

1. Renewable Energy is deemed to be one of the most important sources of energy by 2020. What are the main challenges that you foresee in this domain and how do you propose to deal with them?

In the global landscape, India is amongst the fastest growing economies of the world. India's forward moving approach has led to its constructive growth and in turn earning it a considerable recognition and respect at global platforms. The current improvement in the Ease of Doing Business Index has confirmed India's successful growth plans will continue to grow at least for a considerable period of time. Looking at the Govt.'s growth agenda for the country Renewable Energy plays a huge role but the question is how it will continue to grow. And in order to grow and stay ahead not only one has to move forward but one has to run and climb even further. The current scenario especially for the Renewable Energy seems promising but at the same time needs to overcome conventional challenges which our country has long been facing. Major challenges posed by the Renewable Energy especially if we talk about the Solar Energy Industry are:

 The low bids pose significant risks over the lifetime of the project, which are being ignored in the race to gain a foothold in a booming solar industry. The falling prices are mostly a result of the significant drop in manufacturing cost of Chinese-made solar panels which means Indian solar energy industry relies heavily on cheap Chinese imports.

- The reliance on imports is also hurting Indian solar panel manufactures, who are now aggressively lobbying for government support from foreign competition, which, if realized, will drive up prices.
- To manage the rising share of renewable energy in the grid, thermal power plants will have to be ramped down, so that the grid can take in power from renewable sources whenever available. However, thermal plants cannot be shut down completely, because when solar and wind energy are not available, alternatives will be needed to provide more power to the grid. Lowering the output of thermal power stations affects their profitability, as they lose out on revenue. This unavoidable presence of financially struggling thermal power plants will therefore become inevitable in a high renewable energy system. To make way for Renewables, Storage will play an important part in coming years.

Renewable Energy will play an important part of a smart ecosystem which is still finding its footprints like Electric Vehicles, Smart Cities, Smart Infrastructures which will be its pillars in the coming years. Changes in our energy system

will be complicated and slow, given that we are yet to even fulfill the basic requirements of round-the-clock-energy access for all.

## 2. The Ravin Group has grown tremendously since its inception in 1950. What are your missions and strategy, and what have been the major drivers of your phenomenal growth witnessed globally and across geographies?

We have been market leaders in terms of strategies and we see a growing concern towards safety and quality as well as T&D losses. Manufacturing of better products with added safety features, better quality and added longevity will in the long run benefit both the consumer as well as quality producers. We remain a company with high focus on technology, quality, customer service and relationships and we emphasize to build on it. We aim to be a premier Indian Multinational delivering quality and innovative technology products & services across the globe. Be a catalyst for providing sustainable solar electricity solutions and reliable power for everyone, everywhere. Our core values of integrity, accountability, customer satisfaction, and speed (response, delivery, action) are our main drivers towards growth and technological advancement.

## 3. For a fast-growth nation such as India, what are the major innovative initiatives that Ravin Group is undertaking to fuel the energy needs of the future?

Ravin Group since its inception in 1950 has seen considerable growth in the country's economy and has had firsthand experience along with its developments. Being in the power and electrical business all our verticals revolve only around Electricity. With the fast growing electricity needs of the country we at Ravin are also ready to serve these needs with latest technology and affordable solutions. With our vast experience in the field of electricity we are currently contributing majorly to the country's ambitious energy targets through advance and sustainable technology. Our cables vertical, Ravin Cables Limited manufacture cables that help in reducing electrical losses, eventually helping to build a strong economy. We are the first company in India to replace PVC cables with XLPE to enhance the product quality and functionality of the cables. Ravin Infraproject Pvt. Ltd, a division which takes care of the infrastructural projects that includes EHV installations & turnkey solutions and Solar Energy Solutions. The EHV installations division specializes in extra high voltage

systems which lead to lower losses during delivering of electricity. The concept of urban transmission is something that is going to build the India of tomorrow, as urbanization and advent of smart cities would mean more electricity to be distributed smartly. We are big contributors to the renewable energy segment through our solar vertical 'Solar Energy Solutions'. Ravin's online moisture removal systems manufactured to improve the lifeline of transformers. They help in increasing the efficiency of transformers and reduce the failure rates as well as revenue expenditure on the transformers. This is an era of communication, information and connectivity especially for the youth. Through Ravin Retail we serve this segment, as well as a very large rural segment through our innovative retail products like solar chargers, power banks, solar lanterns, torches and corporate gifts for day to day use. So right from generation, transmission, distribution and consumption of electricity we provide all kinds of energy solutions or rather electricity

# 4. You were recently in Dubai addressing the global assemblage at IOD's Dubai Global Convention 2018. Tell us more about the challenges of energy in the UAE region and Ravin's growth strategy in this geography? What are the major learnings for the developing nations?

