

# Management Discussion and Analysis: Fy 2015-16

## Company Overview

Established in 2006, Orient Green Power Company Ltd., part of the Shriram Group, is among leading Independent Power Producer in the country. Focused on developing, owning and operating a diversified portfolio of renewable energy power assets, the Company's portfolio of 531 MW as of March 2016, comprises of 425 MW of Wind energy assets and 106 MW of Biomass energy assets.

OGPL is Headquartered in Chennai, Tamil Nadu and has Wind power plants in Tamil Nadu, Andhra Pradesh and Gujarat and Biomass power plants in Tamil Nadu, Rajasthan, Maharashtra and Telangana. The Company also owns and operates a 10.5 MW wind power plant in Croatia. OGPL has diversified customer offtake arrangements and supplies the power generated to SEBs, Group Captive Customers, Merchant Power as well as sale through the energy exchanges. OGPL is also one of the leading supplier of RECs in the country.

In addition to the majority shareholding held by the Shriram Group, Orient Green Power is backed by global private equity fund investors like Bessemer Venture Partners and an affiliate of Olympus Capital.

## Economic Overview

During FY 2015-16, the global macroeconomic landscape continued to charter an uncertain terrain characterized by weak growth of world output. This was marked by the declining prices of a number of commodities, turbulent financial markets and volatile currency rates. During the year, some economies strengthened, while others faced deepening stress due to continued challenging financial conditions. Growth in emerging markets and developing economies, which account for over two-thirds of global growth has declined for the fifth consecutive year. Undoubtedly, there have been some green shoots, but synchronized and sustainable global growth continues to remain elusive. As a result, the world economy continues to grow at a modest pace. Growth of world GDP is projected at 2.9% in 2016, compared to 2.4% in 2015.

This divergence of growth across the various economies served as a reminder of vulnerability within the global economic landscape. For commodity exporters and several emerging market economies, balance of trade has worsened, capital inflows were impacted, reserves have been drawn down and currencies have weakened. Currency depreciation has proved so far to be an extremely useful buffer for a range of economic shocks. However, further falls in commodity prices could lead to even more problems for commodity exporters, including intensified currency depreciation that could potentially trigger still-hidden balance sheet vulnerabilities. In some countries, beyond these very general trends, there is an overlay of political

or geopolitical tension that magnifies the purely economic challenges. As a result there has been a sharp shift towards risk-aversion by global investors.

The global outlook was significantly influenced by gradual slowdown and rebalancing of economic activity in China as its economy transitions from investment and manufacturing to consumption and services. But the global spillovers from China's reduced rate of growth, through its diminished imports and lower demand for commodities, have been much larger than anticipated.

Among the larger economies, the US economy has shown the most significant progress over the last year. There have been improvements in both structural and cyclical factors and this has led the US Federal reserve to commence the reversal of the Quantitative Easing program launched in the aftermath of the global financial crisis of 2008. This monetary tightening is in contrast to the continuing accommodation by the European Central Bank and the Bank of Japan. In today's world of tightly linked but still nationally distinct economies, the issues have become much more complex as the impact of policies of one country have a spillover effect on other economies across the globe.

The overall subdued performance of the world economy in recent years has raised concerns of a "new normal" of lower growth. More importantly, the multiple challenges that have besieged several global economies and the overall environment of heightened volatility has resulted in reduced capital investment. The broad-based weakness in investment worldwide not only holds back current growth, but also reduces potential growth in the future.

## Domestic Scenario

Within the backdrop of continued uncertainty in the global landscape, India's growth story has largely remained positive on the strength of domestic absorption, and the country has registered a robust and steady pace of economic growth in 2015-16. Additionally, other key macroeconomic parameters like inflation, fiscal deficit and current account balance have exhibited distinct signs of improvement. The fall in commodity prices has been of immense benefit to India, which is heavily dependent on imports, hence the trade and current account deficits continue to be moderate.

The growth in Indian GDP in FY2016 is expected to improve to 7.6% during the current fiscal year compared with 7.2% last year. This is on the back of substantial jump in the manufacturing growth rate. Growth in agriculture has slackened due to two successive years of poor monsoon rains. Saving and investment rates are showing hardly any signs of revival. The rupee has depreciated vis-à-vis the US dollar, like most other currencies



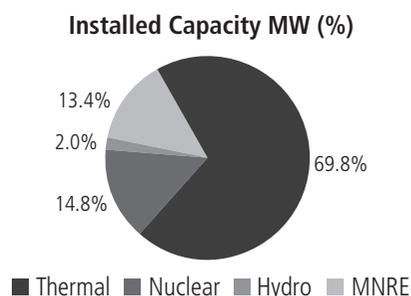
in the world, although less so in magnitude. At the same time, it has appreciated against a number of other major currencies.

During the year, the Government undertook several credible initiatives in the areas of reviving infrastructure investments, easing the process of doing business, improved financial inclusion, a more accommodative FDI regime and a refreshing approach towards key policy areas such as defence, foreign policy, urban development and power. The impact of most of these measures will be better gauged over a longer period of time but the start has been encouraging.

The International Monetary Fund hailed India as a 'bright spot' amidst a slowing global economy. According to the World Bank, India will overtake China as world's fastest-growing major economy by 2017. Given the fact that the government is committed to carrying the reform process forward, aided by the prevailing macroeconomic stability, it appears that conditions do exist for raising the economy's growth momentum and achieving higher rates of growth in the years ahead.

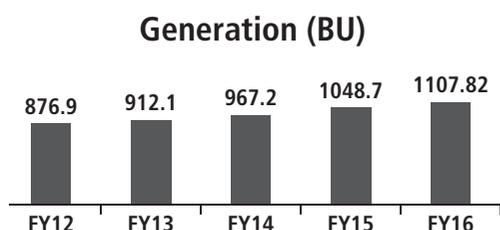
### Industry Overview

India's power sector, one of the most diversified in the world, ranks fifth globally in terms of generation capacity. India's installed capacity as of March, 2016 stood at 302 GW of which 26,769 MW constitute Wind, 6,763 MW constitute Solar and thermal power constituted the bulk with 69%. In addition to



having the fifth largest installed capacities, India is also the third largest producer of electricity in the world. In FY16, India generated 1,107 BU of electricity.

