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Challenge
Jay

PODIUM
Pramod Chaudhari
Executive Chairman,
Praj Industries



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Krupali Bidaye



Podium

Pramod Chaudhari Executive Chairman - Praj Industries



Pramod Chaudhari, is the Executive Chairman of Praj Industries Ltd. As a first generation techno-entrepreneur, he founded Praj in 1983. With strong belief in the principle of triple bottom-line, his business model is inherently scalable, replicable and sustainable. Praj fostered the emergence of advanced technologies in certain Bio-Energy and allied space. As India's biggest Biofuel Technology Company, Praj has in excess of 750 footprints in over 75 countries, across five continents.

Pramod is a Distinguished Alumnus of IIT Bombay (1971) and an alumnus of Harvard Business School (AMP 1995). He has been associated with many eminent organizations holding responsible various positions from time to time.

ET: What does the alternative fuels landscape look like in India and what are the growth challenges in this sector?

PC: Renewable Transport Fuels (RTF) provides a renewable and sustainable alternative that complements conventional fossil fuels. Additionally most RTFs are biodegradable, non-toxic and provide significant carbon savings as compared to fossil fuel. RTFs comprises of bioethanol, Biodiesel, BioCNG, Bio-methanol, Bio-Jet fuels, etc.

The Government of India's clean and renewable energy vision mentions reduction in crude oil imports by 10% in 2022 and 50% by 2030. In the COP21 Climate Change Summit held at Paris, India had committed to a target of reducing CO₂ emission by 33% by 2030 over 2005 levels. For India to achieve these ambitious targets, RTFs will have to contribute significantly to the overall energy mix of the country.

While huge opportunities are opening up for the overall growth of the biofuels industry in India, it comes with a set of challenges, which majorly include:

1. **Regulatory challenges:** The biofuels industry worldwide is contingent on the Government policy mechanism and India is no exception. Since the evolution of biofuels industry in India about couple of decades back, policy regime has been volatile. As a result, the industry has been struggling with associated uncertainties. Sustained favourable policy will certainly help put the biofuels industry on an accelerated growth path.
2. **Project approvals:** Owing to stringent, complex and lengthy statutory approval processes, project gestation periods tend to be longer.
3. **Feedstock:** Being seasonal in nature, molasses availability is a limiting factor to fulfil mandates. Further, ethanol generated using molasses has applications in other competing industries. 2nd generation feedstock like biomass and agri-residue, although available in abundance, has a challenge in the form of aggregation and logistics as the associated ecosystem is at an early stage of development.
4. **Financing:** Attractive funding mechanism and packages is the need of the hour. Balance sheets of sugar industries continue to be stressed and at the same time many of PSU banks have become risk averse with rising NPAs. This is making funding of ethanol projects difficult.
5. **Technology Commercialization:** 2nd generation ethanol technology has already been scaled up to demonstration level, and Govt. has already suggested to Oil Marketing Companies to set up 12 commercial scale bio refineries. Private sector involvement is eminent for the growth of the biofuels industry and they are expected to participate following realization of the first batch of 12 bio refinery projects.

However it may be noted that the Government had earlier this year released the progressive biofuels policy to address and streamline the above challenges.

ET: What role can technology play in the bio-energy and allied space?

PC: Technology is a game changer for the industry and has a big role to play for the development of the bio-energy industry. Among others, the following are major thrust areas:

1. **Multiple feedstock feasibility:** Existing Technologies, e.g. 1G, 1.5G, etc., are being enhanced and new

technologies e.g. 2Gen ethanol, etc., are under development to process multi feedstock.

