



India's Green Logistics Market: An Overview

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ABSTRACT

Market Research has always been an integral part of research and strategy formulation in order to achieve the business outcomes , profits & competitive advantage.The Logistics industry has always contributed to the growth of indian economy since its inception.Due to the emergence of sustainable goals for all the developing and developed countries there has been a significant need for incorporating environmental impact in all business doings .The green logistics paves way for reducing harm on the environment with its practices and applications in the logistics industry .The article has been written to educate and informate the industry professionals ,academicians ,business stakeholders on the green logistics market so as to population achieve business outcomes, strategic and sustainable goals.The article has been written through a qualitative narrative review ,data has been extracted from various market research reports.After through content analysis we found that the governmental initiatives are major growth drivers for the industry,the growth inhibitors for the green logistics market is the absence of proper infrastructure and budget constraints which are more profound in SME's than large scale enterprises and also there is a need for growing the awareness on the green logistics .The report has its practical implications to various stakeholders such as : Logistics Organisations ,Investors ,Market Researchers etc.

1. Introduction & Background of the Study

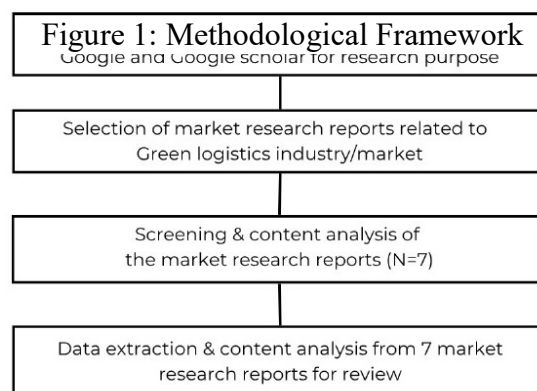
Every Industry is undergoing new challenges and adoptions with the new era irrespective of their contributions to the GDP or NNP. In the case of Logistics industry which is a very high service based industry also serves the other industries in the manner where certain industries are reliant on logistics like :Quick Commerce, Retail, Manufacturing, etc...the importance of logistics industry becomes more profound with the growing adoptions, needs from other industries also.The sectors with the industry include transportation, warehousing, and value-added services like packaging, labeling, and inventory management. In addition, a growing number of startups are bringing innovative technology to the industry to improve efficiency. Currently, the logistics sector is fragmented, with as many as 1000+ active players[1].As the logistics industry is brewing with the new challenges and adoptions, it is necessary to upgrade the workforce, Also the Logistics Industry globally contributes 10 % of global GDP[1’].

As our country is signifying more on the sustainable development and environmental responsibility ,incorporation of green logistics practices has been given more importance.The adaptation of green logistics in our country is low to moderate [2].At present currently there is a lack of awareness on the green logistics among businesses and consumers .[3]

With the above factors such as there is need to upgrade the workforce ,Higher reliance of other sectors on logistics industry, lower to moderate adaptation of green logistical practices , and lack of awareness on the green logistics among business and consumers ,it is necessary that we educate all the direct stakeholders (Businesses,Professionals ,Academicicians ,Scholars,Students etc) on the indian green logistics market so as to increase the awareness on green logistics market and to increase its adaptation.Thus the research objective is formulated.

2. Research Methodology:

Methodological Framework



**3. Market Features:**

Parameter	Insights
Compound Annual Growth Rate (CAGR)	10%
Forecast Period	2026-2033
Revenue in 2033	195 Million USD
Base Year	2024
Demand Factors	Indian Government Initiatives such as: National Green Hydrogen Mission National Logistics Policy PM Gati Shakti National Master Plan FAME (Faster Adoption and Manufacturing Of Hybrid and Electric Vehicles), Technological Advancements Slow & Steady Growing Awareness .
Growth Inhibitors	Budget ,Resource and Infrastructural Constraints
Competitors	DHL, CEVA,Agility ,Mahindra,FedEx ,UPS,
Trends	Artificial Intelligence Innovations, Green Warehousing Sustainable Fuel Based Vehicle Manufacturing.
Global Contribution	8 % of the global green logistics sector revenue
Global Stance	India is the Fastest Growing country in the APAC region in terms of green logistics market.
Fastest Growing States in India For Green Logistics	Gujarat,Maharashtra,Tamil Nadu,Karnataka Orissa, Haryana,Uttar Pradesh ,Uttarakhand, Telangana, Assam,Arunachal Pradesh,Chandigarh ,Delhi &



	Chhattisgarh.
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4. Market Segmentation:

Parameter	Description
By Organisation Size	Large Enterprises Small & Medium Enterprises
By Mode Of Operation	Roadways Railways Airways Seaways
By End User	Retail Chemical Electronics Automotive Energy Agriculture BFSI Manufacturing Healthcare & Many More.
By Service Type	Warehousing, Transportation Distribution Packaging Reverse Logistics.