As per the 12th Five Year Plan, India is targeting a total of 88.4 GW of power capacity addition by 2017, of which, 72.3 GW constitutes thermal power, 10.8 GW hydro and 5.3 GW nuclear. It is commendable that the capacity addition has been steadily



increasing in each of the five year plans. However, even after the considerable growth in the power sector infrastructure and the

supply of electricity, many parts of the country continue to face severe power shortages as consumption by commercial and industrial consumers has been increasing at a faster rate than electricity supply. India's per capita power consumption pales in comparison when viewed against its peers. The expected pickup in economic growth coupled with associated increase in economic activities particularly in industries like cement, steel, mining, food processing and other manufacturing industries demand is expected to outpace the generation pace.

Energy is one of the pivotal components for a country's economic development and social progress. Being a focus area, it has started to benefit from forward looking policies and effective implementation of directives by the Government in recent years in turn facilitating transformational changes in the sector.

### Electricity demand by sector and generation in the New Policies Scenario (TWh)

	2000	2013	2020	2030	2040	Change	CAGR
Demand	376	897	1,351	2,241	3,288	2,390	4.9%
Industry	158	375	565	904	1,277	902	4.6%
Residential	79	207	329	647	1,115	908	6.4%
Services	46	133	207	332	450	318	4.6%
Transport	8	15	20	24	30	14	2.5%
Agriculture	85	160	222	324	401	241	3.5%
Other energy sector	0	6	8	10	13	7	2.7%
T&D losses	155	220	313	452	613	393	3.9%
PG own use	40	82	107	160	229	147	3.9%
Gross generation	570	1,193	1,766	2,848	4,124	2,930	4.7%

**Source: International Energy Agency**

India's energy consumption has almost doubled since 2000 and with the nation now poised to be the fastest growing economy globally; the potential for incremental demand is enormous. India is set to contribute more than any other country to the projected rise in global energy demand, around one-quarter of the total. Further, with usage of energy expected to decline in many developed countries and with China entering a much less energy-intensive phase in its development India is expected to drive majority of the energy demand. India's urbanization is a key driver of energy trends: an additional 315 million people - almost the population of the United States today - are expected to live in India's cities by 2040. While developing capacity to cater to the increased demand will certainly be challenging, it is equally important to ensure that incremental capacity also sits well in terms of parameters such as environmental protection, fuel availability & supply, energy mix as well as economic contributors such as job - creation, foreign exchange and overall GDP growth.

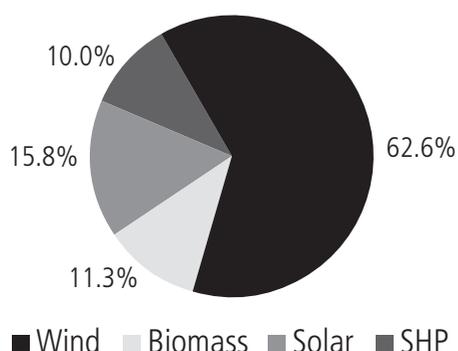
In light of this, coordinated actions are being directed at both national and state level towards removing obstacles

to investment in energy supply besides focusing on energy efficiency and pricing reform. Some of the recent measures undertaken by the ministry include charting out a clear road map for doubling Coal India's production to 1bn tonnes/year by 2020, in an attempt to curb the expensive coal imports. Further, to achieve the vision of 24x7 power for all by 2019 the government is targeting to electrify 18,452 villages in 1,000 days (5,372 done in 200 days) by working with individual state governments to revive Discoms under the UDAY scheme and investments of INR 1.4 trillion under Deendayal Upadhyaya Gram Jyoti Yojana and Integrated Power Development Scheme. A combination of such measures besides others has started showing early signs of success - the sector reported record capacity additions in generation & transmission capacity, the highest growth in coal supplies in the last 2 decades and incidents of stranded gas plants commencing operations.

### Renewable Energy

India's renewable energy portfolio stands at 42.7GW as of March 2016, constituting 14.1% of the overall energy mix. The share of renewable energy over the years has been rapidly increasing primarily on the back of supportive policies being implemented by the Government. Improved evacuation infrastructure, improved technical expertise, a longer performance track record and better understanding by bankers and financiers are fostering strong regional variations

**% of renewable capacity installed**



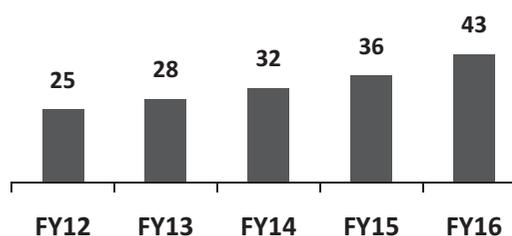
Renewable energy space in general has been gaining significant traction in developing countries in recent times with 2015 being the first instance where investments in emerging countries especially in China and India, has surpassed those by wealthy nations, as per an UN-backed report. Developing world including China, India and Brazil committed a total of USD 156 billion in new renewables capacity last year, up 19% over 2014; in contrast investments by developed countries were down 8% in 2015 to USD 130 billion. Within the developing-economy category, China, India and Brazil saw investment rise 16% to USD 120.2 billion, while other developing economies enjoyed a 30% bounce to USD 36.1 billion. India ranked amongst the top 10 investing countries in renewable energy, with a 22% rise in its commitment to USD 10.2 billion. Further, Indian

renewable energy companies also attracted USD 548 million in venture capital/PE funding in 2015, which is more than all of Europe (USD 301 million) and is second only to the US.

India's renewable energy installed capacity has increased 11 times from 3.8 GW in FY05 to about 43 GW in March 2016.

The rapid growth in renewables will be supported by the expected pace of cost reductions-costs of onshore wind and utility-scale solar PV are likely to fall by 25% and 40%, respectively, over the next 20 years.

