“‘वसुधैव कुटुम्बकम’ This is the true embodiment of our Indian culture. The whole adage strongly reflects the belief that the entire world, with all its life forms, is truly ‘just’ a tightly knit interconnected family, transcending multiplicities. The whole world is a single family.”

Purpose over Profit

Vineet Mittal is Chairman of Avaada Group, a leading Indian renewables company. Vineet explains to Nomura Greentech how his clean energy plans can help lift people out of poverty.

Q | Avaada means the promise of a sustainable future. What first sparked your passion for sustainability, and how has your career evolved so far?

I've been a serial entrepreneur. I come from a Marwari community known for its enterprising and 'never say die' attitude.

After studying electronics and communications engineering, I joined the Government of India and was fortunate to be part of the team which brought the internet to the country. Realizing the huge potential, I left my government job and floated a dot-com company, followed by a foray into IT services, which I sold in 2008.

However, I was missing a purpose. It dawned on me that one of the fundamental growth drivers for a nation was electricity access and in 2009, 350 million people in India had no electricity. I wanted to solve this problem. Thus, I decided to get into the sector, help India grow, and help lift the masses from poverty.

I co-founded a renewable energy platform in 2009, which became India's largest renewables firm by 2016. We monetized the operating assets by selling them to Tata Power while retaining the core team. The demerged entity was rechristened as Avaada Energy in 2017. Within five years of inception, we have grown rapidly, and with an installed base of 5 gigawatts (GW), we are now among the top renewable energy generators in the country.

By the grace of god, the journey till now has been rewarding, and with the global energy transition in focus, we are well-positioned to move to the next orbit of our growth.

Q | Do you view the clean energy transition in India as an opportunity or a challenge considering the number of people who need to be brought out of poverty?

A fundamental reason for the limited access to energy is higher prices. Solar is presently the cheapest form of electricity. It presents a massive opportunity to increase energy access, especially in rural areas, which were previously deprived of electricity.

I have first-hand experience witnessing the transformational change that renewable energy plants bring to communities. Jobs are created, power supply access improves, and it has a massive impact on the local economy.

We have 700+ districts abundantly endowed with solar radiation. If we can generate 100-150 megawatts (MW) in each district, it implies uniform development across the country and enhances energy access, which can have a multiplier impact on the economy and poverty levels.

Q | How many people have grid access in India today?

Courtesy of the Saubhagya scheme, launched by the present government, 97% of Indian households are connected to the grid. Some of those that remain unconnected are in the remotest parts of the country. These areas are also being served through microgrids.

“We already have a 5% market share for green energy in India.”

The only challenges I foresee are hours of supply. Electricity distribution companies are in financial distress, and it’s less profitable to supply consumers in remote areas. They are typically underserved.

However, things have improved considerably in the last few years, and I am sure energy access won’t be a major issue in times to come.

Q | Is India’s 2070 net zero goal ambitious enough considering what’s at stake with climate disasters intensifying?

After the US and China, India is the third largest emitter of greenhouse gases, and we are also home to 5 of the most polluted cities in the world. We can’t allow the next generation to be born in places where children would suffer in the most severe cases.

I see that the 2070 target may not look ambitious, but we are putting enormous efforts into adopting renewable energy across the spectrum, including for farmers, industry and households. We should have given the external world a net zero target of 2050, but policymakers probably want to under promise and over deliver.

What our Prime Minister is trying to do through his five nectar elements (Panchamrit) of India’s climate action or five commitments (including 50% renewable energy by 2030) to decarbonize India, is very encouraging.

I tell my team that it is just the beginning, and the real action will start from 2023 onwards with a huge expansion in the manufacturing of solar panels, batteries, wind turbines and electrolyzers.

India takes off from 2025, after which there’s no looking back. India has a target of adding 40 GW in renewables. I sense that we will add more than 50 GW for decades to come after 2025.

Q | Isn’t decarbonization even more important for India as it bears the brunt of severe heat waves and flooding?

Right, so what the world sees in video, we experience. Even if a single life is lost due to a flood or natural disaster, it’s not acceptable to any country’s leadership, let alone India.

India is becoming more conscious of its role in stabilizing global carbon emissions. We are still one of the lowest emitters of greenhouse gases per capita but our large population increases our overall emissions. We will continue the good work, but we must also engage and negotiate harder with world leaders, especially developed countries, to do more.

Q | Which areas of green energy is Avaada focused on, and what are your targets for the coming decade?

If I have to describe to you in a single sentence, we will be a sand-to-molecule company. We will convert sand into silica, silica into wafer, wafer into cell, cell into module, module into electricity, and electricity into green ammonia, green methanol and sustainable aviation fuel (SAF). What does that mean?

