



IN HER FATHER'S FOOTSTEPS

Meher Pudumjee, chairperson of Thermax, is taking forward what Rohinton Aga started—India's first clean energy business.



FROM RED TO BLACK, TO GREEN

WHY PUDUMJEE'S CONSCIENCE IS MAKING THE THERMAX SHAREHOLDER RICH.

BY T. SURENDAR ↑

Photograph by BANDEEP SINGH



LAST YEAR, PUNE-BASED energy and environment engineering company Thermax installed the last of three boilers for Kansai Nerolac's paint factory at Hosur, near Bangalore, to produce "steam on demand". The boilers ran on biomass like rice husk and hay. Meher Pudumjee, chairperson and 60% owner of the Rs 5,000 crore Thermax, insisted on using a renewable fuel source, overruling managing director M.S. Unnikrishnan, who favoured using fossil fuels like coal.

Thermax, which owns the boilers and charges Nerolac per use, admits the cost of running them on biomass is way higher than fossil fuel. Gathering rice husk and hay is a challenge, unlike, say, coal or diesel, which are easily available. The company sources the biomass from multiple vendors in the South, and has

set up a unit in Tumkur, Karnataka, to make biomass briquettes to be used in the boilers. But supply is sporadic as rice husk gets picked up by farmers for cattle feed. "It is sometimes necessary to drive an environment-friendly model even if it pays back in six years rather than four," says Pudumjee. "So far, it's been a tough job to execute, but we want to make this model a success."

From her perch on the fourth floor of Thermax's headquarters, overlooking a sprawling lawn dotted with potted plants and tamarind trees, Pudumjee is pushing the envelope to increase the clean-energy business. Thermax Onsite Energy Solutions, a key subsidiary that drives the green agenda (it's the one that installed the boilers at Nerolac) was floated in 2009 to focus on the energy rentals business. Nearly Rs 20 crore has been poured into it so far, making it by far Thermax's biggest push into green. It now plans to rent out "steam on demand" boilers to companies such as Madura Coats and ITC. Thermax will invest in boilers and recover the costs by vending steam.

Unnikrishnan is hoping that by 2016, at least half of Thermax's sales will come from environment-friendly projects. Pudumjee wants that share to rise to 80% by 2020.

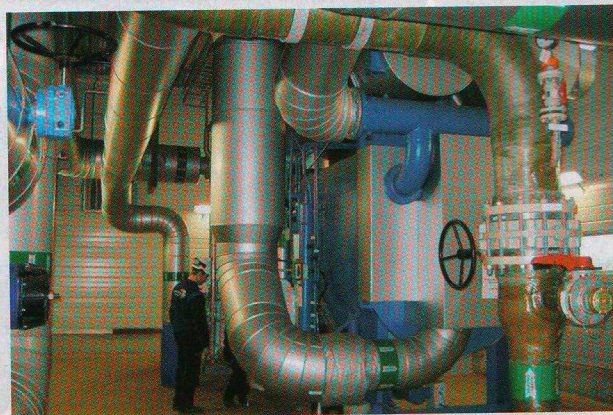
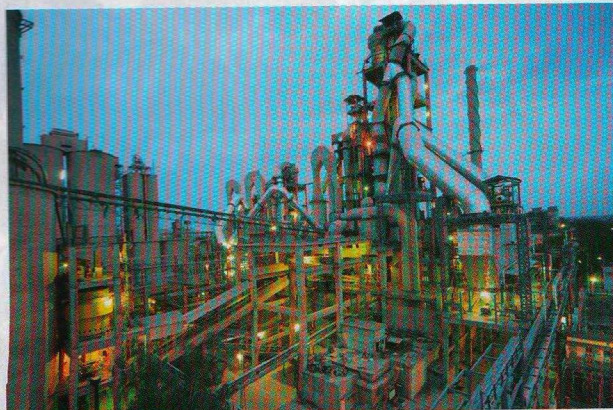
It all began when Pudumjee took over from her mother Anu Aga in 2004, and took a hard look at Thermax's portfolio. Consulting firm McKinsey, which was hired around that time, advised strengthening the power equipment, air pollution,

and environment businesses, and making global acquisitions. These steps would double revenues and triple profit in five years, McKinsey predicted.