**Installed Capacity (GW)**



India is the fifth largest wind power producer in the world after China, US, Germany and Spain. The Wind sector, which dominates the renewable energy in the country with a share of 63% of the overall mix, has undergone a major shift from tax-credit driven investment to mainstream IPPs. This has led to setting up of large wind farms deploying the latest technology and practices—larger MW class wind turbines, improved O&M practices for extending plant life, use of logistics tools for more efficient construction and maintenance, and seamless grid integration. The government plans to double wind power generation capacity to 60 GW by 2022 and take solar upto 100 GW.

Further, the industry has also benefited from improvements in infrastructure, be it tower structure, drive-train technology, and use of advanced power electronics, adding to its overall cost effectiveness. The most promising sites are situated in west and south, with around 90% of the potential in the states of Tamil Nadu, Andhra Pradesh, Madhya Pradesh, Karnataka, Maharashtra, Gujarat and Rajasthan.

Biomass units are faced with the issue of availability of working capital. In many states fuels are available in a short time window of 3-4 months. Further, high interest costs coupled with shorter tenors of lending put huge strain on Biomass Units. However, tariffs in most states, are quite reasonable and workable since they have begun to adopt CERC norms for tariff fixation. The future, for the industry, looks positive.

Solar energy is gaining significant traction in India and presently constitutes 16% of the country's total renewable energy mix. A rapid & consistent decline in prices of solar panels coupled with favorable government policies are the primary reasons for solar energy's rapid growth. According to Oxford University's latest research, the pace of decline in solar energy costs is so rapid



that there is a possibility of them even outpacing mainstream energy. Solar panels have been steadily falling in price since the 1980's, becoming 10% cheaper per year. India is also planning on scaling up solar power generation capacity by five times to 100GW by 2022. With states offering designated solar parks and assured connectivity to substations and central agencies assuring improved credit protection, solar energy is expected to maintain its rapid growth in the country. It remains to be seen whether the low price quoted in various States are really sustainable.

A key driver for India's stupendous growth of renewable energy in particular and power sector in general has been the supportive and encouraging policies and initiatives undertaken by the government

Some recent and significant measures undertaken by the government include

- Full exemption on excise duty is being provided on Pig Iron (SG grade) and ferro-silicon-magnesium for use in the manufacture of cast components of wind-operated electricity generators
- Full exemption on excise duty is being provided on round copper wire and tin alloys for use in the manufacture of solar PV ribbon for manufacture of solar PV cells
- 10-year tax holiday for solar power projects
- Guaranteed market through solar power purchase obligation for states
- Subsidy of 30% of the project cost for off-grid PV and solar thermal projects
- Financial assistance from IREDA for the setting up of biomass power and bagasse co-generation projects
- Accelerated Depreciation for Biomass projects - Claim of 80% depreciation in the first year for certain specific equipment

Although too premature to evaluate, the above initiatives have undoubtedly contributed favorable results as reflected by the pace of power generation and addition of transmission capacities which are both at record highs. Further, coal supplies also increased at the fastest pace in 2 decades and stranded gas plants have started recommencing their operations.

While the progress has been encouraging, a lot more could be done had it not been for hurdles in terms of inadequate grid infrastructure, land acquisition & uncertain policy environment, access to capital and strained financial position of state-owned utilities which impaired the country from reaching its true potential to generate renewable energy.

**Inadequate grid infrastructure** – Unavailability of evacuation infrastructure and grid integration are amongst the primary reasons impacting the growth of renewable energy projects in the country. Further, inefficient Transmission & Distribution

(T&D) infrastructure is also a major cause for severe electricity loss from the grid network. Deficiency in transmission remains a challenge especially for renewable energy given low capacity factor and congestion on existing networks. T&D losses in India are relatively higher when compared with other emerging nations like Brazil, South Africa and China. Kayathar, Sholinganallur line is complete and this will enable an extra 2000 MW to flow from the Southern part of Tamil Nadu, where most Windmills are located, to major consuming centre like Chennai.

**Higher cost of Finance** – Absence of mature bond market coupled with the high interest rate environment results in relatively greater cost of capital for renewable energy projects in India compared to similar projects in US. Further, apprehension amongst foreign lenders owing to weaker off-take for some of the players coupled with rising currency volatility, also limits domestic power producers from accessing foreign financial institutions. Shorter tenors are not workable for infrastructure projects. The new 5:25 Scheme is a move in the right direction as it will help significantly reduce cash flow burden.

**Land acquisition** – Akin to the problem faced by conventional power producers, Renewable energy players are also facing difficulties in sourcing large pool of land at affordable cost. Wind and solar projects require huge amount of land. Inordinate delays in land procurement results in higher project cost in turn affecting the feasibility of the project.

**Strained financial positions of Discoms** – The financials of Power distribution companies, which are bulk purchaser of power continue to remain weak in turn leading them to cut back from buying expensive power (whether conventional or renewable-based) thus confining power markets. Constrained financials also raises significant counterparty risk which is manifested in delayed payments to generators and other suppliers. The situation though is likely to improve on the back of persistent government efforts especially the implementation of UDAY scheme.

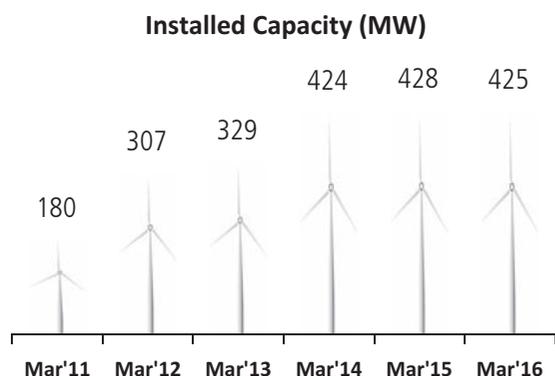
## BUSINESS OVERVIEW

### Wind Energy Business

Orient Green Power is amongst the country's leading wind generating Power Companies and the largest pure play renewable energy generating companies in India. An independent developer and operator of wind assets the Company's wind portfolio as of March 2016 stands at 425 MW.

