

CHAIRMAN'S LETTER

Our increase in consolidated net worth at the end of FY17 was ₹ 96 million, which increased the per share book value by 6.4%. Over the last fifteen years (that is, since the present owners took over) per share book value, has grown from ₹ 151 to ₹ 521 (₹ 598 after ignoring the effect of goodwill write-offs), which, after factoring in dividend paid during this period, works out to a rate of 8.9% (9.8%) compounded annually.

In my letter to shareholders in FY06, I had written about the threat that our business faces from global warming, from which an extract is reproduced below.

"In the long-term, there is an even more serious issue that faces every manufacturer of capital goods for the coal mining industry. That factor is global warming. So far, most of the talk about global warming has merely been, in scientific parlance, 'noise'. However, as the supposed effects of global warming begin to stare humanity in the face, in the form of a growing frequency of natural calamities of increasing intensity, people are beginning to sit up and take notice. Insurance companies are beginning to tweak the premia they charge to cover risks from natural calamities. Thought leaders such as General Electric are beginning to use environment consciousness as a metric to measure employee performance. And GE's CEO, Jeff Immelt, is betting the company's future on green technologies. That to me signifies a serious change in people's attitudes about environment protection. And while that is a good thing for humanity, it is not so good for a company as dependent on coal as us!

What is unclear at this point is how quickly will these technologies become widespread and more specifically, how quickly will they get adopted in our own country. There are many reasons why their adoption in our country should be gradual. For starters, almost eighty percent of the coal produced in India is used by for generating power and producing steel and cement. For a nation, which is staring at a huge infrastructure deficit, an investment of this magnitude cannot be de-commissioned overnight. Perhaps equally importantly, the political incentives of feeding the families of over half a million employees that directly depend on Coal India for their livelihood are not small in a democratic nation.

However, it is clear that globally, coal mining will see a disruptive technology in the form of UCG and SCG. And as and when it gets adopted widely, which is now visible on the horizon, there could be important consequences for the mining equipment industry."

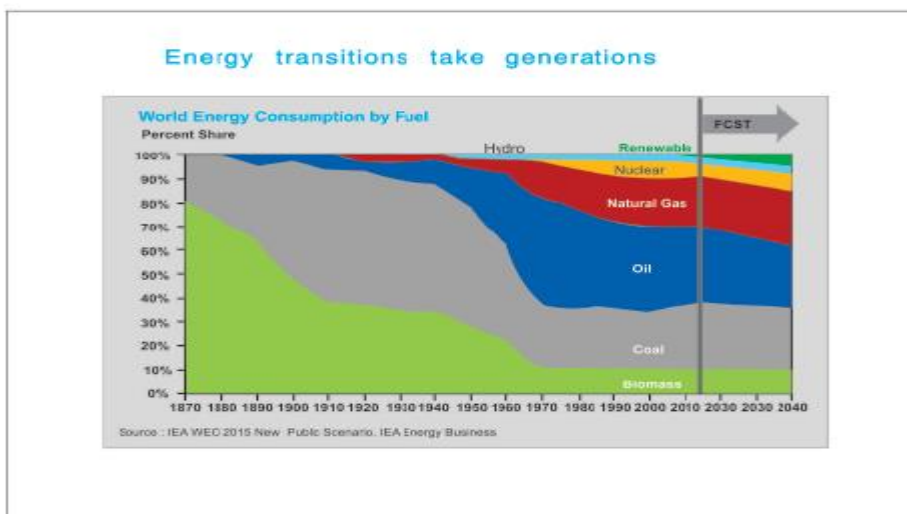
In this letter, I would like to revisit that subject and share my perspective on developments in the global energy industry and what impact that might have on Revathi's future prospects. Where you stand depends, of course, on where you sit. For example, we have spent much of our life in fossil fuels. That colors how we see the future. People who are deep into renewables almost certainly have a different perspective. A mother in Africa cooking over a wood-burning stove might have a third.