Currently, we have almost 4 GW of operating assets. We are looking to add around 3 GW + every year for the next decade to become a 30 GW company by 2030. So our end goal is to sell green molecules, not green energy.

For our renewable energy portfolio, we are targeting 1 GW of electrolyzer manufacturing and almost 10 GW of silica to module manufacturing. We see tremendous opportunity in this area. Even if we only capture a 3-4% market share, that would be large enough to make it a success.

We already have a 5% market share for green energy in India. We have built expertise around energy performance contracts, execution, and community relationships, which are central to resolving the allocation of transmission lines for large land acquisitions.

Labour is critical for construction work. We focussed our energies on the problem and I have a database of 3000 labourers with skills in welding, bar bending, piling and module installation. We also have strong relationships with equipment suppliers and vendors for fabrication and material supplies.

Regarding the economic opportunity, we can deploy billions of dollars yearly in our business if we have access to more capital because the cake is big enough for 10 or 20 players like us to coexist and keep growing.

Q | Is India too dependent on imports for components like solar panels to meet its sustainability targets?

Yes, you are right and that will all change soon.

The Indian Government has come out with a very ambitious plan called ‘Self-Reliant India’ or AatmaNirbhar Bharat, in which it allocated $26 billion under the production linked incentive (PLI) scheme. The goal is to encourage domestic manufacturing and make India self-sufficient for supplies of major inputs across industries.

Under the PLI scheme, Solar PV manufacturing has been allocated almost $3 billion. The first tranche of bidding has already been concluded, and the second round is expected soon.

This will help bolster energy security. India also has the chance to build a very strong supply chain in semiconductors and renewable energy components.

Q | You recently signed an agreement to set up a green ammonia facility in Rajasthan. Is there more to come in this space?

We are heavily focused on green hydrogen and its derivatives like green ammonia, green methanol and SAF. India is already blessed with an abundance of sun and wind, the key inputs for the production of green ammonia which positions it perfectly to become a global manufacturing hub for green hydrogen. We plan to sign agreements with more Indian States for grid and land access.

There is significant demand in geographies like the EU, Japan and Korea, and India has a tremendous opportunity to capture the value. The Government of India is also working on imposing green hydrogen / ammonia purchase obligations on certain sectors, and once that kicks in, it will also create massive domestic demand.

Q | The Russia-Ukraine war has accelerated the need for alternative energies, especially green hydrogen. Does that create an opportunity in the Indian market?

The Russia-Ukraine war has brought a sense of urgency to energy transition and independence.

It has opened up the global market. Europe is talking to Indian and Middle East players to guarantee their supply from multiple countries rather than depending on a single source for their energy needs.

Europe has a 20 million ton hydrogen requirement by 2030, which means a 100 million ton equivalent of ammonia and methanol that can be produced locally in the form of hydrogen. That leaves 50 million tons for import.

India has the chance to be among the top 5 players in the world alongside Europe, the US, the Middle East and Australia. So even if Europe imports 10 million tons from 5 countries, India can play a role as a supplier, which could lead to a green corridor. And that will change industrial behaviour and technology adoption.

Prime Minister Modi recently announced a significant hydrogen policy that involves the state government allocating land to renewables producers and the national grid operators setting up the power grid. Polluting industries like oil, gas and fertilizer companies agree to buy green hydrogen and green ammonia from electricity distribution companies who feed their surplus power into the grid. This surplus power, known as banked energy, is then supplied back to energy producers during periods of low renewables generation to help them scale up green hydrogen, ammonia and methanol for hard-to-abate sectors.

Q | Are the prospects good for independent power producers in India like yourself?

It's a huge opportunity. The renewable installed capacity targets are 500 GW by 2030, and we are still at around 120 GW. It implies annual capacity addition of ~40 GW. This will include a huge public procurement marketplace and open access segment for commercial & Industrial consumers.

Currently, the biggest challenge in India is grid connectivity and land access, and players who successfully navigate these twin challenges will be the winners.

Q | Who's Your Sustainable Hero and Why?

My hero is my Indian culture for the inspiration it has given me. It teaches us that the whole universe is one, and you have no right to abuse something given by Mother Earth.

We have to live responsibly. We were probably the first country to say that plants have lives and emotions, which science has now proven after thousands of years.

And we were taught to coexist with nature, but our material needs and western culture's influence have confused us. We are returning to basics by rewarding our doctors if patients don't get sick.

India realizes that many pieces of evidence exist regarding how we used to live, whether it was the concept of fasting or minimalism, taking care of others in society and living responsibly with nature.

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