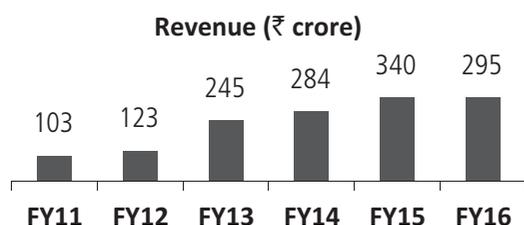
The Company has consistently scaled up its assets over the years in sync with the growing traction of renewable energy in the country; and its wind assets have grown 2.5x over the last 6 years. Wind assets constitute 80% of the Company's overall commissioned portfolio. The Company has grown its portfolio through a mix of organic - Greenfield development as well as through inorganic - acquisitions led growth

The Company's wind assets are located at some of the country's best wind site, and largely come in the southern states like Tamil Nadu & Andhra Pradesh etc. In addition, the Company



has a nascent but growing presence in Gujarat, Karnataka etc. Being strategically located across the country has enabled the Company to lower its concentration risk besides gaining relatively better yield on its assets.

The Company's revenue generation from the segment has also grown manifold following the growth in portfolio's size.

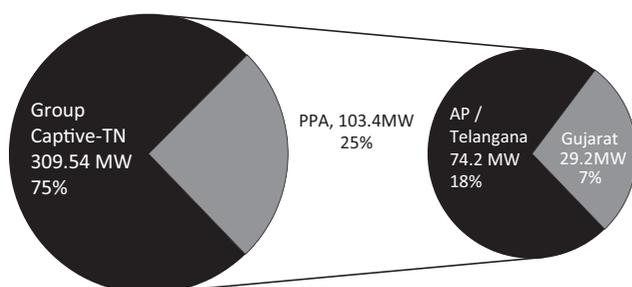


Revenues from the business have risen by 3times from Rs. 103 crore in FY11 to Rs. 295 crore at present.

Further, the revenue model for the Company is also well diversified with offtake agreements varying between Group Captive model and Power Purchase Agreements (PPA).

#### Portfolio Composition: State/Model-wise

#### Portfolio Composition: State/Model-wise



However, despite the above mentioned measures, performance of the segment has continued to remain sub-optimal primarily

owing to external factors such as inadequate infrastructure - grid back down, and partly due to above average variation in wind patterns etc., resulting in the gap between performance and potential.

Performance of wind business during current year as well to a large extent was impacted by these factors. Delayed and lower wind availability impacted revenue generation for the year. Revenue from the business for the year stood at Rs. 295 crore as against Rs. 340 crore during last year. However, the business is expected to deliver a better performance with improvement in wind availability as the same will ensure higher generation of energy. Further, with higher proportion of new assets in the overall mix PLF's are expected to improve with minimal maintenance expense.

Also, things appear to be on the mend especially in terms of grid connectivity and availability. The quantum & frequency of grid back down and the resulting loss associated with it has been gradually declining especially in Tamil Nadu region. The state has been successful in consistently lowering the losses associated with grid back down; from a level of 40% two years back the situation is expected to be below 10% by next year. The situation is encouraging and should help us deliver significantly better performance if on-ground developments progress as planned. Measures such as planned shutdown of thermal plants during peak generation season by the Tamil Nadu State Electricity Board (TNEB) has significantly contributed to the improved scenarios. Further, the grid corridor which was incomplete for last two - three years is now complete which in turn has resulted in evacuating energy generated in Southern part of Tamil Nadu to Northern parts of the state which are the prime consuming centers of the state.

- 2000 MW Thermal Power Plants for shut down during Wind Season
- Improved grid infrastructure
- Continuous discussion with TNEB officials
- Proposed introduction of scheduling and forecasting
- Wider frequency band width for renewables. 150 MW to 250 MW.
- Proposal for SRPC and inter State sale of power.

Amidst a mix of improving operating environment and in line with the Company's strategy of capitalizing on its position, it is also working towards expanding its portfolio by 57.50 MW. Of the 57.5 MW, 43.5 MW is planned in Andhra Pradesh while 14 MW is planned in other state. The 43.5 MW project in AP is the second phase of a project wherein the Company had already set up 50.4 MW plant. Other infrastructure at the site including land, grid connectivity, layout, etc., is already in place hence the incremental profitability from the investment is very likely to be very attractive.

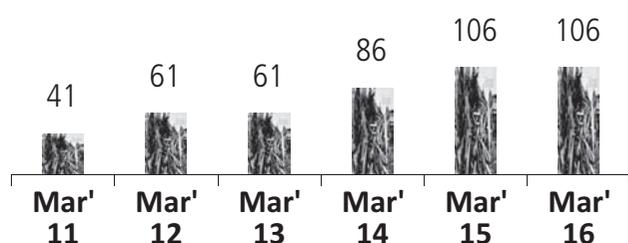


EXPANSION PLANS		
State	Capacity (MW)	Offtake Arrangement
Andhra Pradesh	43.5	Proposes to enter into long-term PPAs with SEBs
in Other State	14.0	Planned

### Biomass Energy Business

Orient Green Power ranks amongst the country's largest biomass energy producers. With an installed capacity of 106 MW, biomass constitutes 20% of the Company's overall portfolio.

#### Installed Capacity (MW)



The Company's biomass assets are situated across the country with presence in the state of Tamil Nadu (32.5MW), Andhra Pradesh / Telangana (7.5MW), Rajasthan (34.0 MW), Maharashtra (22.0 MW) & Madhya Pradesh (10.0 MW).

The Company also has a fairly diversified offtake agreement for its power projects spread across Group Captive, Merchant and PPA

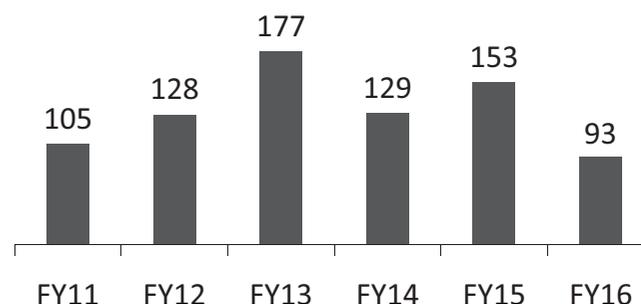
State	Capacity (MW)	Revenue Model
Tamil Nadu	32.5	Group Captive, Merchant
Andhra Pradesh / Telangana	7.5	Merchant
Rajasthan	34.0	PPA
Maharashtra	22.0	Merchant, PPA
Madhya Pradesh	10.0	PPA
<b>Total</b>	<b>106.0</b>	

The businesses revenue has also grown over the years in line with increased capacities. The revenue growth for the business though has lagged the pace of capacity expansion

The business has had to encounter significant difficulties in turn impairing the overall performance of the business. Factors ranging from non availability of raw material and unviable tariff environment had dented the segment's performance.