My view is that while "hockey stick growth" may apply to a company or an industry, it usually doesn't apply at a societal level. Transitions are usually gradual. Why do I think so? Let's look at some examples. Amazon was set up almost 25 years ago in 1994. Today, it has less than 5 per cent of the US retail sales market. Admittedly, it has about 50 per cent of the e-commerce market, but less than 5 per cent of the overall US retail market. And this is just the US market, not the global market. The market share in the UK market is also estimated at less than 5 per cent. AirBnB, which was founded ten years ago in August 2008 is estimated to have ended 2016 with a less than two per cent market share of the global vacation rental market. Notice the difference between a pure e-commerce company like AirBnB and the hybrid Amazon, which has to worry about building warehouses and delivering the stuff it sells. Pure e-commerce companies could potentially disrupt incumbents more rapidly. However, businesses that need to deliver a real product like shopping (or energy), are unlikely to cause disruption at a societal level any time soon.

I will now share some details on the global energy scenario in four parts. In the first part I will share the historical long-term trends in the global energy mix. In part two, I will discuss the projections to 2040 that have been put out by the International Energy Agency or the IEA. The third part will deal with Global Coal and in the final part, I will share my perspective on what all this means for Revathi.

A brief history of the shifts in the global energy basket

Over the past decade or so, the debate has shifted from clean coal technologies to renewable energy to storage technologies to solar fuels. The shift from fossil fuels to clean energy is imminent. That is the bad news (as a shareholder of Revathi) (or good news if you are a tree hugger like me). The good news is that energy transitions take generations as evidenced by this chart published by the oil giant Chevron.



As recently as 150 years ago biomass supplied the vast bulk of world energy. It was gradually displaced by coal. Then came oil, which is now being displaced by natural gas and a combination of nuclear, hydro and renewable sources. It took four decades for oil to go from 5 percent of the world's energy supply to 25 percent. Today, renewable energy sources like wind and solar account for less than 5 percent of the world's energy sources.

Of the 7.5 billion people on our planet, about 2.7 billion still burn solid fuels such as wood, crop residue and dung to cook their food. And despite the depth and breadth of today's energy market, there are still about 1.3 billion people in the world without electricity. Of this 1.3 billion, 300 million live in India. Most forecasts predict global energy demand to rise by around one third or more by 2040 as populations grow, incomes rise and people all over the world strive for the standard of life we enjoy today. To meet those needs we will need all forms of energy - renewables, nuclear and fossil fuels

The projected impact of The Paris Agreement

The international political response to climate change began at the Rio Earth Summit in 1992, where the 'Rio Convention' included the adoption of the UN Framework on Climate Change (UNFCCC). This convention set out a framework for action aimed at stabilising atmospheric concentrations of greenhouse gases (GHGs). The UNFCCC which came into force on 21 March 1994, now has a near-universal membership comprising 195 countries. The main objective of the annual Conference of Parties (COP) is to review the Convention's implementation. The first COP took place in Berlin in 1995 and significant meetings since then have included COP3 where the Kyoto Protocol was adopted.

In 2015 COP21 took place, which is also known as the 2015 Paris Agreement, which deals with GHG emissions mitigation starting in the year 2020. The agreement was adopted by consensus by representatives of 196 parties on 12 December 2015. The US later withdrew from COP21.

The International Energy Agency, which was set up in 1974, is the premier body that tracks the global energy industry. It puts out an annual publication titled World Energy Outlook, which, as the name suggests, is a primer on the status of world energy and where it is likely headed. The IEA has modeled some scenarios based on COP21. The table below presents these scenarios.

World primary energy demand by fuel and scenario (Mtoe)

Fuel source	2000	2014	Energy demand under various scenarios by 2040		
			Current	New Policies	450 Scenario
Coal	2,316	3,926	5,327	4,140	2,000
Oil	3,669	4,266	5,402	4,775	3,326
Gas	2,071	2,893	4,718	4,313	3,301
Nuclear	676	662	1,032	1,181	1,590
Hydro	225	335	515	536	593
Bio energy	1,026	1,421	1,834	1,883	2,310
Other renewables	60	181	809	1,037	1,759
Total	10,042	13,684	19,636	17,866	14,878
Fossil fuel share	80%	81%	79%	74%	58%

Source: IEA 2016 WEO

Mtoe: million tons of oil equivalent.

