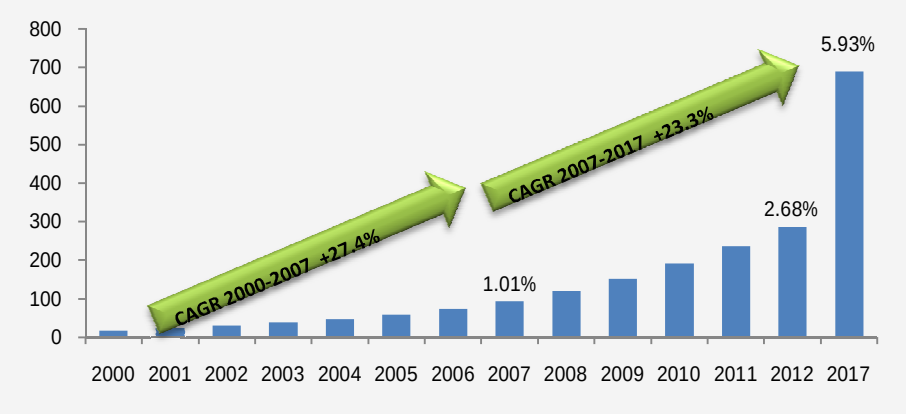
With the ever increasing fossil fuel prices, demand for renewable sources of energy has increased. Amongst alternative energy sources wind energy is expected to be the most competitive and productive source of renewable energy due to lower project gestation period, low operational cost and strong regulatory support. According to GWEC the global wind market is expected to grow by over 155% from current 94.1 GW to reach 240 GW of total installed capacity by 2012. This would present opportunity for an addition of 146 GW in 5 years, requiring investment of over €180 bn. Furthermore, in 2007, wind power contributed approximately 1.01% to the total electricity produced in the world. Going forward, by 2017 wind power is expected to contribute approximately 5.93% of the total electricity consumed. We believe that the strong regulatory support and ever increasing demand for electricity will continue to drive volume growth going forward.

Comparision of Renewable Energy Sources

Particulars	Gestation Period (months)	Capital Cost (Rs mn/mw)	Generation Cost (Rs Kw/hr)
Wind Power	12-18	50-60	3.5
Small Hydro	48-60	35-60	1.5-3.5
Solar	6	260	15.0-20.0
Co-generation	18-24	30-40	2.5-3.5
Biomass	24-30	35-50	3.0-3.5

Source: Crisil, Nirmal Bang Research

Wind Energy expected installed capacity growth (GW)



Source :Hansen 1Q 09 Presentation, Nirmal Bang Research

- Strategic acquisitions to help enter high growth markets and get control over the supply chain

In order to accelerate the growth process, Suzlon has followed the strategy of growing organically as well as through inorganic growth. Suzlon has made strategic acquisitions in the past in order to get access to high growth markets and secure its supply chain.

Suzlon acquired 100% stake in Hansen Transmissions (Hansen) for approximately €431 mn in May 2006. Hansen is the world's leading gearbox and drive train manufacturer. Through this acquisition, Suzlon was able to secure the supply of gearboxes (one of the longest lead time products in WTG value chain). Recently, Hansen concluded a successful IPO on the London Stock Exchange and raised approximately €440 mn for a 27% stake sale. Post IPO, Suzlon holds 71.3% of the shares of Hansen.

Going forward, Hansen has an ambitious capital expenditure plan under which it proposes to double its capacity from current 7,300 MW to 14,300 MW by FY 2013. Hansen is currently working on construction of a fully integrated manufacturing plant for wind turbine gearboxes in a Special Economic Zone (SEZ) at Coimbatore (India) with an investment of €270 mn. This plant will have a capacity of 5,000 MW and will produce gearboxes upto 3 MW. The first gearbox is expected to be manufactured in September 2008 and will reach full manufacturing capacity in FY 2012. On full completion the plant will employ approximately 800 employees. Furthermore, it is also working on construction of a fully integrated manufacturing plant for wind turbine gearboxes in China. This plant will have a capacity of 3,000 MW and will produce gearboxes upto 3 MW. The first gearbox is expected to be manufactured in March 2009 and will reach full manufacturing capacity in FY 2012.

