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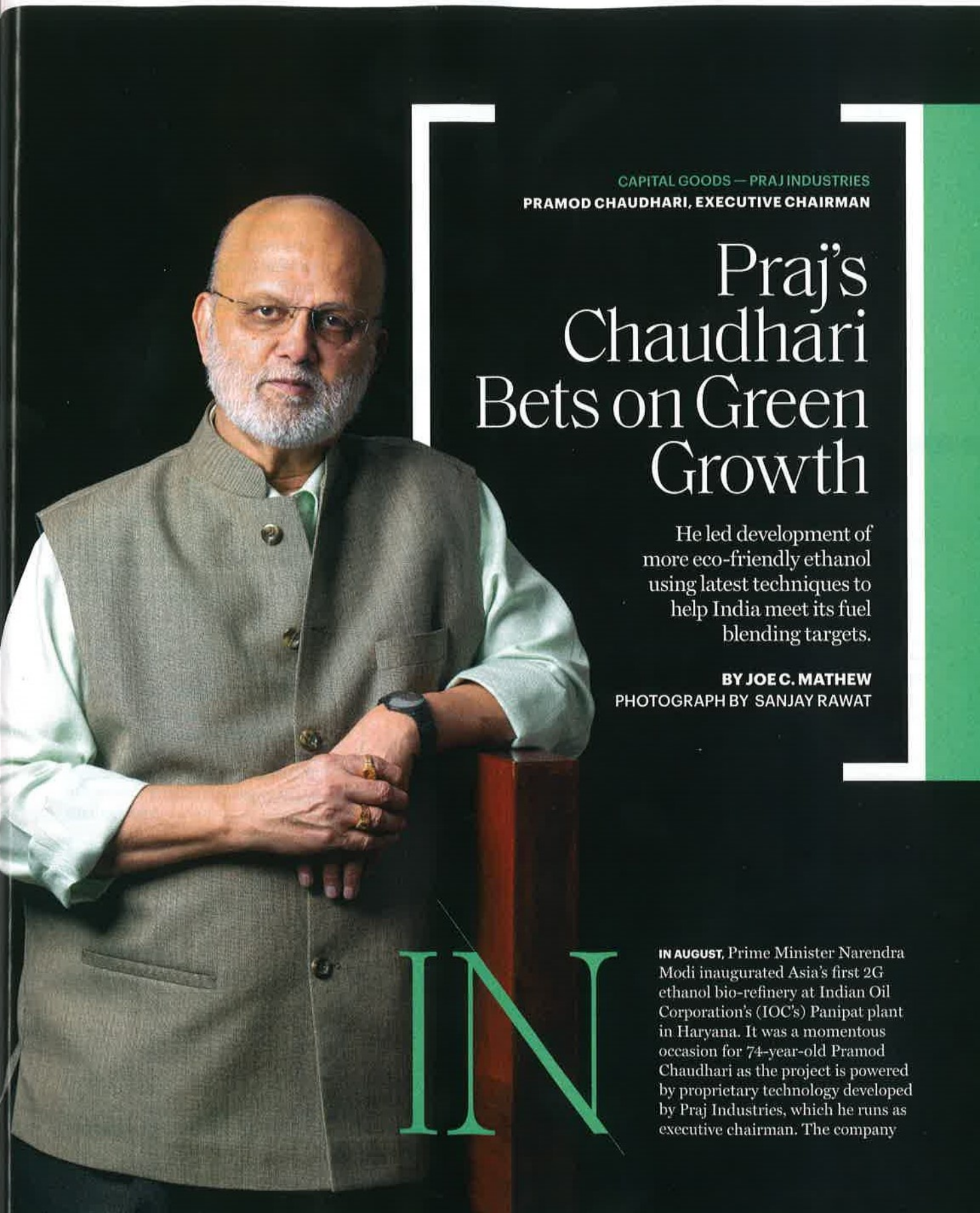
India's Best CEOs

TOP PERFORMERS DELIVER THE HIGHEST RETURN ON CAPITAL IN FORTUNE INDIA-EY STUDY

FROM LEFT: RATAN JINDAL, SANJIV MEHTA, N. CHANDRASEKARAN, T.V. NARENDRAN AND SATYANARAYANA CHAVA



CAPITAL GOODS — PRAJ INDUSTRIES

PRAMOD CHAUDHARI, EXECUTIVE CHAIRMAN

Praj's Chaudhari Bets on Green Growth

He led development of more eco-friendly ethanol using latest techniques to help India meet its fuel blending targets.