Current Policies Scenario assumes no changes in policies from the mid-point of the year of publication (previously called the Reference Scenario).

New Policies Scenario serves as the IEA baseline scenario. It takes account of broad policy commitments and plans that have been announced by countries, including national pledges to reduce greenhouse gas emissions and plans to phase out fossil-energy subsidies, even if the measures to implement these commitments have yet to be identified or announced. This is regarded as the central baseline scenario.

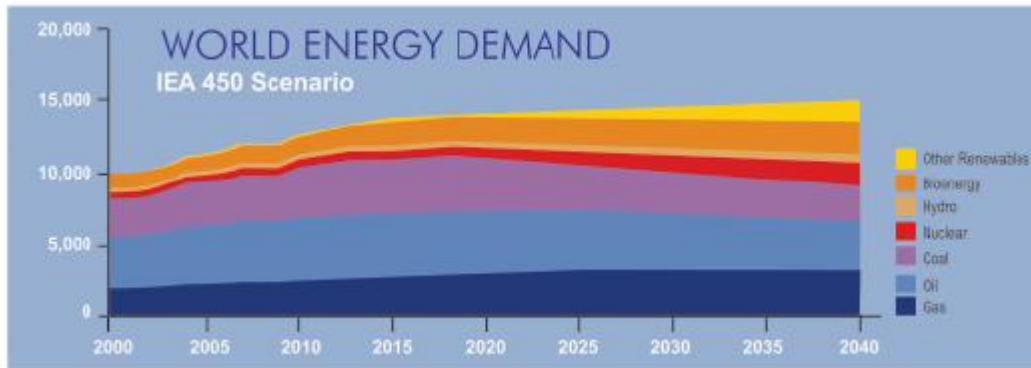
450 Scenario sets out an energy pathway consistent with the goal of having around a 50% chance of limiting the global increase in temperature to 2° C in the long-term (by 2100), as compared with pre-industrial levels. The world will require significant policy change to achieve this scenario.

Today, oil, gas and coal account for about 80 per cent of primary energy supply world-wide. A global network of mines, oil and gas fields, power plants, pipelines, refineries, filling stations and distribution systems that has been developed over the past 150 years, is in operation. \$55 trillion of energy-related infrastructure uses fossil fuels, which is the equivalent of 70% of global GDP. A change in energy mix will require an enormous investment through the global economy including light vehicles (typical lifespan of 15 years), heating systems (20 years), aircrafts (25 years), commercial shipping (25 years), power plants (40 years), etc. It is not possible to replace the energy system in a short time frame.

Over the last 30 years biofuels have grown to reach just a 3 per cent share of global transport fuels after decades of R&D. Biomass still makes up 10 per cent of total primary energy. Renewables (solar, wind and hydro) are developing quickly, and are making impressive inroads into decarbonising the power sector. However, renewables and nuclear currently account for only 4 per cent each of primary energy supply.

Low-carbon power generation - renewables in tandem with natural gas - has enormous potential, and yet it has just an 18 per cent market share of energy consumption today.

World primary energy demand (Mtoe)



Source : OECD / IEA 2015 WEO

China and the United States, along with fast growth of renewables and strong focus on energy efficiency.

An analysis of the pledges made at the Paris Agreement suggests that the era of fossil fuels appears far from over. In a sign of coal's paradoxical position, the world is still highly dependent on coal. China accounts for 50% of global coal demand and almost half of coal production. A major geographic shift has been underway in the global coal market towards Asia. In 2000, about half of coal demand was in Europe and North America. By 2015, Asia accounted for almost three-quarters of coal demand, while coal consumption in Europe and North America had declined sharply below one quarter. This shift could accelerate in the coming years.