In May 2007, Suzlon acquired RE Power Systems AG (RE Power) a recognized technology leader with strong presence in Europe. Suzlon currently holds approximately 67.5% stake in the company. Furthermore, Suzlon has entered into contract with Martifer to acquire its 22.5% stake in RE Power. The company expects

to complete the deal by December 2008. Post the deal, Suzlon will hold 90% stake in RE Power acquired for a total consideration of €1.3 bn. RE power has a market share of approximately 10% in the Germany wind energy market. Through this acquisition, Suzlon's presence will get a boost in the highly lucrative European wind energy markets. Furthermore, RE Power has strong presence in the off shore wind energy market where Suzlon does not have any presence. Suzlon will benefit from RE Power's brand equity and design and technology going forward.

We believe, through these acquisitions Suzlon will get control over its supply chain problems and get access to high growth markets of Europe and China. Currently Europe and China contribute approximately 25.2% to the order book of the company. Furthermore, the company expects to start the consolidation process for RE Power by 2Q 09. We have factored the consolidation of RE Power in our forecast.

Company snapshot - Acquistion Details

Particulars	Suzlon	RE Power	Hansen
Geogrophical Presence	India, The USA, china, Australia, Europe, Latin America	Europe, China	Europe, India, South Africa, USA
Current Capacity (MW)	2700	1250	7300 (Gearbox MW)
Expansion Planned (MW)	3000	450	8000 (Gearbox MW)
Total Capacity Post Expansion (MW)	5700	1700	14300 (Gearbox MW)
Product Portfolio	Low to Medium capacity WTG's (350 KW - 2.1 MW)	Medium to High capacity WTG's (1.5 MW - 5 MW)	WTG Gearbox (500 KW - 6 MW: 160-3500 KNm)
Employee Base	13500	1150	1850
% Stake		90%*	71.3%
Acquistion Cost		€ 1.3 bn	€ 431 mn
Current P/E	16.1	53.5	42.7
Current Market Cap	Rs. 19,026.2 crs	€ 1,798.7 mn	€ 1,226.3 mn
Current Debt	Rs. 3,084.7 crs	€ 193.3 mn	€ 11.7 mn

*Post Acquistion of Martifer's 22.5% stake by December 2008

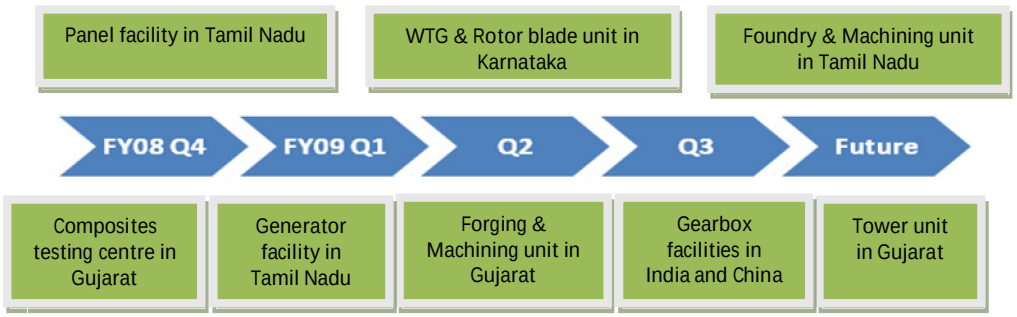
Source: Company Data Nirmal Bang Research

- Significant capital expenditure plans to drive top line growth going forward

Suzlon has planned a major capacity expansion and is planning to increase its installed capacity from current 2,700 MW to 5,700 MW by FY 09. The company is planning to set up a foundry & machining facility and forgings & machining facility in Coimbatore and Gujarat with a capacity of 1,20,000 MT and 70,000 MT respectively. Furthermore,

the company is also setting up a WTG and Rotor blade in Karnataka and a Tower unit in Gujarat. Suzlon has a planned capex of approximately Rs 2,600 crs to be incurred over the next two years. Furthermore, Hansen also has ambitious expansion plans through which its gearbox manufacturing capacity will double from current 7,300 MW to 14,300 MW by FY 2012. Whereas RE power is planning to increase its capacity from current 1,250 MW to 1,700 MW.

We believe, with the increase in installed capacity the company would be able to benefit from the increasing demand from the wind power industry. Furthermore, the proposed backward integration strategy adopted by the company will also lead to lowering the operating costs of the company thereby leading too margin expansion going forward.



Source :Company Data, Nirmal Bang Research

- Retrofit programme to help clear quality issues

In March 2008, Suzlon witnessed quality issues for its S88, 2.1 MW wind turbines which led to cancellation of the order for 150 MW from Edison. Out of the total batch of 1,251 blades till date 80 blades have reportedly developed cracks in them. In order to resolve the issue the company has decided to replace the cracked blades. Furthermore, the company has launched the Retrofit programme under which it will strengthen all the blades of the S88 2.1 MW so that similar problems don't arise in the future. The programme is expected to be completed over the next six months.