One of the key requirements for running a biomass unit profitably requires the plant to operate at higher levels of utilization. In order to run the plant at high utilization which will ensure attractive returns, there is a need to invest to

#### Revenue (₹ crore)



purchase feedstock when it is available and store it for when it is required. Naturally, this pushes up the working capital requirement. However, given that majority of our units were functioning at sub-optimal level, it became quite difficult for us to generate the requisite proportion of working capital to fund at least the profit generating the ones. The business prospects though continue to remain attractive, especially with the improving tariff environment and one can generate profit from the same if one has the necessary liquidity and financial strength. Procuring the raw material at right price and appropriate time can result in generating attractive returns from the business.

Taking cognizance of the segment's sub optimal performance over the years, the Company has been working diligently towards identifying the nature and characteristics of factors hindering the business. In light of the above, the Company has formulated a strategy which should help improve the operations and profitability of biomass business. Efforts towards reviving the business also reflect the Company's confidence and belief in the business. Further, with tariff environment changing for the better in certain states the Company believes it is the apt time to undertake the transformation and emerge as a focused and much stronger player. Part of the strategy includes, demerging of biomass business into a separate entity called Biobijlee Green Power Limited and to monetizing unproductive assets and utilizing the proceeds from the same for investing in profitable business. Of the 12 biomass plants, the Company is planning towards paring stake in around 5-6 units which have been operating at sub-optimal level in turn dragging down the overall profitability of the business. The Company has made certain progress in this direction by monetizing its stake in D.Y. Patil plant located in Kolhapur.

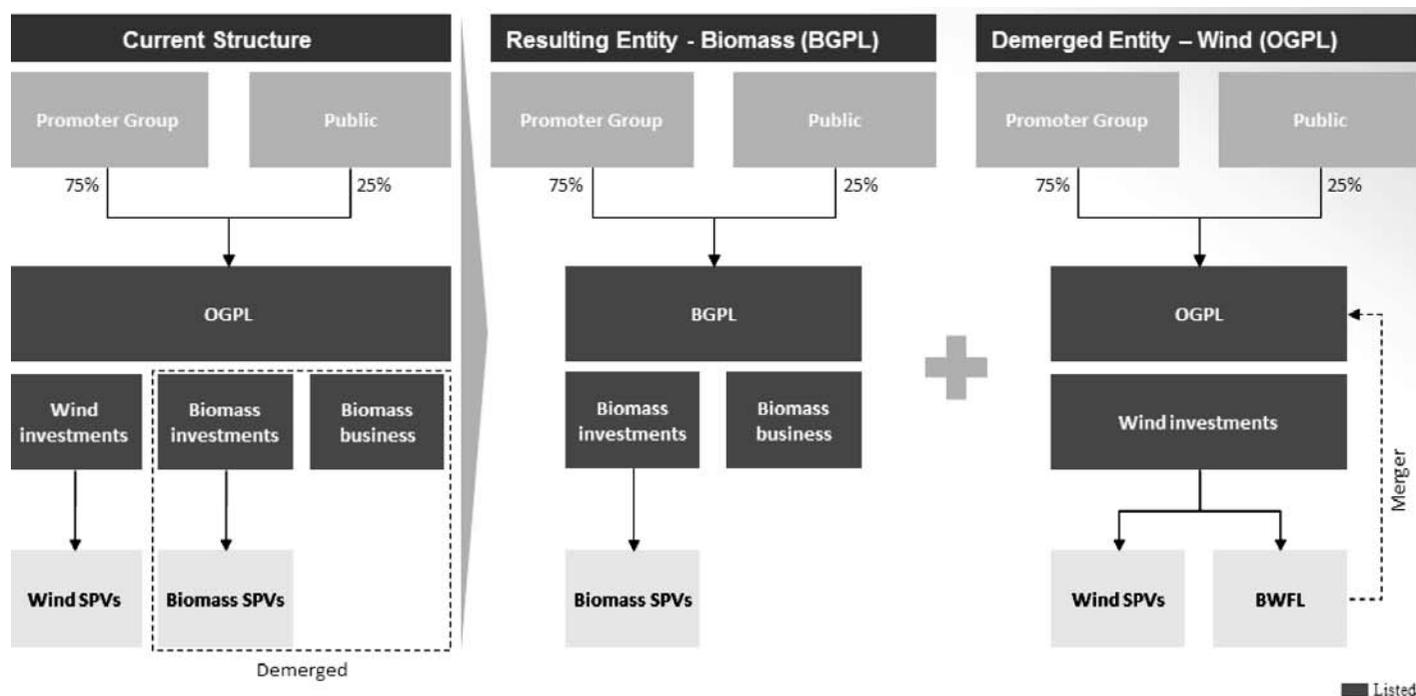
The above mentioned measures are expected to pave the road ahead for the business. Monetizing non profitable assets and focusing on value generating plants will help improve the financial position and profit generating ability of the business.

#### Key development - Demerger

In a bid to revive and help biomass business grow and attain its true potential the Company has decided to demerge the business into a separate entity called Biobijlee Green Power Limited. Demerger of the biomass business will streamline the

business model and allow us to customize and implement strategies for each segment more appropriately besides enabling value unlocking for our shareholders.