By organization size, Large enterprises are completely dominating the sector /industry of green logistics .The fact that SMEs especially are facing significant difficulties in implementation of green logistics .



By Mode Of Operations, Roadways have contributed more as compared to the other mode as it contributes 75 % of the total freight model and 15 % of the CO2 emissions.

By end -user, manufacturing and industrial sector have dominated or utilised the green logistics for their business applications and cases.

Under the service type ,Warehousing segment was the largest money making sector and distribution and transportation with the fastest growing in the forecasting timeline .

5. Strategic Developments & Trends:

a)DHL & Envision signed a partnership deal for pursuement of sustainable logistics innovations and energy.The partnership deal focussed on main areas such as:

Sustainable Fuel like: Biodiesel,Hydrogen,CNG,LNG.

Green Energy

Development of a Net Zero Logistics Park.

b)CEVA Logistics partnered with FORPLANET for building low - carbon emissions and sustainable logistics solutions.

c) ITC launched last & mid-mile deliveries with eco-friendly solutions. Further to their policies on green logistics they have increased their EV trips by 3 times

d) Green Line Mobility Solutions signed a partnership deal with JSW Steel for creating a LNG Powered truck for freight transportation via state to state,which in turn will reduce the emissions by 50 %.

e) Mahindra Logistics opened a green warehouse with solar panels utility for electricity generation which operates sustainably without causing any environmental harm.

6. Implementation Of Green Logistics:

The Logistics Providers must select the apt technology and adopt creative business models to implement Green Logistics.

Technology selection must comply with the vehicle utility eg : for longer duration deliveries EV's are way better than CNG & LNG .For Inter -City Transportation CNG's are the best.Utility Of AI for energy



wastage reduction and optimization also benefits the green logistics as it helps us on informed and proactive decision making.

With regards to the innovative business models we can adopt :

Sector -Wise Specializational Delivery :The Organisations in the market can deliver sector based solutions catering to the needs and demands arising.

Adaptation Of 1PL to 5PL: Organisations can take the support of 1PL to 5PL (Fifth Party Logistics) for their activities eg : Amazon & Alibaba who embraced the 5PL for their organisations ,embracing 5PL automatically signifies greater benefits such as Cost Savings,Time Savings,Flexibility & Scope for more concentration in other weak areas.

Matching the proper technology with practical business use cases and adopting innovative business models helps them to meet sustainable and environmental demands and goals ,thus demand creates in the industry .

With regards to the supply side, the OEM's (Original Equipment Manufactures) can design the various vehicles for catering specialised applications ,customising the vehicle manufacturing will reduce wear and tear of the vehicles providing value to the logistics services and providers.Also OEM providers can manufacture vehicles keeping in mind of reducing the carbon emissions with sustainable fuel utility for the vehicle which in turn reduce the emissions to the environment.

7. Conclusion:

The Green Logistics Market is poised for a slow and steady growth with the large enterprises setting up the bars high ,and Small Enterprises struggling to cope due to infrastructural and cost constraints.India holds a significant position in the global green logistics space as it contributes 8%.The main growth drivers are governmental schemes and initiatives which drives and promotes the growth of green logistics market.Warehousing ,Distribution and Transportation are key services through which green logistics are promoted.Also Manufacturing sector finds major applications with regards to the green logistics.Only certain states and UT's are moving ahead in the green logistics space.

8.Practical Implications:

The above information is useful for various stakeholders:



Logistics Organizations : The Logistics Organisations would be able to understand the potential of venturing into the green logistics space ,they would be able to make the decisions whether to venture or not .

Investors: The Angel Investors would be able to understand the full potential of the industry and decide whether to invest in the sector or not with the data of CAGR, and etc.

Academic Literature:The report will act as a source of literature for all the students ,professors and research scholars.

Market Researchers:The Organisations that serve the other clients via market research activities can easily access the market details through the paper in a clear and concise manner.

9. Recommendations:

I recommend the big players to support the SME's to venture into green logistics activities such that the forecasted growth rate can be improvised in the real practical scenario as SME's are not able to adapt Green logistics because of lack of infrastructure and budget constraints .I urge them to formulate a Large Enterprise -SME partnership with relevant stakeholders such as OEM,and etc to foster and speed up the growth of Green Logistics space. Awareness of the Green logistics market needs to be spread more in the community especially : Academic Community ,Professional Community and Personal Community so that people will understand the importance of green logistics at all levels.

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