Technology Empowering Sustainable Freight Transport A Carbon Emissions Reduction Guide for Truckers

Among the several measures undertaken by China to achieve "Carbon Peak and Carbon Neutrality" in the field of road transportation, optimizing transportation demands for road freight is closely linked to reducing transportation distances and improving logistics relationships. Rational logistics route planning can effectively shorten logistics distances, reduce unnecessary travel activities, enhance transportation efficiency, reduce traffic congestion, improve road safety, and decrease greenhouse gas emissions.

Road freight transportation is the core battleground for carbon reduction in China's transportation sector. Enterprises are the key players in achieving "Dual Carbon" goals. By emphasizing green initiatives and harnessing technology, the transportation industry can achieve high-quality development. FTA Group utilizes technologies such as big data, cloud computing, and artificial intelligence to efficiently match supply and demand and optimize routes. This significantly reduces the occurrence of the "three empties" (empty travel, empty space, and empty load) in road transportation, consequently lowering the carbon emission factor per unit of transport turnover. The improvement in the actual load factor of road freight directly corresponds to a decrease in the carbon emission factor per unit of transport turnover, thereby helping road logistics reduce greenhouse gas emissions and contributing to the achievement of "Dual Carbon" goals in the transportation sector.

——World Resources Institute (WRI)

-Full Truck Alliance Group



PART 1

Building a Foundation

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In the past, for the traditional offline model: Finding cargo for truckers was mostly a matter of luck, often relying heavily on personal relationships with shippers. Truckers were accustomed to waiting for days in empty parking lots, driving tens or even hundreds of kilometers to pick up cargo was common, only to discover that their trucks weren't fully loaded when they arrived.

Now, for the online model: Smartphones equipped with apps like Yunmanman and Huochebang have revolutionized the way truckers operate. They can efficiently find cargo without long idle periods, pick up cargo nearby to avoid empty driving, and quickly consolidate shipments to minimize empty loads.



Let's take the example of Mr. Li, a trucker operating a 13-meter ladder truck. He frequently travels a route from Zhangzhou, Fujian province to Keerqin, Inner Mongolia province.

One-way distance: **2,966** kilometers Cargo weight: **40** tons Cargo type: primarily machinery and equipment One-way cargo turnover: 117,000 ton-kilometers

Year-round transport of machinery and equipment from Fujian to Inner Mongolia, supporting infrastructure development in the western region)

Empowering Truckers on the Platform to Enhance "Greenness" In recent years, FTA's total carbon emission reduction has reached nearly 10 million tons

Average load factor in 2022: Annual carbon reduction: 8.2 tons of CO2 emissions

Equivalent to saving **309** liters of fuel and reducing fuel costs by **2218** RMB per year. Tire wear was reduced by at least **0,6** tires, saving a total of **1,500** RMB in tire costs. Vehicle maintenance costs saved 326 RMB.



Carbon Account Report: Mr. Li's Achievements After 3 Months

On June 5, 2023, the FTA pioneered the launch of "Carbon Accounts" for over 3,000 truckers nationwide. Mr. Li became one of the first truckers in the country to own a Carbon Account.

Over the course of three months: Order volume increased by **13.3%** compared to the previous month. Freight income grew by **11.4%** compared to the previous month. Fuel consumption decreased by **22.8%** compared to the previous month. Fuel costs reduced by **24.56%** compared to the previous month.

Expert Commentary on FTA's Carbon-Inclusive Platform

The introduction of FTA's Carbon-Inclusive platform, with the provision of Carbon Accounts for truckers, marks a significant step toward promoting sustainable development in road freight transportation. This initiative offers a novel technological pathway to address environmental concerns within the industry.

Moreover, it's encouraging to see that the platform also contributes to the cultivation of fuel-efficient driving habits and a heightened awareness of energy conservation and carbon reduction among a wide range of truckers. By translating green and low-carbon ideals into practical actions at the execution level, this platform truly brings environmental sustainability to the forefront of the industry.





PART 2 Collaborating with Truckers to Create a "Green Road" in Road Freight Logistics

On the FTA's platform, there are countless truckers like Mr. Li, who incorporate energy-efficient equipments and develop fuel-saving driving habits in their daily road transportation operations. These truckers are contributing to the growth of green freight transportation.

Top 5 Carbon Reduction Highways

1. Shanghai-Chongqing Expressway 2. Shanghai-Chengdu Expressway 3. Shanghai-Guangzhou Expressway 4. Suzhou-Tianjin Expressway 5. Jinhua-Ningbo Expressway

Top 5 Carbon Reduction Routes

- 1. Chengdu to Chongqing
- 2. Shanghai to Chengdu
- 3. Shanghai to Guangzhou
- 4. Suzhou to Tianjin
- 5. Jinhua to Ningbo



Carbon Reduction Through Technology - FTA's Carbon Road Initiative for PART 3 "Challenging but Correct" Actions

Measurable

Collaborating with the China Classification Society, FTA has released the "Technical Specification for Greenhouse Gas **Emission Reduction Assess**ment of Intelligent Matching Systems for Road Freight Transportation." This marks the first collective standard for carbon reduction in the field of road freight matching transactions in China, making carbon reduction in road freight "measurable."

Quantifiable

Utilizing transport big data and proprietary algorithms, FTA has the capability to microscopically measure the carbon emissions of each order. Based on this, truckers participating in emissions reduction efforts are ranked and awarded green credit ratings.

Visual

Creating carbon accounts for truckers and rewarding them through carbon reduction points truly engages truckers in the "Dual Carbon" initiative, enhancing their sense of achievement and honor.

Certifiable

Third-party professional organizations conduct authoritative certification, utilizing technologies like blockchain to make data like "carbon footprints" more secure and trustworthy.

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Tradable

With the launch of Carbon **Credit Emission Reduction** (CCER) and local carbon-inclusive markets, individuals can realize the value of their carbon assets through carbon trading, allowing truckers to enjoy the benefits both of "energy-saving and carbon reduction" achievements.



PART 4 Striving for the Future - Two 20% Initiatives to Accelerate the Industry's "Dual Carbon" Goals

Reducing Industry Empty-loaded Rates by 20%

Conclusion

The path to carbon reduction in road freight transportation is indeed challenging and lengthy, but as long as we persevere, we will eventually reach our destination. FTA Group has dedicated over three years to exploring and practicing in the realm of green freight transportation. In the grand journey of green logistics, our efforts might be just a small step. However, we remain committed to our initial principle of open and win-win cooperation. We aspire to work hand in hand with more partners to build a carbon-inclusive platform for road freight transportation, ensuring that the achievements of "Dual Carbon" benefit even more truckers. Together, we can contribute to the healthy and sustainable development of the transportation industry.

Aiding the Industry to Achieve Over 20% Adoption of New Energy Vehicles (NEVs)