The programme will be carried out by maintaining a rolling stock of temporary replacement blades so as to minimize the downtime for the turbines and will be carried out at the company's service facility in Pipestone, Minnesota for the US blades. Suzlon has also made provision of approximately Rs. 100 crs in 4Q 08. Recently there were media reports suggesting customers in the domestic market were facing problems of lower power generation than guaranteed by Suzlon with its 1.25 MW model. The Management has stated that it hasn't received any complains from its domestic customers and also that it stands ready to solve any problems being faced by its customers. We believe the above issues are over done as these kinds of problems are common in the wind power industry. Furthermore we believe future order flow or the company's relationship with its customers would not be materially affected.

- Increasing level of backward integration to help boost volume growth as well as margin expansion going forward

In order to gain a competitive advantage over its peers, Suzlon has embarked upon a backward integration plan. The company plans to set up foundry & machining facility and forgings & machining facility. Whereas demand for gearbox will be met through significant capacity expansion planned by Hansen. Suzlon will meet its entire blade requirement in house through its proposed facilities in India, China and the USA which is expected to be operational by 2Q FY 09.

Partial requirement of panels will be met through the facility at Coimbatore which is expected to be operational by 2Q FY 09. Whereas for towers the company is planning to set up a unit in Gujarat which is expected to be operational by 4Q FY 09. We believe, these steps will be the key growth drivers for the company as it will lead to increased availability for bearings, gearbox and forging materials thereby leading to faster product roll out. The company will also save tremendously on its outsourcing costs thereby leading to margin expansion going forward.

	Foundry & Machining	Forgings & Machining	Gearbox	Blades	Panels	Generator	Tower
Existing Facility	---	---	Partial demand met through Hansen facilities in Europe	Complete demand met by in house production located in India, China & the US	Partial demand met through In house facilities in India, China	Partial demand met through In house facilities in India	Partial demand met through In house facilities in India
Planned Expansion	1,20,000 MT foundry & machining facility by Q3 FY 09	70,000 MT forging & machining facility by Q3 FY 09	Significant expansion by FY 09 in Belgium, China and India	India rotor blade unit to be completed by Q2 FY 09	Panel unit at Coimbatore, India to be completed by Q2 FY 09	Capacity expansion by Q2 FY 09 in India	Planned expansion in India to be completed by 4Q FY 09

Source: Company Data, Nirmal Bang Research.

Risks and concerns

- Reduction in subsidies or change in regulations for the Wind Power industry could lead to lower demand for WTGs going forward

World over demand for WTG is driven by subsidies and tax incentives provided by various countries to promote wind power as a clean source of energy. Like in USA, the PTC provides a 1.9 cent per Kwh for electricity generated with wind turbines over the first 10 years of a project's operations and is a critical factor in funding new wind farms. However, the PTC and tax incentives are set to expire at the end of 2008. Historically when the PTC was not extended before its expiration date, new installations have fallen drastically by 93% in 2000, 73% in 2002 and 77% in 2004. Therefore any adverse regulatory changes or reduction in subsidies could lead to lower demand for WTG's going forward.

- Slowdown in new orders can impact earnings going forward

Suzlon currently has an order book position of approximately 16,491 crs. These orders are expected to be executed over the next 12-18 months. The company's top line growth is dependent on swift intake of new orders. Therefore any slowdown in the flow of new orders would lead to lower sales and thereby lower earnings going forward. Furthermore, Suzlon enters into long term contracts for WTG supply. Entry into such contracts exposes the Group to certain risks including the unanticipated cancellation of orders or termination of contracts and deferrals of orders and projects.