High oil prices around the time had also forced Pudumjee to relook at Thermax's portfolio of energy solutions running on fossil fuels. Thermax kicked off its solar energy business in 2008, as both Unnikrishnan and Pudumjee felt that high oil prices would increase the use of renewable sources. In other words, Pudumjee had read the writing on the wall—fossil fuels would be scarce and cost more, and polluting industries would be highly regulated. For Thermax to flourish, it was necessary to have technologies and solutions in the renewable energy space.

Currently, only half the world's population uses fossil fuel. When the other half begins to use it, demand will rise, as will price, says Unnikrishnan. "We anticipate renewable technologies to become more viable. It has started happening in a few areas."

PUDUMJEE IS PARTLY led by father Rohinton Aga's vision. Raju Halbe, director of clean technology at A.T.E. Enterprises, who worked at Thermax for two decades, says, "Rohinton Aga always spoke of conserving energy and preserving the environment: He was a proponent of clean technology much before it became a buzzword." As chairman of Thermax, Rohinton Aga started India's first wind energy business and set up several recycling



CLEAN POWER

(Clockwise from left) JK Cement's Nimbahera (Rajasthan) factory, powered by heat generated from cement made there.

A network of heating and cooling technologies that tap waste, exhaust, and geothermal heat.

A power plant in the Philippines that uses biomass.

Distillery waste fuels the boilers in this Karnataka distillery to generate steam.

plants to generate energy from waste. His ideas were ahead of time, the technology available then was primitive, and costs were high.

By the '90s, Rohinton Aga had made Thermax a specialised engineering powerhouse that worked on projects related to power. After his sudden death in 1996, the company hit a rough patch and tried several strategies—building a water business, climate control, etc. But nothing worked as it was too small and unable to take on the large contracts that would give it life.

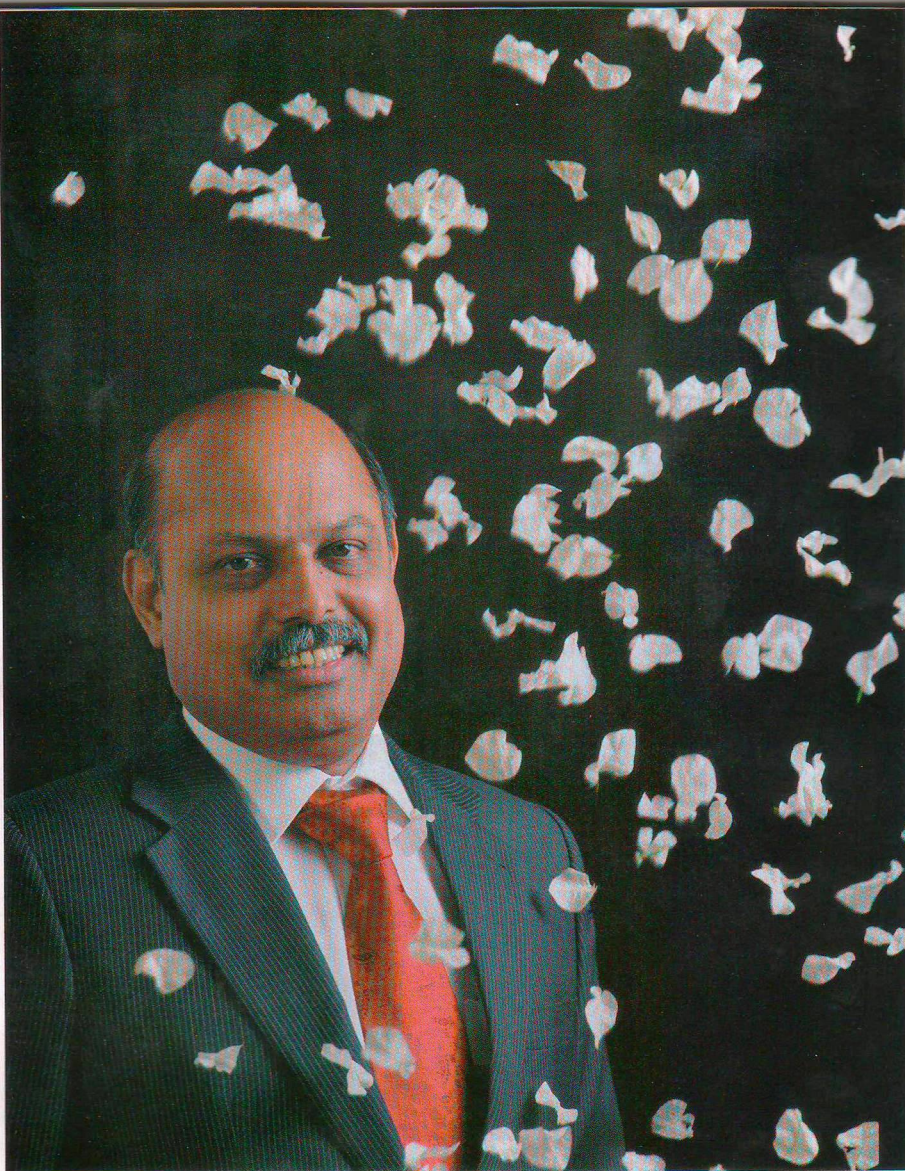
By 2000, Thermax suffered an operating loss: the following year, things worsened with a post-tax loss of Rs 13 crore, from the Rs 40 crore average profits over the past several years. Anu Aga, who took over as chairperson in 1996, kicked off a major restructuring exercise called 'Project Green', and hired The Boston Consulting Group (BCG) to suggest ways of becoming profitable. BCG recommended shrinking Thermax into two


