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Mr. Manjunatha D.V. &
Mr. Suhas Donthi

Leading the solar journey...

***Then, Now
and Ahead!***

EMMVEE

EMMVEE- LEADING THE SOLAR JOURNEY THEN, NOW AND AHEAD

Over its 30 year duration, Emmvee has grown tremendously, thanks to its dynamic, inspiring and innovative management. Their journey until now has been filled with a myriad of ups and downs. In 1992, when the solar electricity industry was non-existent in India, they set up shop as Solar Water Manufacturers and began their solar journey by selling their Solarizer Water Heaters. After over 15 years of establishing themselves as a leader in manufacturing dependable solar water heaters, they set up their PV Module Manufacturing Business. While sales in the initial few years were driven by demand from the European Market, demand for solar electricity soon started to pick up domestically, as India started to move towards a cleaner future. While this journey of beginning with solar water heaters to now being a market leader in solar electricity as well has been full of challenges, this company has managed to keep pushing forward thanks to the grit and determination of its senior leadership. For the future, Emmvee plans to increase its manufacturing capacity to 3GW and get into cell manufacturing by the end of 2023. In recent years, as India has pushed for increased self-reliance and for the use of renewable energy, Emmvee's tough journey has started to bear fruit in recent years. However, while there has been a constant internal push for use of more and more advanced technology to stay up to date with the industry, there has been one thing which has remained constant within the company - Transparency with its customers, vendors and all of its stakeholders. That is why developers, EPCs and retail consumers choose Emmvee.

Emmvee gears into the future to set up a **3 GW** module manufacturing and **1.5 GW** Cell manufacturing facility in Bangalore

Mr. Manjunatha DV, Managing Director and Founder, Emmvee Group, first started his venture with Solar water heaters in 1992. Power production during these times was very limited and as a result, power cuts were frequent. Mr. Manjunatha dreamt of starting up a business that could eradicate this problem. Since the solar electricity industry was not established in 1992, Mr Manjunatha started with solar water heater production at a small scale to supply in and around Bangalore. Since then, Emmvee has ventured into Photovoltaic Module production as well and has made progress towards Mr. Manjunatha's vision of making every individual energy independent. Mr Manjunatha says, "We carry a dream to make the world completely powered by clean energy and a better place for future generations. Our philosophy, Power for Good, is an effort of our employees, stakeholders and customers to be more responsible and use their power for good in green initiatives."

Emmvee has footprints all over the globe. Starting with India, there is not one state that they haven't touched including even the Andaman and Nicobar Islands. They have also supplied a large number of PV modules to Europe. In 2006 when Emmvee started PV module production, there was minimal domestic demand; hence 100% of their manufacturing went to the European market. They have managed to build a good brand reputation in the European market, with their PV modules having performed for over 15 years in the European Market. A zero claim rate has allowed them to build immense credibility and trust in the European Market. Additionally, they have also supplied their PV Modules to the Middle East, Africa and North America, including the United States. They have reached their planned capacity of 1.25 GW manufacturing capacity in Bangalore and have signed an MOU with the government for expansion of manufacturing in Karnataka. They have currently reached their planned capacity of 1.25GW and plan to increase their capacity to 3GW and get into cell manufacturing by the end of 2023.

Emmvee PV Modules are performing for over 15 years in the European Market. A zero claim rate has allowed them to build immense credibility and trust in the Global Market.

Mr. Suhas Donthi, Director at Emmvee says, “Our Products are performing across the globe by producing clean energy and clean hot water. Emmvee PV products have produced more than 15 billion units of clean energy and our water heaters have helped reduce more than 76 lakh tonnes of carbon footprint.” Emmvee is the first integrated solar company in India and celebrates 30 years of presence in the solar industry. They have always been the front runner in embracing new technologies in PV and Thermal energy manufacturing. Emmvee has been leading the way in the industry by being the first ones to implement automatic stringers, multi stack laminators and the first ones to introduce Mono PERC in India. It has pushed the advancement of production lines with the implementation of cutting-edge automation technologies, artificial intelligence and machine learning to increase efficiency. Emmvee has 2 high quality manufacturing facilities and is capable of producing up to 680 Wp mono facial and bifacial modules including glass to glass with cell sizes of up to 220mm. According to the current industry scenario, most of the manufacturing plants in India produce Mono PERC panels, hence pricing is more or less similar irrespective of the production capacity of the company. Mono PERC is a matured technology and will continue to be the industry’s backbone, across the entire globe. In India, most of the plants are less than a decade old and would continue to be operational with Mono PERC technology for at least another decade.