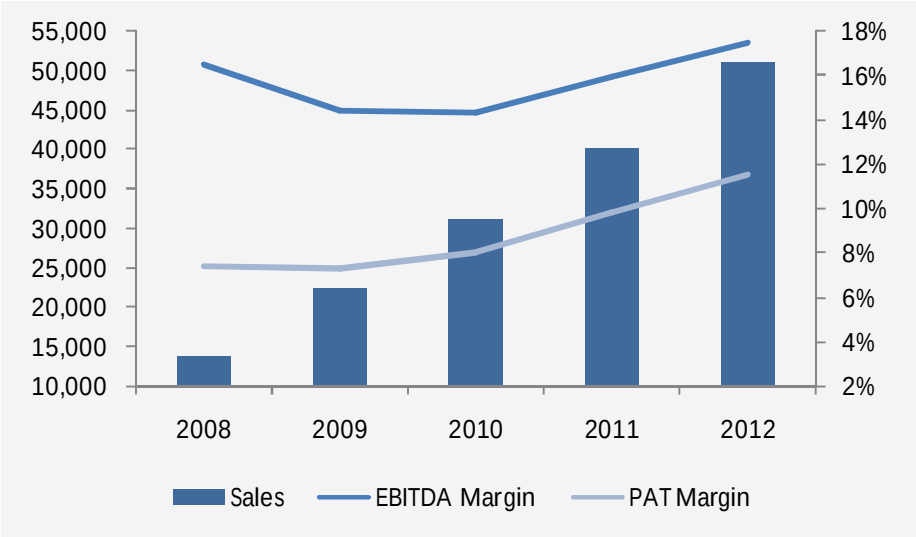
- Rise in raw material costs could put pressure on margins

The cost of raw materials, consumables and spares and other input costs constitute significant part of the operating cost. The upsurge in steel prices put tremendous pressure on profitability. The ability to pass on the increased cost depends on the type of contracts like fixed price contract or contract with an escalation clause. Currently approximately 60% of the contracts have price escalation clause, however the rest 40% are fixed price contracts. Thereby increase in raw material prices could lead to decline in operating margins going forward.

Financial Analysis

We expect the company to witness robust top line and earnings growth going forward. We believe with the ongoing capacity expansion and expected strong demand trend for wind power will drive growth going forward. Furthermore, with the planned backward integration by the company we expect the company to witness margin improvement going forward. However, with the consolidation of RE Power we expect the margins to come down in FY 09. We expect, Suzlon to report a top line CAGR of 38.5% from FY 08 to FY 12. Whereas we expect EBITDA to grow at a CAGR of 40.7% between FY 08 and FY 12 primarily due to consolidation of RE Power. We expect EBITDA margins to drop to 14.4% in FY 09 from 16.5% in FY 08. We expect net profit after accounting for minority interest to witness a CAGR growth of 54.7% between FY 08 to FY 12.

Expected Growth Trend in Key Financials



Source : Nirmal Bang Research

Recent Developments

- On September 27th 2008, Suzlon has approved raising Rs. 1,800 crs through a rights issue. The funds are raised to finance the acquisition of the additional stake of 22.48% the company has bought in RE Power for approximately €270 mn. The company expects to dilute approximately 7-8% of equity through the issue.

- IDFC Private Equity has made an investment of Rs 400 Crores for a 17.1% stake in SE Forge Ltd, a wholly owned subsidiary of Suzlon. The company has a 120,000 MT foundry unit in Coimbatore and 42,000 rings per annum. ring-rolling forging facility in Vadodara. The company intends to use the equity investment by IDFC PE to fund these capacities.

Peer Comparison

Suzlon achieved a strong top line growth of 72.5% y-o-y in FY 08, higher than the peer group average of 54.9%. Whereas margins are also above peer group average. In FY 08, Suzlon registered operating margin of 14.4% which was higher than the peer group average of 10.6%. However, net margins in FY 08 of 7.4% were slightly below peer group average of 7.7%. Going forward, we expect the company to witness strong top line growth as well as margin expansion primarily on the back of significant increase in installed capacity expansion and backward integration strategy being followed by the company respectively.

On the valuation front, Suzlon is currently trading at a PE of 16.09x its FY 08 earnings, which is lower than the peer group average of 23.42x. Whereas on the EV/EBITDA basis, Suzlon is trading at 9.76 as compared to peer group average of 14.44x. Suzlon currently trades at a discount to its global peers. We believe this discount should narrow going forward primarily on the back of strong expansion initiatives being adopted by the company and the backward integration strategy adopted by the company.

