

VoltUp

where Smart Swaps drive Big Impact

VoltUp, headquartered in Mumbai, is India's leading Mobility-as-a-Service (MaaS) platform and battery-swapping company, offering a full-service solution to battery swapping for all e-2-wheeler and e-3-wheeler vehicles. Operating in 14 cities, VoltUp's proprietary platform enables users to swap smart batteries at designated stations, eliminating downtime and making EV adoption more convenient. The company's Safety, Health, and Efficiency (SHE) framework leverages real-time AI analytics to optimize battery health, predict demand, and enhance driving efficiency—ensuring every ride is safe, cost-effective and hassle-free.

Through its Mobility-as-a-Service (MaaS) network, VoltUp empowers delivery agents, gig workers, businesses and urban commuters with reliable electric 2-wheelers powered by proprietary swappable battery technology. This intelligent ecosystem maximizes operational efficiency, offering reliable mobility and which can be integrated into users' daily routines. By replacing waiting with swapping, VoltUp's business model enhances EV convenience and adoption with an AI-driven solution that's faster, smarter, and more efficient.

In this Impact Report:

- VoltUp's Impact Reach & Direction
- VoltUp's Impact Results

This impact report was created in partnership with **EM Impact Capital**, **VoltUp**, and **RGS** based on **Impact Accounting** principles.



QUANTIFYING IMPACT



Country

India

Sector

E-mobility, Mobility as a Service (MaaS), Energy as a Service (EaaS)

Business Overview

A platform specializing in battery-swapping technology for electric two-wheelers ("2w") and three-wheelers ("3w") in India. Their mission is to enable one million electric vehicles running on a smart Battery Swapping Infrastructure, ensuring 24/7 access to safe, reliable and efficient battery swaps.

USD \$1.13M

Revenue in CY 2024

Total Impact vs Revenue ('000s) in CY 2024



USD \$0.95M

Monetized Positive Impact on the Environment and Society in CY 2024

Key Impacts

- Avoided Emissions
- Avoided Air Pollution
- Added Wages

Impact Valuation

VoltUp created **\$0.84 of positive impact for every \$1 revenue** generated in CY 2024. While the primary aim of the company is to provide **clean electric transport** and the largest impact is environmental, there is also a significant social impact as the company facilitates **higher earnings among the poorest members of society**.



Impact Reach & Direction

The adoption of electric vehicles in India is of high environmental and social importance. Environmentally, road transportation is a key contributor to urban air pollution and causes 12% of India's total energy-related CO2 emissions¹. Socially, battery-swapping platforms democratise access to electric vehicles through innovative ownership models. This can include the elimination of upfront costs – a barrier for low-income users. The key impact areas of VoltUp's Mobility-as-a-Service (MaaS) platform include:

- **Avoided Emissions:** By replacing fossil fuel-dependent vehicles with electric alternatives, VoltUp significantly cuts carbon emissions, contributing to a cleaner and greener environment.
- **Reduced Air Pollution:** With zero tailpipe emissions, battery swapping eliminates pollutants such as PM2.5 and NOx, improving urban air quality and public health.
- **Increased Wages & Economic Benefits:** VoltUp's cost-effective model lowers operational expenses for gig workers and small businesses, directly increasing their earnings and financial stability.



¹Executive summary – Transitioning India's Road Transport Sector – Analysis – IEA

