



# 2023 Green Freight Summit

## Alternative Fuel in the MHDV Sector

Márcio D'Agosto / Brazilian Green Logistic Program  
May 18<sup>th</sup>, 2023

- What is PLVB?
  - Vision, Mission, Value
  - Timeline & Present Situation
- Alternative fuels in Brazil
- Fleet evolution & Technology
- Infrastructure
- Emissions reduction potential
- Lessons
- Invitation

# WHAT IS PLVB?



## VISION

PLVB IS THE ONLY BRAZILIAN PROGRAM THAT BRINGS SHIPPERS, CARRIERS & 3PL TOGETHER TO PROMOTE EFFICIENCY AND SUSTAINABILITY IN LOGISTICS!



## MISSION

LEADING COMPANIES OPERATING IN DIFFERENT MARKETS AROUND THE WORLD MUST TAKE THE PROTAGONISM IN PROMOTING THE TRANSFORMATION OF LOGISTICS IN THE SEARCH OF EFFICIENCY AND SUSTAINABILITY.



## VALUE





SETTING - UNDERSTANDING – TRAINING – RECOGNITION – CERTIFICATION– EVOLUTION – REVISION - EXPANDING

2016

2017

2018

2019

2020

2021

2022

2023



## ALREADY BEING USED



MHDV

Mandatory (regulated by the government since 2005)

Blend of 12% in volume in low-Sulphur diesel (fossil) S10 B12  
S10 B15 in 2026.

BIODIESEL



CNG



BIOMETHANE

LDV & MHDV

Compressed Natural Gas (CNG) - 90% methane

Biomethane – 95% methane from biogas

2005 to 2010: introduction – since 2011: growth



ETHANOL

LDV & MDV

Mandatory (regulated by the government since 1970)

Blend of 27% in volume in gasoline (fossil)

Use in flexible-fuel vehicles

## TO BE INTRODUCED



HVO

MHDV (Drop-in)

Infrastructure set-up

Middle term (5 to 10 years)



Synfuel

MHDV (Drop-in)

Research stage

Long term (10 to 20 years)