	Domestic Peers			International Peers			
Particulars	Suzlon (Rs crs)	BHEL (Rs crs)	Shriram EPC (Rs crs)	Gamesa (€ crs)*	Vestas (€ crs)*	Nordex (€ crs)*	Peer Group Avergae
Sales	13,944.0	19,365.5	699.9	327.4	486.1	74.7	
y-o-y growth	72.5%	12.3%	136.7%	36.4%	26.1%	45.5%	54.9%
Operating Profit	1,964.6	3,069.6	78.1	25.0	44.3	4.0	
Operating Margin	14.4%	15.9%	11.2%	7.6%	9.1%	5.4%	10.6%
Net Profit	1,030.1	2,859.3	35.2	22.0	29.1	4.8	
Net Margin	7.4%	14.8%	5.0%	6.7%	6.0%	6.4%	7.7%
Equity	310.38	489.52	43.13	125.60	2.50	6.68	
Valuation Matrix							
P/E	16.09	24.00	30.98	13.93	31.70	23.85	23.42
P/BV	2.35	6.30	2.56	6.19	6.35	4.05	4.63
EV/EBITDA	9.76	12.24	13.13	9.00	24.75	17.78	14.44

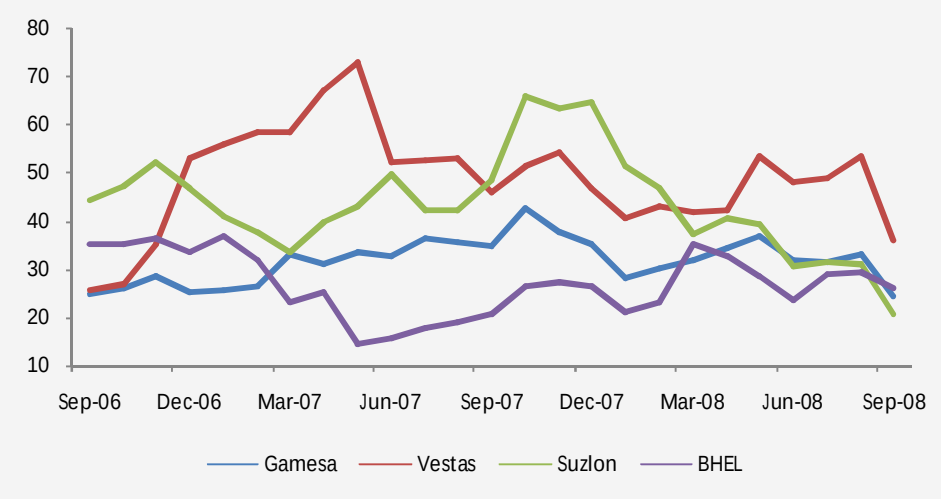
Source: Nirmal Bang Research, *Figures are for FY 2007

Valuation & Recommendation

In the last 2 years, Suzlon has traded in the range of 16.00 to 65.84x. Whereas Vestas and Gamesa have traded in the range of 25.49x to 73.01x and 24.56x to 42.62x respectively. Historically the companies in the wind energy market have traded at high P/E levels primarily due to expected high growth of the industry. Furthermore the recent decline in the stock price of Suzlon presents an excellent opportunity for investment in the company. We believe Suzlon will continue to command high P/E due to high growth prospects of the company and due to planned backward integration leading to higher margins in the future.

Suzlon is currently trading at a two year low P/E multiple of 17.56x and thus provides a solid buying opportunity at current levels. At Rs. 138.7 the stock looks undervalued looking at the huge earning potential of the company. We value the company on the P/E basis, assigning a P/E multiple of 12x to its FY 2010 diluted earnings of Rs. 16.16 per share. We assign a target price of Rs. 194 per share representing an upside potential of 39.8% from current levels.

Historical PE Trend



Source :Bloomberg, Nirmal Bang Research

Financials

Income Statement

Particulars (Rs. Cr.)	FY-07	FY-08	FY-09E	FY-10E	FY-11E	FY-12E
Sales	7,985.7	13,679.4	22,201.7	30,593.4	39,669.9	50,463.2
Other Income	96.5	264.6	342.2	476.7	617.4	786.9
Total Income	8,082.2	13,944.0	22,543.9	31,070.1	40,287.3	51,250.2
Cost of Good Sold	(4,788.2)	(8,870.2)	(15,825.7)	(21,229.5)	(27,048.3)	(33,773.4)
Gross Profit	3,294.1	5,073.8	6,718.2	9,840.7	13,239.0	17,476.7
Operating & Other Expenses	(1,207.7)	(1,775.3)	(2,351.8)	(3,591.6)	(4,518.2)	(5,647.7)
Employee Remunaration	(668.2)	(1,043.0)	(1,172.6)	(1,856.8)	(2,385.7)	(2,994.3)
EBIDTA	1,418.1	2,255.5	3,193.8	4,392.3	6,335.1	8,834.8
EBIDTA Margins	17.8%	16.5%	14.4%	14.4%	16.0%	17.5%
Depreciation	(171.8)	(289.4)	(287.7)	(310.8)	(349.5)	(384.3)
EBIT	1,244.6	1,964.6	2,906.1	4,081.5	5,985.5	8,450.5
Net Financial Charges	(276.3)	(596.9)	(852.7)	(999.4)	(1,099.7)	(1,174.3)
PBT	968.3	1,367.6	2,053.4	3,082.1	4,885.8	7,276.2
Tax	(103.6)	(199.3)	(334.7)	(463.3)	(732.5)	(1,101.6)
PAT	864.7	1,168.3	1,718.7	2,618.8	4,153.3	6,174.6
Minority Interest	(0.8)	(42.8)	(67.4)	(110.3)	(186.2)	(277.7)
PAT after Minority Interest	863.9	1,030.1	1,651.4	2,508.5	3,967.2	5,896.9
PAT margins	10.8%	7.5%	7.4%	8.2%	10.0%	11.7%
EPS (Basic)	5.99	8.11	10.64	16.16	25.56	38.00
EPS (Diluted)	5.98	7.90	10.64	16.16	25.56	38.00