The next big technology will be TOPCon, as PERC based manufacturing plants can be upgraded to it and this offers lifecycle extensions for PERC production lines. The new production lines coming up in India would also lean more towards TOPCon, due to its low set up cost per gigawatt plant. TOPCon based plants require technology and opex cost refinement for mass adaptability.

HJT Technology is a new technology in the block with fewer processes, developed to reduce the module cost and on the other hand offers higher achievable efficiency. The Investment and opex cost of this technology are very high. The technology needs to mature further to create a greater value to the industry and become one of the mainstream technologies. This would take a few more years of operation and outcome. “The new emerging technology of TOPCon Rear Emitter (TOPCoRE) offers equivalent efficiency compared to HJT. It is also upgradable from the TOPCon technology. The clear advantage over capex optimization and continuous innovation in technology, TOPCon would be a leading manufacturing technology for a longer time. All new Emmvee lines are compatible for producing TOPCon modules.” adds Mr. Suhas

Prices of cells and modules have gone up, not only because of the basic customs duty, but also because of a variety of other reasons. This increment in prices and variable availability has made the players think twice. These players cannot see aggressive growth after BCD implementation. If you observe the year 2020-21, there was a lot of aggressive competition among the developers while bidding for these projects. A lot of investors realized there is an amazing amount of potential that this country has to offer in terms of solar energy. Then what went wrong you ask? While everyone was aware of the fact that BCD was about to be implemented, no one was aware of exactly how high the prices would jump.

As of June 2022, India’s installed solar capacity is 50.6 GW. In just two quarters, India has installed 8.4GW, which is a remarkable achievement. We expect that more than 15GW of capacity will be added this year. India plans to add 10GW by 2023 and another 15GW by 2025, ultimately hoping to reach its ambitious target of 300GW of solar by 2030. Mr Manjunatha says, “Based on our 30 years of experience in the solar industry, the sector is currently undergoing a radical change and industry consolidation. This sector will grow in India, just like the IT and Pharma sectors have grown. The PLI scheme and BCD implementation are welcome moves by the government. However, the industry is looking forward to policies which are released with better clarity and which last for a longer term, so that the business models are aligned with said policies and don’t have to experience shocks.” As per Solar Tariff Trends, the present prices that you see, 2.5 to 3.00 Rs/Wp, and this will be consistent. The developers have accepted the changes in price since they understand that the corrections they were expecting will not materialize.” According to Mr Suhas Donthi, another issue that developers see in Solar’s growth is that there are a lot of other opportunities for developers in the form of Green hydrogen, Hybrid etc, all of whom have potential in the Indian market. He feels that for now, there has been minimal backlash to BCD since developers have been able to diversify to some of the above-mentioned alternatives.”

He further says, “The developers’ expectations from the Government, Policy Makers and Regulators are that while the government had a clear idea when the BCD was announced, they now need to fix the loopholes. It is not a fixed platform for manufacturers as developers are also in confusion. Uncertainty still exists. What they’re expecting is very simple: They have been in the industry for the last 30 years; therefore, what they need is clarity about all these policies. BCD and the uncertainty revolving around it needs to be addressed. Some immediate action is required.”

In a similar manner if they don't see any changes, they might fail to attend the good part. The population of India is huge, and they have a lot of potential. This is leverage for them. The policy about manufacturing should be implied along with in-house manufacturing also.

Non-Renewable energy cannot continue to be the main source of power forever. Government is taking all the needed steps to make renewable energy a main and continuous source of power,

from optimizing, to managing and to storing. Encouraging Hybrid energy and energy storage projects will address the need for continuous and round the clock power from renewable energy. Hybrid RE projects are on the rise. Along with rooftop solar, Mini wind projects have attracted Commercial establishments and institutions extensively. Due to their advantages like effective space utilization, continuous power and various other power requirements in commercial establishments, developers are opting for this combination. However for the utility scale projects, there is still a long way to go. With the growing electricity demand, the current renewable energy production, including all renewable and clean energy stands at 114GW, accounting only around 40% of the nation’s demand. However, India is planning well ahead with a foresighted vision on the HES projects and a parallel focus on using renewable energy to address the immediate power supply needs.