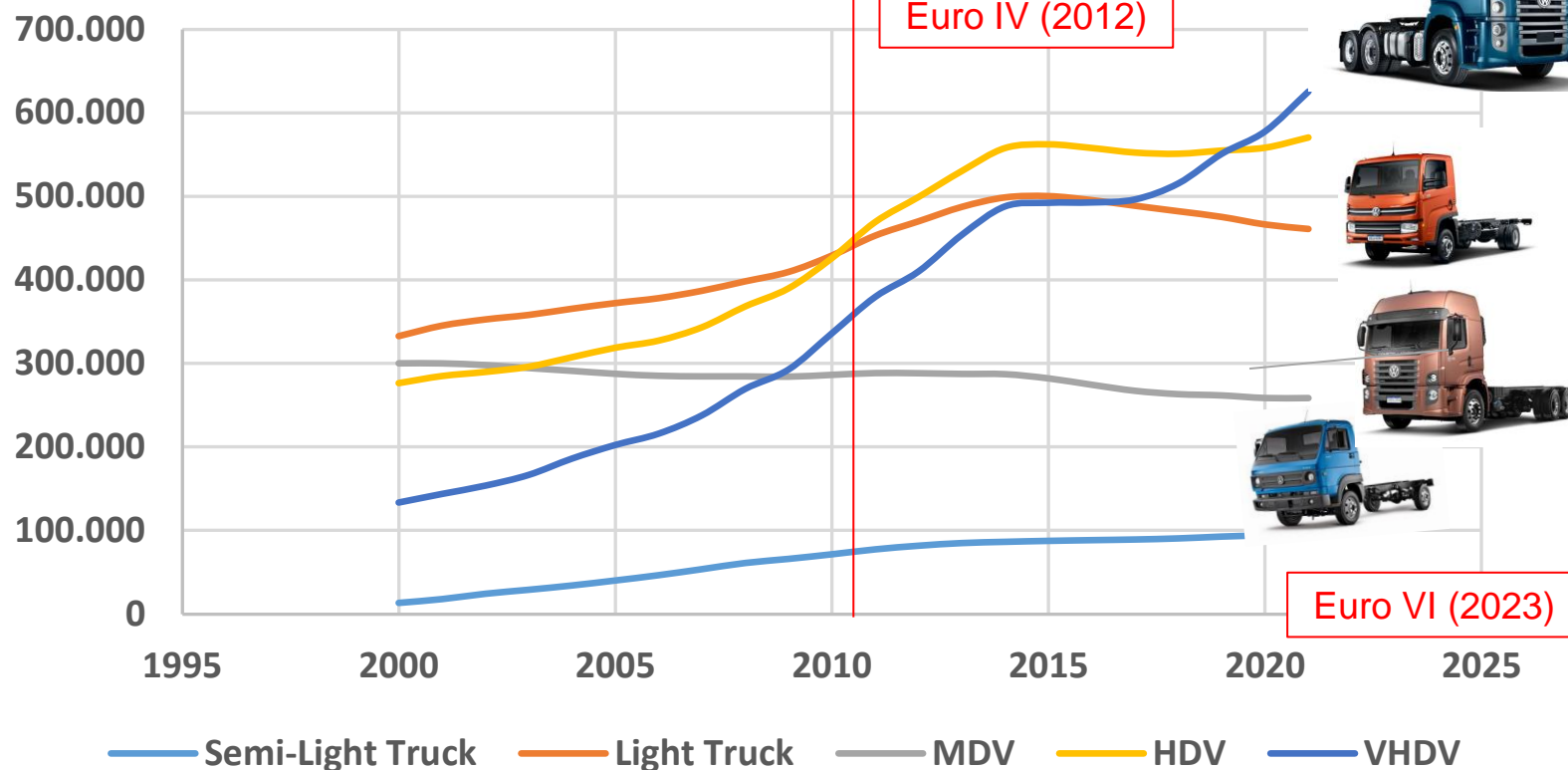
H2V

MHDV

Research stage

Long term (20 to 30 years)

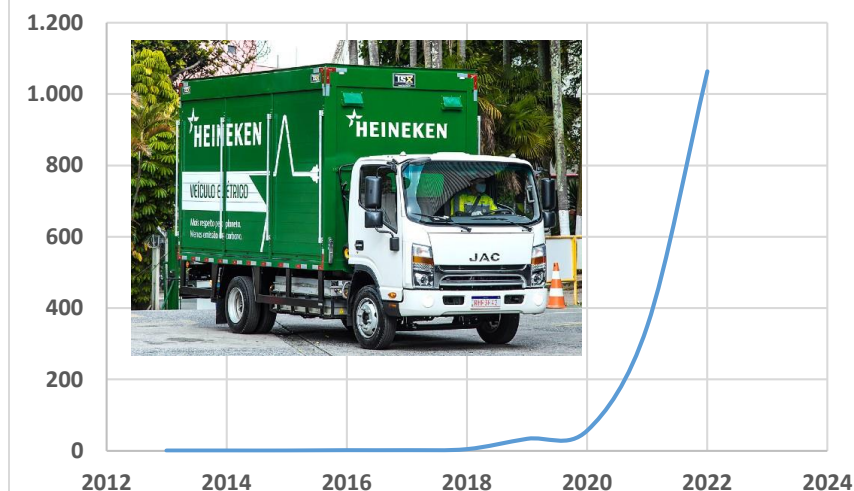
## Truck Fleet Evolution (Diesel S10 B12)



## CNG & Biomethane HDV



## Eletric Light Trucks



Semi-Light Truck ( $3,5t \leq \text{TGW} < 6t$ )
Light Truck ( $6t \leq \text{TGW} < 10t$ )
MDV ( $10 \leq \text{TGW} < 15t$ )
HDV ( $15 \leq \text{TGW} < 40t$ )
VHDV ( $40 \leq \text{TGW}$ )



BIODIESEL

- ✓ S10 B12 is blended at fuel suppliers.
- ✓ Distribution all over the country
- ✓ Biodiesel (FAME) produced from soy bean oil (most of it), cotton oil and beef tallow.



CNG



BIOMETHANE

- ✓ CNG distributed mostly near the coast (Southeast and South Regions)
- ✓ CNG high flow refueling dispenser at “gas stations” – refueling in less than 20 min (very few).
- ✓ Biomethane from landfills, sewage treatment station & biomass (agriculture and livestock).