Source: Nirmal Bang Research

Balance Sheet

Particulars (Rs. Cr.)	FY-07	FY-08	FY-09E	FY-10E	FY-11E	FY-12E
Share Capital	287.8	299.4	310.4	310.4	310.4	310.4
Reserves & Surplus	3,122.6	7,791.7	13,140.1	15,219.5	18,508.2	23,396.5
Employee Stock Options	11.7	10.2	10.2	10.2	10.2	10.2
Net Worth	3,422.1	8,101.3	13,460.7	15,540.1	18,828.8	23,717.1
Total Debt	5,162.0	9,934.6	14,220.0	16,517.9	17,683.9	18,349.9
Deferred Tax Liability (Net)	162.5	205.9	205.9	205.9	205.9	205.9
Others	105.6	1,026.9	1,212.4	1,322.7	1,508.9	1,786.5
Total Liabilities	8,852.2	19,268.7	29,098.9	33,586.7	38,227.5	44,059.5
Gross Block	4,321.1	5,599.8	8,277.4	9,912.1	11,302.3	12,698.7
less:accumulated Depn	701.6	1,031.8	1,319.5	1,630.3	1,979.9	2,364.2
Net book value	3,619.5	4,568.0	6,957.9	8,281.8	9,322.4	10,334.6
Capital WIP	453.7	1,119.7	1,060.7	1,065.3	1,027.5	933.8
Others	144.8	184.1	845.1	1,322.9	2,097.6	3,275.0
Investments	15.6	3,141.8	15.6	15.6	15.6	15.6
Current assets, Loans & Advances						
Inventories	3,136.3	4,084.8	7,659.6	10,576.2	13,786.2	17,588.2
Sundry Debtors	2,235.2	3,201.3	5,314.6	7,346.7	9,605.3	12,274.4
Cash & Bank Balance	1,538.3	6,960.2	4,499.2	4,239.7	4,533.3	4,736.9
Loans & Advances	1,207.6	1,825.0	2,737.2	3,771.8	4,890.8	6,221.5
Other Current Assets	335.2	1,489.4	4,000.5	6,123.3	8,053.2	10,318.0
Current Liabilities & Provisions						
Current Liabilities	3,334.0	6,483.0	9,572.5	13,633.1	18,300.0	23,334.8
Provisions	499.9	822.5	1,338.2	1,844.0	2,391.1	3,041.6
Other Current Liabilities	0.0	0.0	1,750.4	2,349.3	3,082.9	3,931.7
Net Current Assets	4,618.7	10,255.1	11,550.0	14,231.3	17,094.8	20,830.8
Total Assets	8,852.2	19,268.7	29,098.9	33,586.6	38,227.5	44,059.5