ENVIRONMENTAL IMPACT

USD \$454,151

Monetized Avoided Emissions Impact

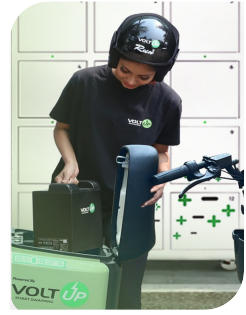
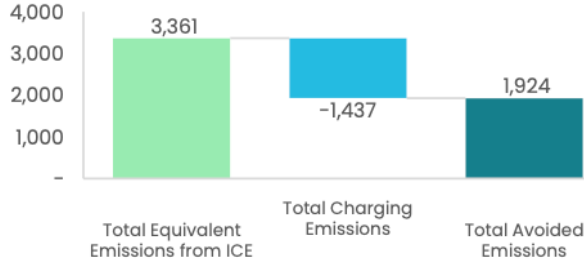
In CY 2024, over the 11.7M kms driven by 2-wheelers and 40.5M kms driven by 3-wheelers powered by VoltUp's swappable Li-on batteries, 1,924 MT CO2 were avoided when compared to emissions from internal combustion engine (ICE) vehicles in India.

This includes the total equivalent emissions if the drivers had been using ICE vehicles, net the total emissions from the electricity generation of the grid.

This equates to over \$450,000 of avoided negative impacts from CO2 emissions.



Total Avoided Emissions in CY 2024 (MT CO2)



USD \$793,226

Potential Additional Monetized Avoided Emissions Impact

With planned expansion of renewable-only charging stations, VoltUp's monetized avoided emissions impact could rise to ~\$800,000 if the charging emissions (1,437MT CO2) were removed.

USD \$111,423

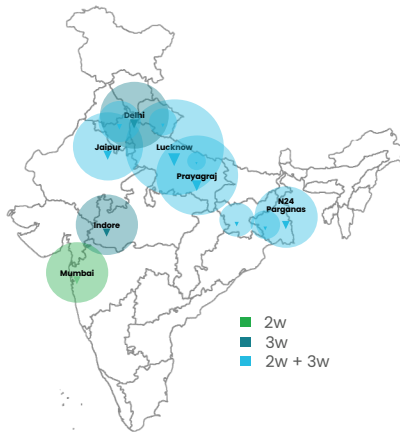
Monetized Avoided Air Pollution Impact

VoltUp's powered vehicles have no direct tailpipe emissions, thus all avoided air pollution compared to ICE vehicles is attributed to positive impact. The main pollutants from ICE vehicles are PM25 and NOx.

The equivalent distances driven by ICE vehicles would have generated 1.06MT of PM25 and 5.92MT of NOx, which generates a total avoided impact of ~\$112,000 using the latest IFVI (International Foundation for Valuing Impacts) Air Pollution methodology figures.



Total Avoided Air Pollution Impact Map

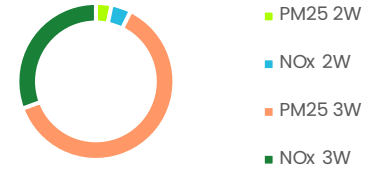


Size of the shaded circle correlates to the amount of positive \$ impact from avoided air pollution in each city. 3w have the largest benefit per KM driven, so these cities have higher avoided impacts despite lower KMs driven overall.

MT of Avoided Emissions



Avoided Air Quality Impact



While the largest total avoided emission was NOx from 3-wheelers, the largest avoided monetized impact comes from PM25 of three-wheelers. PM25 is more harmful per gram in the air, and thus the impact of avoiding PM25 emission is greater.

SOCIAL IMPACT

USD \$384,323

Monetized Added Wages Impact

79% Wage Impact Increase

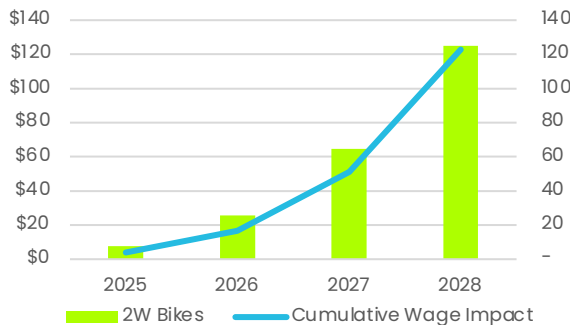
For a driver with the same deliveries, using an EV rental compared to a petrol vehicle reduces their total cost of ownership and increases their net earning by 34%. The increased daily earning above the PPP-adjusted poverty line per driver increases by 79% from +\$2.76 to +\$4.95.