The
projected
share of
green
businesses
in Thermax's
total sales
by 2020
→
80%

businesses—energy and environment—and exiting joint ventures in drinking water and electronic metering. It even suggested getting out of Thermax Capital, a profitable business, which financed lease and hire purchase of capital equipment, since it wasn't core.

Thermax shuttered these, along with others like wind energy (getting land was tricky and it was heavily dependent on government subsidies). In a year, it was back in the black, posting a profit of Rs 24 crore after tax.

Since then, Thermax has grown over 10-fold—from revenue of Rs 552 crore in FY03 to Rs 5,375 crore in FY12. A fifth of



EYEING PROFIT

M.S. Unnikrishnan, managing director of Thermax, prefers fossil fuel for now.

sheet will tilt to non-green, says Unnikrishnan. Revenue from the joint venture, when it sells boilers for up to 3,000MW capacity, would also mean \$2 billion worth of conventional business at the current rate of growth.

Choosing sustainable alternatives is difficult for firms in developing countries like India, says Sudipta Das, partner and leader of climate change and sustainability services at consultancy Ernst & Young. The fact is, the cost of producing power from coal works out to Rs 3 to Rs 5 per unit, nearly half of what it costs for wind or solar. "The economics of power from wind or solar energy, therefore, right now appears unviable for entrepreneurs setting up large power plants based on fossil fuels," says Das.

To that extent, Thermax's push towards green solutions gets tougher. With the conventional power business growing in India, Thermax has had a good run. In FY11, after three years of tepid growth, sales rose to Rs 4,728 crore from Rs 3,088 crore on account of orders from the sector.

However, Unnikrishnan says, "From being commercially viable, we are primarily looking at ways to be a responsible corporate citizen." Sanjay Chakrabarti, clean technology leader at Ernst & Young, says there will be more to the green agenda than just good corporate citizenship. New bills like the green manufacturing bill,

this comes from the environment businesses—air pollution control, and water and wastewater solutions. Boilers and heaters contribute to the rest. Over the last two years, the environment business has shown steadier growth than energy. Currently, 35% of its products or services are green, says Unnikrishnan. The markets have rewarded it too: In the last 10 years, market capitalisation has moved from Rs 300 crore to Rs 7,000 crore.

However, analysts have been a little circumspect recently. In 2013, revenue from Thermax's domestic business fell 12% from the previous year to Rs 4,691 crore due to poor demand for power equipment. Anticipating a slow order book position in the current year, because of poor economic growth, Amit Mahawar of Edelweiss Securities has recommended that investors reduce their holding in the stock.