BY JOE C. MATHEW

PHOTOGRAPH BY SANJAY RAWAT

IN AUGUST, Prime Minister Narendra Modi inaugurated Asia's first 2G ethanol bio-refinery at Indian Oil Corporation's (IOC's) Panipat plant in Haryana. It was a momentous occasion for 74-year-old Pramod Chaudhari as the project is powered by proprietary technology developed by Praj Industries, which he runs as executive chairman. The company

WHY HE MATTERS

- Steered Praj's shift from first-generation (1G) to more eco-friendly 2G ethanol plants.
- Developed technology that can help India meet ethanol blending targets.
- Leveraged international markets to improve sales mix.
- Carved out an independent engineering business.

was also the engineering, procurement and construction management partner for the advanced technology project.

When first-generation entrepreneur Chaudhari set up Praj, an engineering company specialising in agri-processing, in 1984, India was not among countries looking to use biofuels for mobility. However, Chaudhari, also known as India's "ethanol man," sensed that India, too, would have to use biofuels one day as fossil fuel supply becomes uncertain. "It was known that it's a matter of time before India starts adapting biofuels as some countries, notably Brazil, had started producing ethanol right after the 1973 oil price shock. We started developing the technology, for mostly serving international markets, in our initial years. India began showing interest (in ethanol blending) only at the beginning of 2000. So, it took us 15 years to look at this as a business in India," says Chaudhari. In 2003, the first NDA government introduced a policy on biofuels. "It was rolled back after just about 18 months. But we had prepared ourselves to make a dent in this area," says Chaudhari.

The big shift happened in 2018 when central government announced a new biofuel policy with four-year target of blending 10% ethanol with petrol. This has been good for Praj's India business. The domestic-foreign revenue mix was 61:39 in FY2018. In FY22, it was 80:20. Revenues rose 78% to ₹2,333 crore in FY22. India's biggest biofuel technology company has 70% market share in ethanol production. With government amending the biofuel policy and targeting 20% ethanol blending by FY26, the company is looking at expansion of the ethanol opportunity. "A perfect blend of bioenergy businesses," broking firm Prabhudas Lilladher said in an investor note in August 2022. It cited "strong leadership in domestic ethanol plants, prominent global presence in more than 100 countries and significant focus on future-ready technologies like 2G ethanol, compressed bio-gas and sustainable aviation fuel."

In March, Chaudhari became the first Indian to receive the 2022 William C. Holmberg Award for Lifetime Achievement in the Bioeconomy, named after Lt. Col. William Holmberg, an architect of renewable fuels programme at Department of Energy & Environmental Protection Agency, U.S. Two years ago, Chaudhari was the first Indian to bag the 2020 George Washington Carver Award for Innovation in Industrial Biotechnology and Agriculture instituted in the memory of George Washington Carver who, over a century ago, pioneered manufacturing of bio-based products, materials and energy from renewable agricultural feedstock.

The India Business

The company's domestic business, however, is mainly driven by first-generation (1G) ethanol plants that use sugar-containing materials such as sugar-cane juice, molasses and starch-containing materials such as corn and damaged food grain. Many countries are moving from 1G to 2G, which is low-carbon, second-generation ethanol produced from bio-waste such as paddy stubble. Europe, for instance, has put a ceiling on ethanol production using 1G and is promoting only 2G. Others, including U.S., are exploring 2G. "We are ready for the transition (1G to 2G) within transition (fossil fuel to biofuel)," says Chaudhari.