Source: Nirmal Bang Research

Cash Flow Statement

Particulars (Rs. Cr.)	FY-07	FY-08	FY-09E	FY-10E	FY-11E	FY-12E
Net Profit before Tax	968.3	1,367.6	2,053.4	3,082.1	4,885.8	7,276.2
Depreciation	171.8	289.4	287.7	310.8	349.5	384.3
Others	405.5	1,004.1	999.4	1,032.9	878.9	655.3
Operating Profit before WC Changes	1,545.6	2,661.1	3,340.4	4,425.8	6,114.3	8,315.8
Changes in Working Capital	(733.5)	(1,017.6)	(4,271.7)	(3,446.5)	(3,116.9)	(4,183.0)
Cash Flow Before Direct Tax	812.1	1,643.5	(931.2)	979.3	2,997.4	4,132.7
Income Tax Payment	(74.8)	(247.8)	(334.7)	(463.3)	(732.5)	(1,101.6)
Cash generated from operations	737.2	1,244.5	(1,265.9)	516.0	2,264.9	3,031.2
Cash Flow From Investing Activities						
Purchase of Fixed Assets	(1,021.8)	(2,128.7)	(2,677.5)	(1,634.8)	(1,390.2)	(1,396.5)
Others	(2,698.1)	(2,508.0)	(5,683.8)	(5.5)	(6.8)	(7.9)
Net Cash used in Investing Activities	(3,719.9)	(4,636.7)	(8,361.3)	(1,640.3)	(1,397.0)	(1,404.3)
Cash flow from Financial Activities						
Equity Raised	0.0	2,182.7	0.0	0.0	0.0	0.0
Dividend Paid	(250.5)	(1.2)	(282.4)	(429.0)	(678.5)	(1,008.6)
Proceed from Borrowing (Net)	4,452.3	4,358.7	4,285.4	2,298.0	1,166.0	666.0
Others	(232.3)	2,273.9	3,040.8	(1,114.4)	(1,248.0)	(1,358.3)
Net Cash flow from Financial Activities	3,969.5	8,814.1	7,043.8	754.6	(760.5)	(1,700.9)
Net Increase / (Decrease) in cash & Cash Equivalents	986.8	5,421.9	(2,461.1)	(259.4)	293.6	203.6
Cash & Bank Balances (Opening)	551.5	1,538.3	6,960.2	4,499.2	4,239.7	4,533.3
Cash & Bank Balances (Closing)	1,538.3	6,960.2	4,499.2	4,239.7	4,533.3	4,736.9

Source: Nirmal Bang Research

Ratio Analysis

Particulars (Rs. Cr.)	FY-07	FY-08	FY-09E	FY-10E	FY-11E	FY-12E
Per Share Data						
EPS (Rs) (Basic)	5.99	8.11	10.64	16.16	25.56	38.00
EPS (Rs) (Diluted)	5.98	7.90	10.64	16.16	25.56	38.00
CEPS (Rs)	7.20	8.81	12.49	18.17	27.82	40.47
Book Value (Rs)	23.78	54.12	86.74	100.14	121.33	152.83
Profitability Ratios (%)						
EBITDA Margin	17.7%	16.5%	14.4%	14.4%	16.0%	17.5%
Net profit Margin	10.7%	7.4%	7.3%	8.1%	9.8%	11.5%
ROE	25.3%	14.4%	12.8%	16.9%	22.1%	26.0%
Valuation Matrix						
PE (x)	21.25	16.09	11.94	7.86	4.97	3.34
P/BV	5.34	2.35	1.47	1.27	1.05	0.83
EV/EBIDTA (x)	15.47	9.76	9.22	7.29	5.19	3.77
EV/Sales (x)	2.74	1.61	1.33	1.05	0.83	0.66
Mcap/Sales (x)	2.29	1.39	0.89	0.64	0.50	0.39
Leverage Ratios						
Debt/Equity	1.51	1.23	1.06	1.06	0.94	0.77
Interest coverage	4.50	3.29	3.41	4.08	5.44	7.20

Source: Nirmal Bang Research

Appendix: Wind Energy

Wind Energy Basics

Wind energy uses the energy in the wind for practical purposes like generating electricity, charging batteries, pumping water etc. Large, modern wind turbines operate together in wind farms to produce electricity for utilities. Small turbines are used by homeowners and remote villages to help meet energy needs.

Wind turbines harness the wind energy with two or three propeller like blades, which are mounted on a rotor to generate electricity. The working of the blades is similar to an airplane wing. When the wind blows, a pocket of low pressure air forms on the downside side of the blade. The low pressure air pocket then pulls the blade toward it causing the rotor to turn. This is called lift. The force of the lift is actually much stronger than the wind's force against the front side of the blade which is called drag. The combination of lift and drag causes the rotor to spin like a propeller and the turning shaft spins a generator to make electricity.

Process

When the wind turns the blade of a windmill, it spins a turbine inside a small generator to produce electricity just like a big coal power plant. The tower is bolted into a platform. The nacelle is attached to the top of the tower. The nacelle contains the rotor gearbox and generator. Attached to one end of the nacelle is the rotor hub, to which the three blades are attached. An industrial wind turbine is constructed to supply the electric grid.