The U.A.E region is blessed with a near perfect climate for generating solar power, which is why vast solar power plants have already been completed in Saudi Arabia, Qatar, UEA, Oman, Kuwait and Jordan. It is a perfect platform for Indian companies to device planned strategy to tap in the area. We personally see a lot of potential in the region and are proud to say that we made our presence in the region much before the competition arrived. Ravin established manufacturing facility, Power Plus Cable Co. L.L.C located in Fujairah established as a Joint Venture between the Government of Fujairah and Ravin Cables Limited. It is one of its kind state of-the-art manufacturing facility which occupies an area of over 105,000 Sq. Mts. and employs a highly passionate and skilled workforce. Here we follow stringent quality methods with our cables tested at qualified lab KEMA, The Netherlands. Our manufacturing plant is well equipped to test cables as per BS, ASTM, IEC as well as any other international standard. The company offers complete infrastructure for power cable solutions to meet the needs and scale of any project. They are also regulated by an ISO 9001 system of quality monitoring and meet international specifications. This base helps us to cater to our international clients spread in more than 55 countries.. Although Many Middle East and North Africa (MENA) nations face pervasive problems with corruption, payment obligations, currency risks and physical security threats. Companies must deal with bureaucratic minefields and an uncertain, ever-changing regulatory and tax climate. As a result, although not every MENA country presents the same challenges, companies looking to enter the region must conduct a careful risk analysis before expanding into this market. Organizations that pursue and adhere to strict principles of risk management can generate very profitable business growth.

#### 5. What would be your advice and suggestions to the India Inc. to enable them to use energy efficiently and responsibly for a sustainable economy?

The steps we take to protect nature are some of the best ways to ensure the economy keeps its strength. India is on the threshold of a decisive moment in its growth path. As it rapidly urbanizes, improves the quantity and quality of energy for all its citizens, and manages the natural resources, the possibility of sustained and sustainable growth is within its grasp. Being world's most populous democracy, home to 1.2 billion people, is also one of the fastest growing economies. Our cities are already home to over 420 million people, and India's urban population is expected to double to almost 800 million people by 2050. That means ensuring that our cities are those where people can breathe, move and be productive, that the energy that powers industries and homes comes from cleaner, cheaper sources, and that our natural assets can continue providing resources and environmental services on which the well being of present and future generations depends. In all this hustle bustle of growth it is also very important for us to keep an eye on the few issues and hurdles that can stop the sustainable growth of the economy. Air pollution - A push to take electric vehicles mainstream is a welcome development, as it would be better with the increase in traffic and air quality. Expanding sustainable urban infrastructure to encourage connected, and coordinated cities. This includes enhancing centrally supported urban infrastructure programmes, with a focus on multi-modal transport planning and encouraging innovation in service provision. Our consumption of energy - although still small per capita - almost doubled between 2000 and 2015s. Our current plans for the future of energy are ambitious, but achievable. Governments together with institutions are

confronted with expanded pressure to improve on energy consumption, which has been regarded as a major component in sustainable development. Thankfully, the negative consequences of our current growth model are avoidable. The right kind of economic growth is ongoing, inclusive, and sustainable and we should continue on this path to achieve higher results.

### 6. What are the new technologies and reforms that Ravin Group proposes to introduce in the area of renewable energy?

Along with the fast growing electricity needs of the country we at Ravin are also ready to serve these needs with latest technology and affordable solutions. With our vast experience in the field of electricity we are currently contributing to the country's growth trajectory in a massive way. Through our Solar vertical, Ravin Solar Energy Solutions we are not only helping to generate electricity through solar energy, but are also helping to increase the efficiency of substance by almost 30-35 %, due to the tracking systems which is our specialization. In order to resolve the challenges like shadows of trees, advertising hoardings and telecom towers to name a few that currently is being faced by the industry we have introduced a US based technology known as Module Level Power Electronics (MLPE) or DC Optimizers. We are amongst the first ones to introduce this advance technology in India.

Through this technology the electricity generation in the rooftop solar installations will drastically reduce, there will be huge reduction in the power loss, risk of failure and fire will be minimal and real time performance can be monitored online of individual panels as well. MLPE or DC optimizers will help in getting out maximum power out of the solar panels using smart bits of electronic equipment.

We will soon be introducing comprehensive storage solutions that open up new opportunities for renewable integration and grid stabilization.

Ravin Group established in the year 1950, is one of India's fastest growing business groups. The group comprises companies managing diverse business interests in the power and energy sector. The Ravin Group management board comprises of highly qualified professionals with significant expertise in various markets and have been pioneers of change in the industry.