**Amalgamation of Bharath Wind Farm Limited (BWFL) with OGPL and demerger of the Biomass Power Business into Biobijlee Green Power Limited ("BGPL")**



The transaction entails carving out of the existing biomass business along with its SPVs into Biobijlee Green Power Limited. All the assets and liabilities of biomass business will get transferred to SEPL at book values. The share swap ratio agreed for the transaction is 10:1; SEPL to issue 1 equity share of face value INR10 for every 10 equity shares held in OGPL. Post completion of the transaction, shareholding in SEPL will mirror OGPL's shareholding. The Appointed date for the demerger is October 1, 2015.

**Key Benefits**

- Focused entities
- Dedicated Management
- Greater efficiencies

The erstwhile OGPL will get transformed into a pure wind business post the demerger. As a part of the scheme, OGPL will also merge its wholly owned subsidiary Bharath Wind Farm Limited (BWFL) with itself. Given the fact that BWFL is 100% owned by OGPL, the latter will also not be required to issue shares as a part of the consideration for the merger. The Appointed date for the merger is April 1, 2015.

**Outlook**

Orient Green Power is in a transitional phase presently, with multiple measures being undertaken to revive the business and help attain the true business potential. Albeit at a nascent

stage, these actions have started yielding desired results, and the management is hopeful of overcoming the hurdles impairing the growth of the business, as these measures run their course.

Some of the key actions undertaken by the management include measures for addressing the debt profile of the Company, consolidating its position in wind business & restructuring its biomass business. Further, encouraging on-ground actions in terms of better grid infrastructure & connectivity and improving regulatory and tariff environment will help to strengthen the recovery process.

In an attempt to strengthen its balance sheet the Company successfully raised Rs. 250 crore from the promoter group and outside investors during the year. The proceeds would be primarily used towards repaying part of its high cost debt and funding of its wind assets. In addition, the Company is also in discussion with its bankers for refinancing part of the debt and seeking extension on the tenure of its loan. The discussions are heading in the right direction and once fructified should considerably improve the Company's cash flow and liquidity position. Further, the Company also has the choice to opt for 5:25 scheme which facilitates extension of tenure. Combination of such actions will help strengthen the balance sheet besides aligning the Company's interest and principal repayments with operating cash flows.



The Company is also working towards consolidating its position in the wind energy by expanding its capacities in Andhra Pradesh and other states. Decision to scale up its presence in wind business stems from the attractive yield and relatively stable performance when compared with biomass.

Further, demerging of biomass business and monetizing of unproductive units are steps undertaken towards reviving the biomass segment. Such actions should inculcate greater focus on both businesses lines to make them more profitable. Biomass business in the past had been impacted due to non availability of raw material. Intermittent availability compelled the Company to operate at lower operating level in turn impacting the businesses profitability.

The external environment is also shaping up well with consistent improvement being observed in terms of grid availability and connectivity. Further, stringent actions by states like Orissa, Kerala, UP, MP and Maharashtra towards entities failing to meet RPO obligations instills optimism and confidence. Actions undertaken by TNEB like ordering planned shutdown of thermal plants during peak generation season towards addressing the grid back down issue appear to be working resulting in greater grid availability. Losses due to grid back down are expected to be less than 10 % by next year compared to 40% level couple of years back.

All of these measures are expected to improve the operating and financial profile of the Company and help it in delivering profitability in the near future.

### Financial Overview

The Company generated revenues worth Rs. 388 crore during the year as against Rs. 493 crore during the previous year. Lower revenue generation from the wind business owing to delayed and low wind availability was the primary reason for lower revenue for the year. Revenue from biomass business stood at Rs. 98 crore as against Rs. 153 crore during FY15.

EBITDA for the year stood at Rs. 213 crore as against Rs. 243 crore translating into margins of 55% as against 49% delivered during previous year. Greater emphasis on improving efficiencies ensured stable operating margins despite lower revenue for the year.

Depreciation expense for the year amounted to Rs. 206 crore as against Rs. 179 crore during previous year. Increased depreciation is on account of provision of additional depreciation in biomass units.

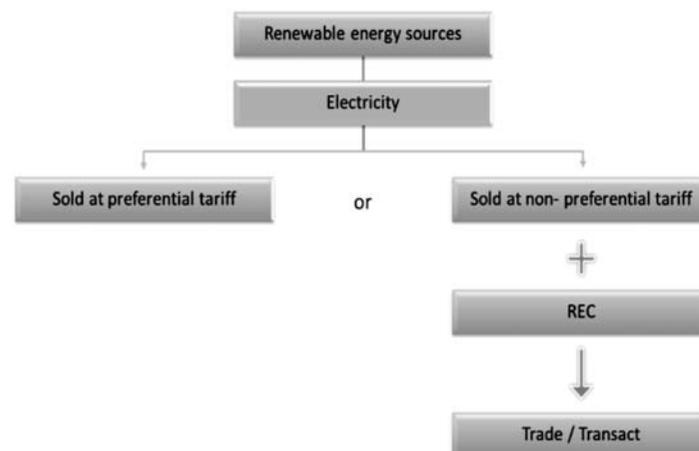
Interest expense for the year stood at Rs. 277 crore as against Rs. 286 crore during last year. Increased borrowings for funding of additional capacities contributed to the incremental outgo. The Company is however working on multiple options to lower its financial expense. Some of the measures include negotiation with bankers seeking extension on loan tenures and refinancing part of the debt.

The business generated loss after tax amounting to Rs. 337 crore during the year as against loss of Rs. 233 crore during FY15.

The Company's net worth stood at Rs. 743 crore as against Rs. 826 crore during March 2015. Long term debt of the Company stood at Rs. 1,284 crore as against Rs. 1,401 crore during last year. Debt – equity ratio as of March 2016 stood at 1.6 as against 1.7 during March 2015.

### Renewable Energy Certificate Mechanism

Renewable Energy Certificate (REC) mechanism is a market based instrument to promote renewable energy and facilitate compliance of renewable purchase obligations (RPO). The mechanism was aimed at addressing the mismatch between availability of RE resources in state and the requirement of the obligated entities to meet the renewable purchase obligation (RPO). One REC certificate is treated as equivalent to 1 MWh. REC certificates are bifurcated into solar RECs and non-solar RECs.