2. **Multiple products:** Advancement in technologies makes it possible to produce multi-products, i.e. Biofuels and renewable chemicals, e.g. Bio-ethanol, Biogas, BioCNG, Bio-Jet fuels, Bio-methanol.
3. **Process Efficiency:** Technology helps in the improvement of the process resulting in Opex and time savings. Development of Microbes and Micro-organisms for yield maximization.
4. **Quality:** Continued research and development helps in enhancing product quality that fetches higher premium and positively impacting revenues.
5. **Environment:** Optimizing Energy and water consumption and further their integration with process technologies help reduce carbon footprints and thus making processes more environment friendly.

ET: How will the recently approved National Policy on Biofuels, 2018, help in addressing the energy needs of the country?

PC: The recently approved National Policy on Biofuels, 2018, is very progressive and it addresses several social, environmental, economic and energy related challenges country.

1. **Energy:** One crore litres of ethanol saves INR 28 crore of forex at current rates. The ethanol supply year 2017-18 is likely to see a supply of around 150 crore litres of ethanol which will result in savings of over INR 4,000 crore of forex. Thus, it will help reduce dependency on imports.
2. **Environment:** One crore litres of Ethanol saves around 20,000 ton of CO2 emissions. For the ethanol supply year 2017-18, there will be lesser emissions of CO2 to the tune of 30 lakh ton. By reducing crop burning & conversion of agricultural residues/wastes to biofuels there will be a further reduction in Green House Gas emissions.

In addition to catering to energy and environment elements, this policy also addresses several social, health and farmer related aspects.

ET: Your company, Praj Industries is committed to develop clean and green technologies. Please tell us more about the initiatives and contributions undertaken by the company for a green tomorrow?

PC: Praj Industries is a leading process solutions company with expertise in integrated offerings for bio-energy, high purity water solutions and engineering led businesses namely, zero liquid discharge solutions, critical

process equipment & systems and brewery plants. Sustainability is at the core of Praj's solutions that are driven by technologies emanating from its state of the art R&D Centre, Praj Matrix, and world class manufacturing facilities located in India.

Over three decades, Praj has been a trusted partner for their customers with over 750 references across 75 countries. Technology and innovation are core values at Praj and we believe our strong market positioning is a result of the technology edge that we possess to create value for our customers.

Following are some of the unique technology solutions we offer for a greener tomorrow:

1. **Process Efficiency improvement technologies:**
 - Advanced bioprocess technologies like Liquefaction and Fermentation, Distillation, Dehydration, Evaporation and Biomethanation.
2. **Energy Optimization:**
 - Integrated Distillation technologies -Lower energy & higher quality end product (EcoSmart)
 - Dryer-Vapor integration technologies for energy reduction
3. **Developing additional revenue streams:**
 - Advanced co-product recovery technologies – Biogas, BioCNG, CO₂, Dryer distillers grain with soluble (DDGS)
4. **Effluent Treatment:**
 - Innovative technologies for waste water treatment like Zero Liquid Discharge (ZLD)
 - ATFD (Agitated Thin Film Dryer) technologies
 - Process Condensate treatment technologies for process condensate.
5. **Increasing productivity:**
 - Biotech products to improve the yield maximization
6. **Plant life cycle management through Modernization & upgradation:**
 - Capacity expansion to for increased production
 - Water and energy footprint reduction to reduce cost of operations or meet environmental norms
 - Debottlenecking for smooth plant operations

ET: As a first generation techno-entrepreneur, what are your views on the start-up environment in India and what is your advice to budding entrepreneurs?

PC: The start-up environment in India is very vibrant and dominated by technology start-ups from IT and software domain rather than engineering or the manufacturing domain. Unlike in the past, unprecedented opportunities exist. Thanks to the advancement in internet technology, the whole world has become a market place. The mushrooming of seed investors and venture capitalists means that availability of funding is not a challenge any more as several financing avenues exist. Owing to fierce competition in the market not just from home grown but international players, sustainability continues to be a challenge. Technology commercialization, attracting & retaining talent and scaling up continue to be few other challenges that start-ups have to deal with.

Advice

- Dare to Dream
- Take Calculated Risks
- Go the extra mile
- Invest in people

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