The IOC plant and similar ethanol facilities Praj is building for Hindustan Petroleum Corporation's plant in Bathinda, Punjab, and Bharat Petroleum Corporation's factory in Bargarh, Orissa, will provide it experience for tapping the growing global interest in the emerging technology. For India, ethanol will come from paddy stubble, a huge environmental hazard when it's burnt for clearing the fields. Dedicating the IOC plant to the nation, the prime minister had said that "biofuel for us means green fuel, environment-saving fuel. With

HOW THE COMPANY FARED

Net Sales (FY22)
₹2,053 crore

3-Year CAGR
30.53%

PAT (FY22)
₹164 crore

3-Year CAGR
38.10%

3-Year Average TSR*
103.63%

3-Year Average ROCE**
14.76%

*Total shareholder return;
** return on capital employed

establishment of this modern plant, farmers of Haryana, where rice and wheat are grown in abundance, will get another lucrative means of using crop residue." Once fully operational, the plant will process two lakh tonnes of rice straw annually to generate around three crore litres ethanol. It will also address the major challenge of pollution from stubble burning by eliminating around 3,20,000 MT of CO2 every year (equivalent to replacing nearly 63,000 cars on roads annually). It will also save ₹55-60 crore worth of forex by reducing fuel imports.

"Right now, we are testing three projects for 2G in India. Picture will be clear by the middle of next year. We will have a first-hand feel once these three projects go on stream. We have R&D facilities where we develop these processes, our patented processes. If successful, this will drive future business in India, Europe and U.S.," says Chaudhari, adding, "In Europe, we are looking at wheat straw and forestry-based agri-waste as raw material. In U.S., it will be corn stover and forestry. The entire value chain, ecosystem has to be established. International players are also working on this. We are among the front-runners." This means the company expects its revenue mix to tilt slightly in favour of foreign businesses in the coming years.

Biochemicals Opportunity

Next offerings from Praj will be biochemicals. The company's R&D centre is working on developing bioplastics from raw materials used to produce ethanol. The timing could not have been better as government has recently banned single-use plastic. "Industry is yet to see an affordable, viable solution in bioplastics. The characteristics and specifications of bioplastics should be compatible with that of petroleum-derived plastics. There is huge traction due to ban on single-use plastic. We will have our demonstration plant up and running for a variety of samples by the end of 2023," says Chaudhari.

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According to him, Praj is working on two technology platforms. "One is the fuel platform, which we call the biomobility platform. The other is the bioprism platform under which we are developing bioplastics. Biomobility starts with 1G & 2G ethanol, aviation fuel, etc. We can also aim for bio-hydrogen, marine biofuels," says Chaudhari.

While biomobility and bioprism platforms are part of the broader bioenergy business, Praj has carved out an independent engineering business which uses the company's engineering expertise for making bioenergy plants. The engineering segment accounts for 20-25% revenues. "In bioenergy, we are selling plant and machinery with embedded technology. We see great potential in standalone engineering because of China +1 strategy of global companies. Here, we are supplying equipment for oil and gas, general chemical and hydrogen industries. This space was previously dominated by China. We make this equipment at our Kandla factory and supply to oil and gas giants in Europe and U.S.," says Chaudhari. The engineering basket also has a water treatment business.

The Challenges

The biggest challenge Praj has faced in recent times is spike in prices of raw material, especially stainless steel. This hit profitability in first quarter of FY23 though the company expects prices to stabilise. The long-term challenge will be to keep pace with changes in technology. "In biotechnology, microbes play an important role, so keeping pace with microbe-based processes is very important. We keep benchmarking ourselves with global developments. I don't think there will be a sudden shock from technological developments. Continuous innovation will keep happening but there will not be abrupt closure of any industry (the company serves)," says Chaudhari.

With the whole world moving towards eco-friendly technologies that mitigate climate change, and countries trying to reduce dependence on fossil fuel in the wake of disruptions caused by Russia-Ukraine war, Chaudhari is readying Praj, with strong backing of its state-of-the-art R&D Centre, Praj Matrix, to serve global demand. ■