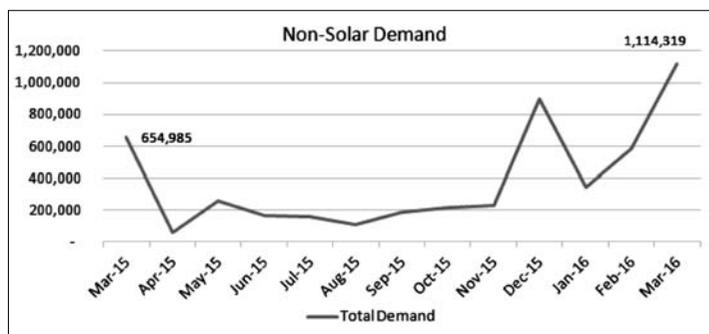


While high in intent the mechanism is yet to meet its potential primarily owing to challenges in implementation due to the dynamics of the sector.

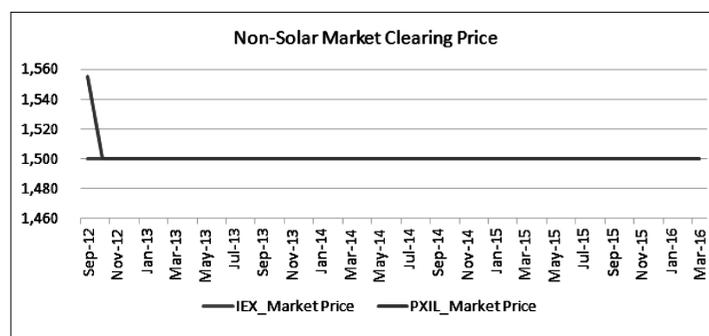
Revenue generated under the REC mechanism for the year continues to remain sub-optimal following weak enforcement of penalties on defaulting entities. Although there were few encouraging signs during the year following heightened regulatory actions in the form of compliance orders and proceedings in several states like Orissa, Kerala, UP, MP and Maharashtra.

Performance during the year remained fairly volatile; low activity period followed by a sudden bouts of demand which is reflective of an underdeveloped market. Overall, inconsistent approach by regulators towards enforcing stricter and consistent penalties on defaulting entities continues to impact the overall efficacy of the mechanism.

Trading for the year started on an expected note with volumes being on the lower end. However, Supreme Court's judgement



wherein it uphold the applicability of RPO on open access and captive consumers resulted in significantly higher volumes during May, almost 4 times April's volume. The impact of the order though was short lived as volume for June came below expectation. Performance during second quarter remained fairly steady with volumes skewed towards lower end. Come third quarter and the demand again appeared to gather steam with the period witnessing double digit growth in each of the month. Volumes for December were 4 times higher than November reflective of the pick-up in momentum. December volume was primarily high given RERC's order.



Demand since the beginning of the year has remained firm. While volumes during March were expectedly on the higher side – demand more than doubled as compared to February. Volumes were also fairly higher during January and February. While the financial year ended on a strong footing any significant upside in terms of higher revenue generation from the mechanism is largely dependent on strict and consistent actions from regulatory bodies. With measures taken by the Centre and various SERC's, there is a fair amount of improvement in trading. This is likely to improve further in FY-17 with more stringent measures being taken.

## SWOT Analysis

### Strengths

**Proven track record** – The Company's past record demonstrates its capability and commitment towards executing projects of varying complexities. Backed by experienced, prudent and knowledgeable management the Company has grown its capacities multifold despite the presence of challenging external environment.

**Diversified Portfolio** – The Company has a well balanced portfolio with significant exposure in both wind and biomass business. The Company's portfolio comprises of quality assets with a variety of feedstocks, technological deployment and age. Further, with assets located across the Country the concentration risk is mitigated. Further, diverse offtake agreement for its projects offers additional source of diversification for the Company.

**Renewable Energy is fastest growing energy source worldwide** – According to reports, the planet is adding more power capacity from renewables annually than from coal, natural gas and oil combined. Increasing cost competitiveness of renewables following rapid technological advancements coupled with championing of clean energy by government across the globe are primary reasons for the rapid growth of renewables. In addition, growing acceptance of renewables as a smart alternative to conventional sources has also contributed to the growing popularity of renewables.

### Weakness

**Archaic infrastructure structure** – The country's infrastructure level continues to remain frail owing to greater emphasis on generation and lesser attention being dedicated towards improving the supply side aspect. The obsolete transmission structure limits efficient transfer of power from remote wind farms to load centers. Further, weak transmission network also prohibits the movement of power from power surplus states to those in deficit in an optimum manner.

**Stretched working capital cycle** – The nature of the biomass business requires significant up front investment in feedstock at the time of harvest when it is abundantly available. This feedstock then needs to be stored and used throughout the year to run the plant at higher utilization levels to make the operation profitable. Further, the stretched financial position of State Electricity Boards and delayed payment of dues impacts the liquidity & cash flow position is dependent on timely receipt of its dues from, power exchanges and buyers of the power on a merchant basis. Any financial strain on these players will invariably result in lengthening its receivable cycle in turn having an adverse effect on its liquidity.

**High Finance Cost** – Pace of capacity expansion to a large extent depends on the level of interest rate in the economy. Elevated / high borrowing slows down the pace of overall asset addition / creation. Further, risk associated in terms of timely completion of project, low tariff environment, grid unavailability results in increasing the risk element of the project in turn leading to financial institution seeking higher risk premium for their investments.

**Subject to vagaries of nature** – Nature plays a large part regarding the performance of renewable energy assets due to its significant influence on output. The Company's performance in any given year is dependent on the weather conditions and availability of wind and feedstock.



**Business viability subject to delays** - Cost escalations on account of inordinate delays in land procurement, evacuation hurdles and inconsistent policy environment impacts project viability. The liquidity situation worsens owing to lengthening of execution cycle. Further, delays on the part of sub-contractor might further impact the viability of the project.

### Opportunities

**Untapped Potential** - Despite the meteoric rise of renewables in the country, India maintains vast amount of untapped potential. As per reports, India has an estimated potential of 102.8 GW of wind, 22.5 GW of bio power (including biomass and bagasse co-generation) & 7.48 GW of solar energy. Further, with technological advancement lowering the cost of renewable energy generation the scope of tapping the opportunity profitably remains high. Demand scenario is likely to remain strong with pull from industrial and residential segment.