In the United States, coal consumption dropped by 15 per cent in 2015, precipitated by competition from cheap natural gas, cheaper renewable power - notably wind - and regulations to reduce air pollutants that led to coal plant retirements. This was the largest annual decline ever, reaching levels not seen in more than three decades. Looking ahead, the rate of decline is expected to fall to 1.6 per cent per year, much slower than 6.2 per cent decline over the past five years, as higher gas prices result in less coal-to-gas switching.

Coal demand is moving to Asia, where emerging economies with growing populations are seeking affordable and secure energy sources to power their economies. Because it is relatively affordable and widely available, coal remains the world's number one fuel for generating electricity, producing steel and making cement. It provides almost 30 per cent of the world's primary energy, declining to 27 per cent by 2021. As a data point, coal supplied 1,520 Mtoe of the 3,292 Mtoe of additional global primary energy supply from 2000 to 2012 or 46% of added energy.

Natural gas, wind and solar are expected to contribute significantly to energy basket over the next 25 years to 2040. But there is no single story about the future of global energy. In practice, government policies will determine where we go from here. The recent backtracking by the US government on its commitment to COP21 demonstrates how complex the terrain is. For the sake of the planet, we can only hope that governments will be more mindful of the long-term than the short-term, while creating their energy policy.



Source: IEA

Outlook for India

When the current government assumed office in 2014, they made some big bang announcements about significantly ramping up coal production in the country to meet our growing energy needs and also to reduce our trade deficit. Action followed the announcement and coal production rose from 462 million tons in 2014 to 554 million in 2017 at a compounded growth rate of 9.5%. This was almost double the long-term growth rate of coal production in the country.

However, factors like the financial health of State Electricity Boards, logistics bottlenecks, limited storage capacity at mines and power plant site, power plants designed on the basis of quality of imported coal, etc. have meant that the coal production has not grown as much the Government's projections. While some of these issues do not have a short-term remedy, some issues are getting the attention of policy makers. Given the complex issues involved, these will not allow for a instant fix that can contribute to a more robust demand for coal in the short-term.

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So where are things headed in the medium- to long-term? The contribution of coal in the overall energy mix will go down, but in absolute terms, I expect coal production to grow, even though the rate of growth will perhaps be in the low- to mid-single digits. Here are some factors that I believe will keep India dependent on coal for the foreseeable future. Compared with global averages, we have low per capita energy consumption, massive investments have already been made in coal power assets (which contribute about 60 per cent of India's power generation and which typically have a useful life of about forty years), demand for essential commodities like steel and cement, both of which use coal in the production process, will rise significantly as we build the country's infrastructure and as the urbanisation trend gathers pace, we have vast coal deposits, which reduce our dependency on other nations and which continues to be a cheap source of energy, significant employment created by the steel, cement and power industries alongwith upstream and downstream industries (which has perhaps been a factor that has led to the US pulling out of COP21, at least for now), banks have lent significant money to coal and coal dependent sectors, etc.

What does this mean for Revathi?

In an environment where the world is cooperating as never before to bring down emissions of green house gases, the global energy narrative being dominated by the new wave of renewables, equity markets saying coal is as good as dead (US coal mining companies have lost over 90 per cent of their market capitalisation over the past few years), it is easy to write off coal and companies dependent on the coal economy.

However, there is an alternative narrative. As coal becomes a sunset industry, capital that typically chases earnings growth will get scarce for the coal industry. Existing players will reduce their exposure to verticals that depend on coal for producing earnings. This is already visible. Atlas Copco, which has been regarded as the most focused and perhaps the most efficient player in our industry recently announced that they are hiving off their Mining Division into a new company. The stated intent is to create two companies which will be more focused on each business - industrial and mining. However, they have not allowed the mining business to continue to use the Atlas Copco brand. This is unusual and therefore intriguing. Of course time will tell what the real intent is behind this strategic move.

The other industry trend that has been playing out over the past decade is that of consolidation. Several players like Joy Global and Bucyrus have been acquired by larger players like Komatsu and Caterpillar. When consolidation happens, usually the profit margins of the industry tend to get better. Larger players usually tend to go up the features and price curve over time. This is of course a conscious choice that they make to maintain their margins on an increasing cost base. However, this strategy also makes them uncompetitive on the no-frills range, which is our core market.