# EMISSION REDUCTION



## Example of Best Practices & Results (Carriers) Use of cleaner energy sources

**3<sup>rd</sup> Edition**



Mileage:  
617.516 km/year  
1.350 round trips

Bled:  
30% Biomethane  
70% Methane

Savings:  
34,90% CO<sub>2</sub> emissions  
19,44% Costs





## **Long haul (1,000 to 2,000): S10 B15 + HVO**

Most start HVO production infrastructure



## **CNG & Biomethane (FTL, 200 to 500 km/trip)**

Most consider high flow refueling dispenser



## **Electric trucks (LTL, urban freight transport)**

“Sun to Wheel” solution



## **Synfuel & H2V – to be developed**

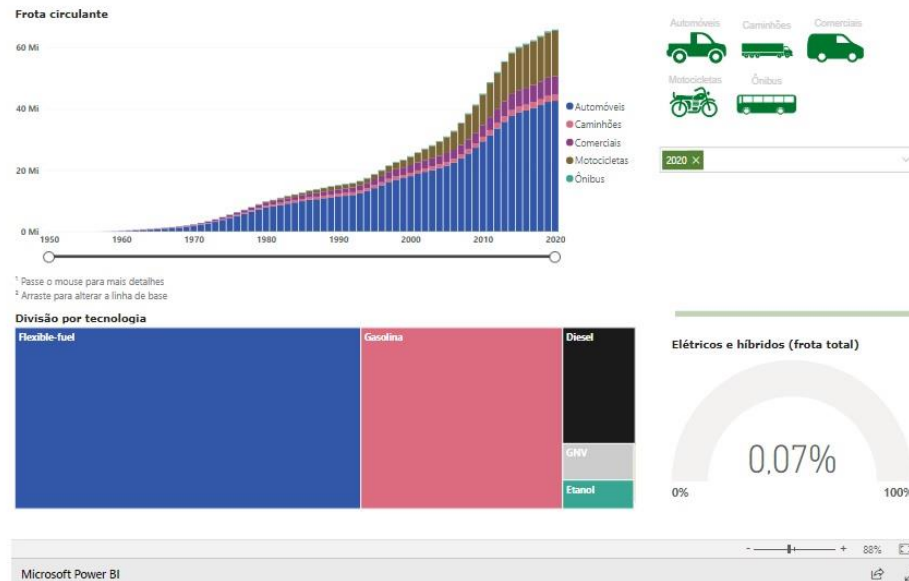
Step by step action plan.

OBSERVATÓRIO DE SUSTENTABILIDADE EM MOBILIDADE E LOGÍSTICA

O OSML + Conceitos + Atividade + Energia + Emissões Contato

Frota circulante

Como entender esses números?

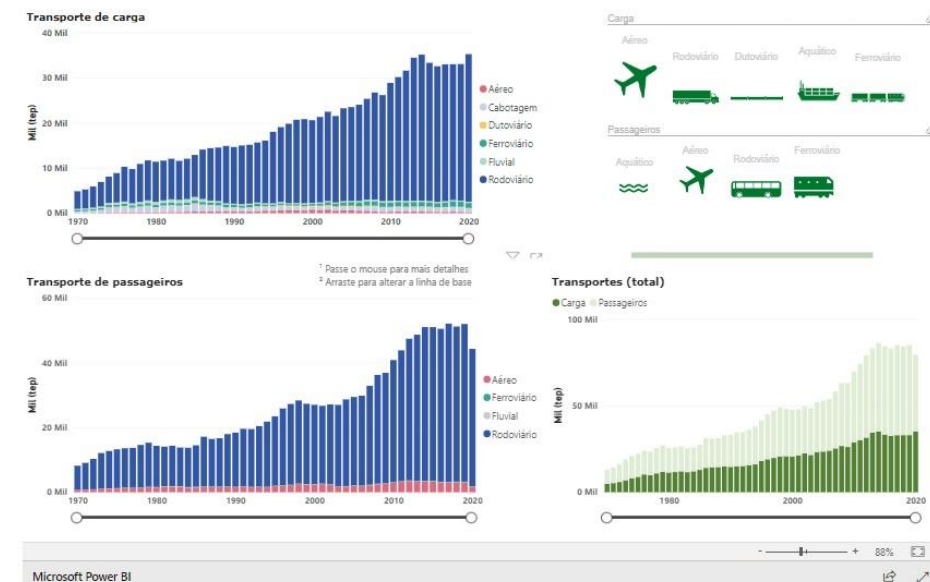


OBSERVATÓRIO DE SUSTENTABILIDADE EM MOBILIDADE E LOGÍSTICA

O OSML + Conceitos + Atividade + Energia + Emissões Contato

Consumo energético

Como entender esses números?





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