**Reviving older assets** – Enticed by the business opportunity and benefits bestowed on the sector, multiple firms in the past had tried to tap the opportunity but have been unsuccessful in their attempts leading to a number of assets getting stranded. Orient Green Power given its proficiency and experience post acquiring such assets can successfully revive some of them in turn resulting in improving overall profitability of the business.

**Government Initiatives / Implementation of UDAY Scheme** – Government’s decision to implement (Ujwal Discom Assurance Yojana) UDAY scheme is aimed towards addressing and reviving the performance of electricity distribution companies (discoms). State-owned discoms, due to their financial troubles, have been hesitant in entering into PPA with power producer in turn impacting the overall sector in general. Under UDAY, state governments will take over 75 per cent of the debt held by their discoms as of September 30, 2015. Half the debt will be taken over in 2015-16 and 25 per cent in 2016-17. The balance 25 per cent of the debt is to be serviced through state government-guaranteed bonds issued by the discoms.

**Growing Opportunities** – Demand for electricity in India, the fastest growing economy in the world at present is expected to remain strong with an ever increasing need for powering its industrial and urbanization activities. Based on predictions for India’s rocketing economic growth, annual electricity demand is expected to reach 5,000TWH by 2035. Further, with the Government also working towards accelerating industrialization to drive development, demand is expected to rise even further.

**New Verticals** – The Company does keep tabs of on-going developments and opportunities arising in within other renewable verticals namely Solar, Small Hydro and geothermal energy. Entering these segments at suitable time will help the Company to further diversify its business.

### Threats

**Frail financials of State Electricity Board (SEB)** – Fragile health of SEB’s financials limit their ability to meet their commitment on time in turn impacting the Company’s receivable cycle. Persistent delays on part of SEB have to repay their dues affects company’s capex cycle with many of them becoming wary of increasing their capacities to such uncertainty. In addition, due to SEB’s weak financial position, much needed investments for modernization and expansion are also not being carried out.

**Regulatory & Political risk** – Business’ success and performance to a large extent depends on the regulatory & environmentally framework within which it functions. A stable and predictable environment helps the business formulate future strategies with confidence and work towards achieving them. Uncertain and unpredictable regulatory and political environment creates risk which could jeopardize the business’ actual performance against expectations.

**Disruptive Technologies** – Technological advancement is a double edged sword which offers better and efficient solutions for business on one hand while at the same time exposes them to the threat of having their existing technology run obsolete. Any delay on Company’s part towards instilling the same can affect the business.

**Regulatory Emphasis** – The success of renewable energy to a large extent depends on the support extended by Government. As a signatory to the Kyoto Protocol and with the responsibility of reducing its carbon emissions, the Government needs to ensure that economic development is undertaken in a supportive manner. This is the driving force behind the supportive and encouraging policies offered by the Government and the resolve to address some of the challenges in the sector. Some of the incentives offered include accelerated depreciation scheme, tax benefits and generation oriented scheme. Further, the Government continues to extend support for meeting its ambitious target of installing 175GW of renewable capacity by 2022 feasible.

**Growing Competition** – Besides the threat from existing peers, the business is also subject to successful advent of firms from unrelated areas. The new entrant may be backed by better technology, fuel sourcing agreement and may function in high tariff regions. Some of them may also be financially stronger than us and may reach or even exceed our size through purchase of assets. Increased completion can eat into the Company’s profitability and margin in the long run.

### Human Resources

Human workforce plays a pivotal role in shaping the Company’s progress. Skilled and motivated employees are the key ingredient for driving transformation. The Company conducts multiple competency development programmes to prepare its work force to effectively manage fast paced changes in the

industry and build leaders to manage growth. It has established a framework targeted towards facilitating engagement and collaboration across diverse segments of its workforce.

The Company has also set up a performance driven environment for motivating employees and incentivizing them to upskill. As a part of the exercise, employees are offered a wide range of competency enhancement opportunities and assigned to roles that challenging suitable to their proficiencies while enabling continued growth.

The Company has also established a transparent working environment offering fair and just treatment to all. Besides it also offers mentorship programs which provide constant feedback and career guidance to help employee excel in work and realize their true potential. All of this has contributed to high employee engagement levels which have ensured a lower employee turnover ratio.

### **Internal Controls**

The Company has adequate internal control measures commensurate with its size and business complexities. These are established to ensure accurate recording of financial and operational information, adherence to relevant statutes, protecting unauthorized use of assets and ensuring compliance of corporate policies.

It also has an effective audit committee in place which carefully scrutinizes audit reports submitted by the internal auditors. The committee is empowered to follow up and implement progressive measures to further elevate the standards of internal controls.

Further, proper delegation of power with clearly specified authority limits for approving revenue and expenditure. It has

also laid the foundation for reviewing and monitoring long term plans. The goal is to align its efforts and processes with best industry practices.

### **Management's Responsibility Statement**

The management is responsible for making the Company's consolidated financial statements and related information mentioned in this annual report. It believes that these financial statements fairly reflect the form and substance of transactions, and reasonably represents the company's financial condition and results of operations in conformity with Indian Generally Accepted Accounting Principles.

### **Safe Harbour**

Some of the statements in this Annual Report that are not historical facts are forward looking statements. These forward looking statements include our financial and growth projections as well as statements concerning our plans, strategies, intentions and beliefs concerning our business and the markets in which we operate. These statements are based on information currently available to us, and we assume no obligation to update these statements as circumstances change. There are risks and uncertainties that could cause actual events to differ materially from these forward looking statements. These risks include, but are not limited to, the level of market demand for our services, the highly competitive market for the types of services that we offer, market conditions that could affect our services, our ability to create, acquire and build new businesses and to grow our existing businesses, our ability to attract and retain qualified personnel, currency fluctuations and market fluctuations in India and elsewhere around the world, and other risks not specifically mentioned herein but those that are common to any industry.

