

# Foreword

*by Piyush Goyal*



IT IS OFTEN said that the decisions we make today will determine our future. We are approaching that critical stage where the cost of pollution, overexploitation of non-renewable natural resources and the damage being caused to our world is now becoming unsustainable. Climate change and poverty have been rightly identified as amongst the most powerful challenges facing the world today. There is a critical need for an energy revolution with a transition to clean and green energy systems. Mahatma Gandhi had once said, *'You have the choice to create the life your heart is yearning to live.'* Renewable energy is one such choice to create the world of our dreams.

In this context, India under the visionary and dynamic leadership of Narendra Modi has championed the cause of renewable energy. Under his decisive leadership, we are looking to rapidly minimize our dependency on fossil fuels by adopting clean energy alternatives like wind and solar energy. Recently, while inaugurating a 750 MW solar power project in Rewa, he declared that solar energy is 'pure, sure and secure'. It couldn't have been put better. His clear vision makes our

ambitious renewable energy goals—175 GW by the year 2022, and 450 GW by 2030—seem achievable, and powers India's emergence as the most attractive global market for clean energy.

Prime Minister Modi's commitment to renewable energy can be seen from the leadership role that India played in the COP 21 Paris Agreement. We established the International Solar Alliance with France, which is the world's first treaty-based multilateral organization to be headquartered in India. This is drawn from both his own commitment to the environment as well as India's rich and ancient tradition of living close to nature. He called it an 'article of faith for India'.

Since 2014, we have made sincere efforts to expand our clean energy footprint. India has achieved its vision of 'Power for All', which has led to a huge demand for renewable energy, whether solar, wind or any other. India has truly moved from 'megawatts to gigawatts' in renewable energy production.

India has successfully transformed the renewable energy sector and brought down solar and wind prices to the lowest ever through transparent auctions at scale. Solar parks, 'one nation, one grid', the new electricity policy which prioritized renewable energy, by augmenting the transmission network—these are just some of the steps taken to give the sector a renewed thrust. We have consistently worked to create an enabling environment for world-class entrepreneurs to invest in the renewable energy space.

The Indian Railways is closely aligned with the nation's commitment, and now we have laid down a roadmap to transition into the world's first and largest 'net zero' carbon emission mass transportation network by 2030. We are committed to make the railways self-reliant for all their energy requirements through extensive electrification and generation of clean energy. We have initiated solar projects of 3 GW capacity on unutilized railway land, and plan to scale up to 20 GW by 2030 to meet our demand. The railways have completed electrification of more than 40,000 route kilometres, which is 63 per cent of the total broad gauge (BG) routes, and plan to electrify the entire network by December 2023.

I see an exciting future for renewables not just in the industry and mass transportation but also the automobile and residential sectors. As awareness grows, and innovation takes wings, particularly in the area of storage, renewable energy will be the natural catalyst of change.

As India marches forward to build an 'Atmanirbhar Bharat', self-reliance in clean and renewable energy is vitally important. Sumant Sinha has shown extraordinary zeal and understanding of this subject. This book offers readers a deep insight into the past, present and future of energy systems, painted in the context of our world's rapidly changing environment.

*Piyush Goyal*  
*Minister of Railways and Commerce & Industry*  
*Government of India*  
*New Delhi*  
*September 2020*