Wind electric generator converts the kinetic energy available in wind to electrical energy by using rotor, gearbox and generator. The wind turbines installed in the country are predominantly of the fixed pitch regulated design. However, recently new installations are moving towards better aerodynamic design. Use of lighter and larger blades, higher towers, direct drive and variable speed gearless operation using advanced power electronics. Electronically operated wind turbines do not consume reactive power which is a favorable factor towards maintain a good power factor in the typically weak local grid networks.

To produce alternating current in phase with the grid, the rotor shaft has to turn at a set rate. The blades can be pitched to adjust how they respond to the wind. This is called pitch control and is done with a motor at the base of each blade. Yaw control motors at the base of the nacelle turns the nacelle so that the blades are facing into the wind.

A turbine's power is determined by its ability to capture that energy and convert it to rotational torque that can turn the generator and push electrons into the grid. The maximum power is produced at an average speed of 30-50 mph. If the wind speed decreases by half. Power production decreases by a factor of eight. On average therefore, wind turbines do not generate near their capacity. Industry estimates project an annual output of 30-40% but real world experience shows that annual outputs of 15-30% of capacity are more common. Wind power is collected and transferred to main transformer. Which converts it into electrical energy.

Major Components

Main components of a wind electric generator are:

Tower: The tower of the wind turbine carries the nacelle and the rotor. Towers for large wind turbines may be either tubular steel towers, lattice towers or concrete towers. Most large wind turbines are delivered with tubular steel towers, which are manufactured in sections of 20-30 meters with flanges at either end and bolted together on the site. The towers are conical in order to increase their strength and to save materials at the same time.

Nacelle: The gearbox which transforms the slow turning of the blades to a faster rotor speed and the generator are massive pieces of machinery housed in a bus sized container called the nacelle at the top of the tower. The blades are attached to the rotor hub at one end of the nacelle.

Rotor: The blades or rotors are the important part of the wind turbine generator. It converts the kinetic energy of the wind into a mechanical energy. The generator connected to the main shift turns at high speed (through gear train) to generate electricity or rotates at variable speed in case of non induction generators. Blades come in many sizes the longest blades in use today are over 80 meters long. The blade materials used today are lightweight materials such as Fiber Reinforced Plastics (FRP), Glass Reinforced Fiber Plastics (GRFP) etc.

Gearbox: A multi stage planetary/ spur wheel gearbox ensures high levels of mechanical efficiency and power. The first planetary gear stage takes up the slow rotor movement and distributes the high torque input to subsequent planetary gears.

Generator: The generator converts the mechanical energy of the rotating shaft into electrical energy. This electricity is then stepped up to grid voltage and sent to homes and businesses through the distribution network of electric grid. Thus consumers can use this power for various applications such as heat and light.

Braking System: The primary braking system for most modern wind turbines in the aerodynamic braking system which essentially consists in turning the rotor blades about 90 degrees along their longitudinal axis or in turning the rotor blade tips 90 degrees.

Yaw Mechanism: The rotor should always face the wind so the wind turbine will generate as much electricity as possible. The yaw motor turns the nacelle so that the rotor faces the wind. The wind turbine yaw mechanism is used to turn the wind turbine rotors against the wind. The controller of the wind turbine will always make sure that the rotor is yawed up against the wind. That means the rotor is turned into the wind. The wind vane on top of the nacelle tells the controller where the wind is coming from. When the wind changes direction the nacelle and the rotor follows. The rotor should always be facing the wind in order to catch the wind properly.

Sensors: It simply consists of a ball resting on a ring. The ball is connected to a switch through a chain. If the turbine starts shaking, the ball will fall off the ring and switch the turbine off.

Turbines: Modern wind turbines are divided into two major categories: horizontal axis turbines and vertical axis turbines. Old fashioned windmills are still seen in many rural areas.

Horizontal Axis Turbines: Horizontal axis turbines are the most common turbine configuration used today they consist of a tall tower, atop which sits a fan like rotor that faces into or away from the wind, the generator, the controller and other components. Most horizontal axis turbines built today are two or three bladed although some have fewer or more blades.

Vertical Axis Turbines: The blades of vertical axis wind machines work on the same principle as horizontal axis machine the shape of the blade causes a pressure difference when the wind blows over them and this causes the blade assembly to spin. In a vertical axis machine, however the blades spin in a plane that is parallel to the ground.

NOTE

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