In our model, the benefit to employees from wages is measured by the utility of wages instead of solely 'wages paid'. Last-mile delivery drivers are among the poorest in society in India, so we assume that they receive the full wage utility from any increased earnings above the poverty line.

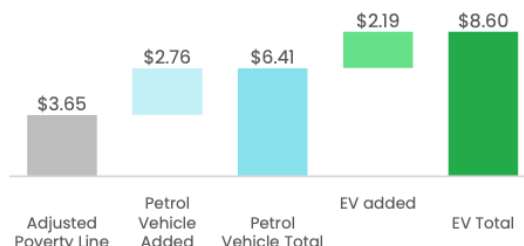
Using VoltUp projected figures and assuming a linear increase in the number of bikes per month across each future year, we can project the cumulative added wage impact up to \$122.8M by the end of CY 2028.



Projected Cumulative Added Wage Impact (Millions) vs Number of Bikes at End of CY ('000s)



Daily Earnings Petrol vs EV Drivers (USD)



Reliability and Repair Impact

A key aspect for drivers is the reliability of their vehicles, as any breakdowns will bring a direct cost of repair as well as an indirect cost of missed delivery payments.

In CY 2024, VoltUp tracked a monthly average of 48 faults in 2W, but they offer drivers a replacement bike within 30 minutes if faults are reported.

This is an area that needs to be monitored as VoltUp continues to scale in CY 2025.



About EM Impact Capital

EM Impact Capital is a UK-based investment management firm specializing in sustainable and impactful investments in Emerging Markets of Asia. Founded by investment professionals with deep expertise in impact investing, the firm was established by Nandita Sahgal Tully, James Kinsbrook, and Raviraj Salecha, who together bring over 40 years of experience in M&A, capital raising and impact investing across Emerging Asia.

EM Impact Capital focuses on delivering attractive commercial returns and high-impact outcomes by investing in mid-market private infrastructure companies within three core sectors: energy generation and storage, transport and mobility, and the circular economy.

In October 2024 Redwheel, the specialist independent investment manager, appointed Nandita Sahgal, James Kinsbrook and Raviraj Salecha of EM Impact Capital to form its new Redwheel Emerging Markets (EM) Impact Opportunities team.



About RGS

RGS is a leading data and analytics technology company empowering investors and corporate leaders to integrate impact into decision-making. RGS' Real Impact in Financial Terms (RIFT™) platform, driven by proprietary AI, a science-based approach, and impact accounting principles, translates environmental and social impact into financial terms. RGS serves a diverse client base, including hedge funds, private and public equity investors, and corporates globally.

Co-founded by Harvard Business School professor George Serafeim, RGS collaborates with the International Foundation for Valuing Impacts (IFVI) and the Value Balancing Alliance (VBA) to advance impact measurement.

Impact Accounting

Impact accounting quantifies unpriced externalities that can affect long-term profitability, transforming them from invisible risks or opportunities into measurable factors. Traditional accounting focuses on financial returns, while impact accounting broadens this view to assess how business activities affect stakeholders, the environment, and society, providing investors and corporate leaders a more complete picture of organizational resilience and value potential. Key benefits include improved transparency, enhanced risk management, a more comprehensive assessment of long-term value creation, and more effective communication of SDG contribution in monetized impact values.

Environment



Monetization of the environmental impact of making and selling products. Material environmental impacts might include (avoided) carbon emissions, water consumption, air pollution, and plastic / food / hazardous waste, subject to sector.

Employee



Monetization of the impact of employment practices on company employees through wages, diversity, and equal opportunities. For example, wage impact shows how much utility an average employee can get from their salary (based on location).

Customer



Monetization of the impact of products and services on customers. Positive impacts include customers' perceived benefit when buying a product – adjusting for location and income –, while negative impacts include product recalls or data breaches.