

Impact Assessment - Renewable Energy

April 2024

Transition to renewable energy has been one of the big projects that Wipro has taken up. An impact assessment study was taken up to assess the impact on GHG emissions, air pollution, water & land. In FY24, Wipro procured ~89.8 million units of energy through the vendors in the state of Tamil Nadu and Karnataka.

Present study showcases the impacts of Wipro's renewable energy procurement as compared to the hard coal-based electricity generation. Operational impacts of renewable energy generation can be insignificant but not that of the upstream supply chain. Therefore, to have a fair comparison between renewable vs traditional coal-based electricity generation, a life cycle-based approach has been used. This approach considers the impact of production, transports, installation, operation phases of the electricity generation along with various technology mixes available in the respective markets.

At the site level from where the power was procured, there was little or no displacement of any significant natural resources because in case of wind power through RS Yarns (which is a power aggregator and supplier), the towers are installed in areas that are not part of any designated forest cover by law and also, they did not hinder the pathway of any wild animals.

In case of solar power, Avaada is bordered to a reserve forest, however there are no endangered flora or fauna. They also have their own borewells on site along with rainwater harvesting. Hero Future Energy has implemented a waste management programme, covering compliance.

Below are the quantities saved as a result of the RE transition:

Quantities savings	FY21	FY22	FY23	FY24
GHG Emissions (tonne)	1,01,126	84,734	92,499	95,511
Air Pollution- PM	165	139	151	155
Air Pollution- SOx	543	455	496	510
Air Pollution- NOx	430	360	393	404
Water Consumption (m3)	27,61,263	23,12,897	25,26,352	26,16,381
Land Use Change (m2)	-3,18,470	-2,76,764	-2,82,653	-1,99,267



The Impact savings in dollar amount is given below:

Impact savings (USD)	FY21	FY22	FY23	FY24
GHG Emissions	1,00,00,000	87,00,000	98,00,000	1,10,00,000
Air Pollution	14,00,000	12,00,000	13,00,000	15,00,000
Water Consumption	8,85,580	7,54,614	8,46,458	9,10,000
Water and Land Pollution	6,900	5,300	7,100	14,000
Land Use Change	-29,00,000	-26,00,000	-27,00,000	-20,00,000
Total savings	94,00,000	81,00,000	93,00,000	1,10,00,000
Solar unit	7,62,60,000	6,59,10,000	6,80,00,000	5,15,22,373
Wind Units	1,67,40,000	1,20,90,000	1,70,00,000	3,02,65,702
Hydel Units	-	-	-	52,59,919
Total units	9,30,00,000	7,80,00,000	8,50,00,000	8,70,47,994
Saving (USD/kWh)	0.101	0.104	0.109	0.126

All the quantities are converted in terms of dollar values using GIST Impact valuation methodology. Nationalised social cost of carbon is used to keep consistency with EP&L results published by Wipro. For other pollutants, country average LCA models and valuation coefficients are used. Impact due to air pollution and water & land pollution includes negative health impacts of the various toxic pollutants (organic/inorganic/ heavy metal) released in respective compartments. Land use change impacts are calculated based on the land transformation numbers.

Calculations showcase the total impact saving of USD 11 million in FY24. Greenhouse gas savings of 95,511 tonnes was achieved through the RE procurement of 89 million units. Water consumption savings are 2.6 million m³ which translates into a savings of USD 0.9 million. As renewable energy generation requires more land, the impact due to land use is generating a negative externality of USD 2 million.

Based upon the impact assessment, the Corporate Social Responsibility (CSR) Initiative wrt procurement of renewable energy, the impact on the environment was found to be **“High Positive”**.

For Gist Advisory Pvt. Ltd.

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Authorised Signatory