I now turn to our company's performance. The highlight last year was in the Profit & Loss Statement, which swung back to profits after four years of strife. As a result of that performance, the big highlight this year was the restructuring of the balance sheet. We paid down ₹ 532 million or almost two thirds of our debt to bring it down to a normalised level of ₹ 309 million. We are now back to the debt levels that we had in FY06. Once we are able to conclude a few more strategic initiatives such as monetising the surplus land outside Chennai, these levels should fall further.

As a result of a strong performance, we were also able to bring down our cost of debt from c.14 per cent to sub 10 per cent, helped in no small measure by a declining interest rate environment. Given the size of our limits, it made no sense to have a relationship with seven banks. Therefore, as we were paying down debt, we selectively kept only those relationships that had been most supportive during the tough years and shifted our limits to them. This has meant that we are now giving them more business as our way of saying thank you for supporting us during difficult times.

Barring the interim strife years (FY12 to FY15), we have been clocking an EBITDA of c. ₹ 200 million. However, since FY09, we have been paying almost half of that towards interest on loans. With decreasing loan balances and falling interest rates, the interest burden fell from an average of c.₹100 million to ₹ 72 million.

Adjusted for the extraordinary income we had in FY16 (from part sale of our Chembur investment), our year-on-year pre-tax profit fell 17 per cent in FY17 to ₹ 150 million. Going forward, our profitability should stay at similar levels, barring some major positive or negative event.

I had written last year that we had initiated a major change initiative at Semac to integrate various offices into One Semac. I had indicated that such disruptive change will create some short-term pain. Given where things are at present, this pain is likely to continue for at least another year.

Capacity utilization in most industries has been at a level that allows for some headroom for expansion without incurring fresh capital expenditure. This saw capex growth slip to a 25-year low last year. By way of perspective the previous low was recorded at the turn of the century, when the dot com bubble had burst. Last year was worse than that. Stretched bank balance sheets have not helped matters either. As a result, businesses are either not investing in expanding capacity or are deferring these decisions.

Tough times are great in many ways. They help us cut costs we had taken on when business was doing well. More importantly, such times force you to focus harder on your value proposition vis-à-vis competition. It is sort of like a forest fire or a medical diagnosis. It is a mini crisis, which will clean up the jungle and force a lifestyle change for the better. That journey of becoming stronger is on.

We had originally hired five people at the Corporate level to bring in the transition. Of those, one fell so ill that he had to, sadly, stop working. Of the balance four, two continue with us, one was asked to step down and we replaced one. The person we had to replace was unfortunately the CEO. Our current CEO joined the business at the start of the current financial year. With this, I am hoping to correct the mistake I made the last time.

Our hit rate on senior hiring has been fifty per cent. Jack Welch admitted that when he was younger, he used to hire the right people only about 50 per cent of the time. While this gives me some solace, each hiring mistake, especially at senior levels has a massive impact on the business. It is estimated that financially, the cost of a mis-hire is 5-27x of the person's salary. This does even count the impact s/he has on the organization culture, etc. Over time, I have improved my batting average, but if there was one skill I would like to master, it would be hiring better. For once you hire the right person or team, they tend to surprise you on the positive side.

Due to the internal and external factors described above, our Revenues shrank by ₹ 15 crores. Though we cut costs in some places, we added costs in some other places, with the result that the entire reduction in the topline fell to the bottom. In absolute terms, we went from a pre-tax profit of Rs.10 crores last year to a loss of Rs.4 crores this year. Adjusted for taxes and minority interest, our profit shrank from ₹ 5 crores to a loss of ₹ 5 crores.

As mentioned elsewhere in this report, some of our bankers stood by us when the going got tough. They believed in us and they trusted our ability to bounce back. My sincere thanks to them for reposing faith when plenty of others had started writing us off. I would equally like to thank all our shareholders for living with the trauma of paper losses for years. It has been a difficult journey for everyone. We will make sure it was worth it.