A T LEAST 80% OF Thermax's revenue comes from the energy sector, which is fossil fuel-driven. Given that India will be dependent on coal and oil for a long time, achieving Pudumjee's green target for 2020 will not be easy. She's not scaling back, though.

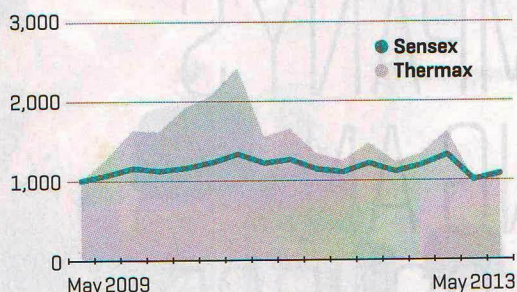
In a joint venture with energy products and services provider Babcock and Wilcox (U.S.), Thermax has set up a plant in Shirwal, Maharashtra, to make supercritical boilers that run on fossil fuel for a 500MW capacity power plant. When commissioned, Thermax's green balance

GROWTH GREEN SIGNAL

THERMAX'S RUN, DURING BOOM AND GLOOM

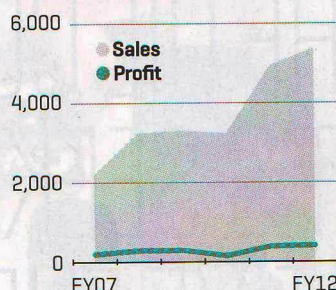
MARKET MOOD

(Quarterly closing price rebased to 1000)



NEW ENERGY

(Figures in Rs crore)



RESPONSIBLE CORPORATES

No. of Indian companies that filed voluntary sustainability reports with Global Reporting Initiative

2010	32
2011	51
2012	49

Percentage of S&P 500 companies that issued sustainability reports

2010	19%
2011	53%

Source: BSE, Global Reporting Initiative, Governance & Accountability Institute

currently in the draft stages, will give a lead to companies that have taken measures to reduce environmental impact.

Many have taken the cue. Crompton Greaves, an electrical equipment manufacturer, has introduced a transformer that generates power from windmills, which will add to its green quotient. It is now pitching for contracts to set up substations for wind farms. In April 2013, it won an order in Germany.

Mumbai-based Mahindra One Solar, a Mahindra and Mahindra (M&M) group company, expects to generate 100MW in the next three years by setting up solar farms. Thermax, incidentally, provided a solar energy-cum-waste heat-recovery-based solution to M&M's Chakan automobile plant that will save 1,476 tonnes of liquefied petroleum gas and 184 MWh of electricity annually at its paint booth. "We are already seeing action in mergers and acquisitions as global companies such as ABB and Schneider are buying into the renewable energy space," says Chakrabarti.

THERMAX IS BIG enough to do small projects to push its environment-friendly agenda, says Pudumjee. It bought Danstoker, a Danish

company which makes boilers that use biomass as fuel, for €29.5 million (Rs 214.9 crore) in November 2010. According to Danstoker's managing director Jan Enemark, it is already running a full order book for the current winter. Last year, Thermax bought another small German company, Rifox, which specialises in steam efficiency products.

In January 2012, Thermax commissioned solar-powered cooling plants for the Ministry of New and Renewable Energy, and TERI, a not-for-profit environment think tank, at its solar research centre in Gurgaon. Combining solar and biomass, it has built a 20 tonne storage capacity to preserve agricultural produce at 0°C to 5°C, and also generate power of 50 KWh. The way it works is that gasified biomass activates an engine that pro-

duces power, while an ammonia chiller taps its exhaust heat, and solar energy, to control the cold storage's temperature. "We see big business with clients such as malls and office complexes, who would like their cooling costs to be low," says Unnikrishnan.

Thermax is also working with a shopping mall in Delhi to use its diesel generator exhaust to cool the building. Eventually, India will use a third of the power it produces in cooling and airconditioning, says Unnikrishnan. He expects hybrid cooling systems with solar or other renewable energy to replace systems based on fossil fuel.

Ask Pudumjee if the market will reward these efforts and she laughs, saying she's not too bothered about what she will get back. "At least I can go to bed thinking that I am not polluting the world." ■