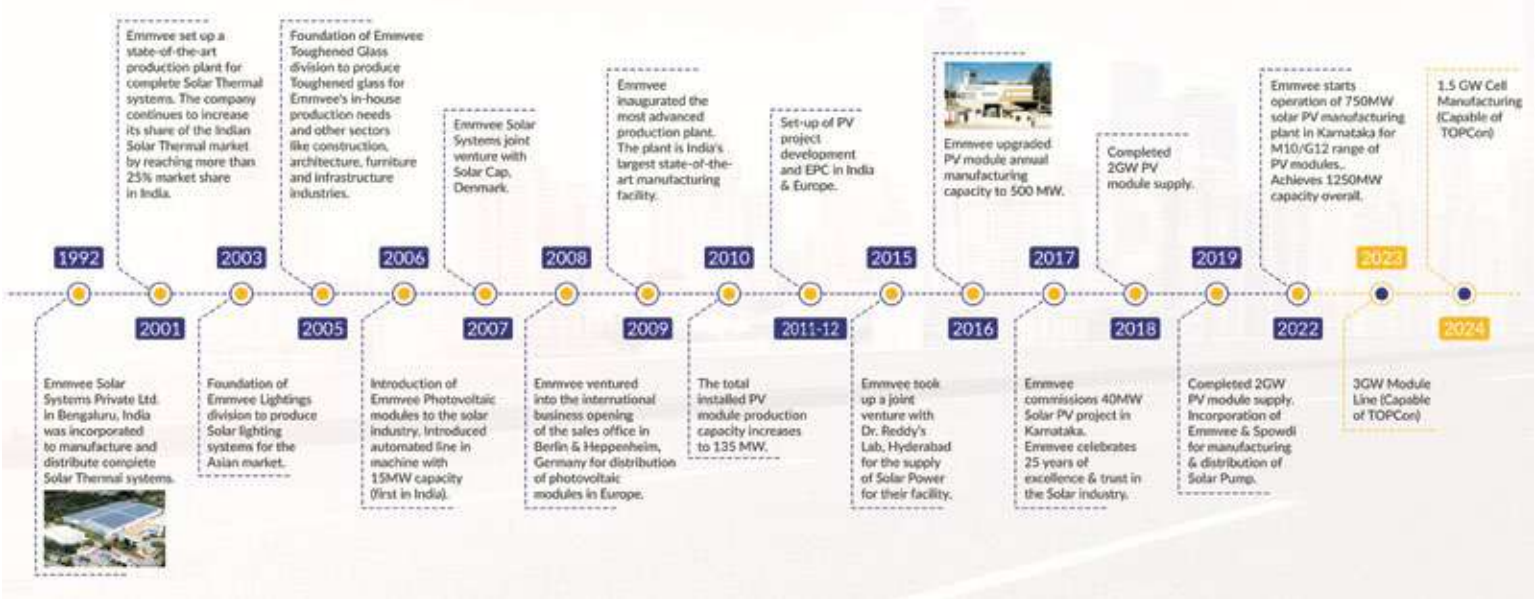


Mr. D.V. Manjunatha He is a dynamic business leader & the key driving force of EMMVEE with over 30 years of management and entrepreneurial experience. Under his leadership, the company has established itself as an internationally acclaimed Solar water heater, Photovoltaic module manufacturer and a comprehensive EPC & Rooftop solutions provider. Under his leadership the company has received global recognition and various accolades. In the 1990's, the frequent power outages made the lives miserable. Since then, D.V. Manjunatha dreamed of starting up a business that would eradicate this problem. His inspiration behind the foundation of EMMVEE bloomed from this idea. Very soon, EMMVEE was inaugurated as a manufacturing industry, inspired to find a solution to the power problems with an eco-friendly and greener approach. It also enabled his motive of making this world a better place to live. With his strong values inculcated in the EMMVEE under his leadership, the company has developed and innovated various expertise in Renewable energy products and solutions worldwide. With over 900 employees and various suppliers placed in locations across the world, EMMVEE can stand out through excellent customer service and commitment.

Mr. Suhas Donthi, Group Director, EMMVEE Group of Companies is a young and dynamic entrepreneur. He has graduated from Drexel University, USA with a degree in Business and Engineering. He has vast experience in solar thermal and PV systems and foresight vision towards the industry and company. He drives sales and operations at EMMVEE. He strategizes new market development, international business and strategic alliances. He also drives the organization in new business development, pipeline building, business acceleration, etc. Mr. Suhas heads operations and manages production, demand and supply planning. He develops and implements new business processes to improve operations and achieve high efficiency. With his fresh thoughts and futuristic approach, he is actively involved in the company's transformation in terms of culture, marketing and brand building.



ROADMAP



MANUFACTURING PLANTS



Manufacturing Plant Unit - 1: 500MW
Located at Airport road, Bengaluru

Manufacturing Plant Unit - 2: 750MW
Located at Dabaspeta, Bengaluru

