

BUS PUBLIC TRANSPORT ENERGY CONVERSION AND SUSTAINABILITY : OVERVIEW OF THE REQUIREMENTS AND OEM TRANSFORMATION.

IVECO
BUS

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I V E C O • G R O U P

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2ND EUROPEAN FORUM
PARIS – NOV. 23/24 2023

cares
Future in the making

The premier transdisciplinary
Technical Forum on
Sustainable Manufacturing

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IVECO GROUP PRODUCT RANGE

FINANCIAL SERVICES

BUSES

LIGHT, MEDIUM AND HEAVY
COMMERCIAL VEHICLES

POWERTRAIN

SPECIALTY VEHICLES

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CAPITAL

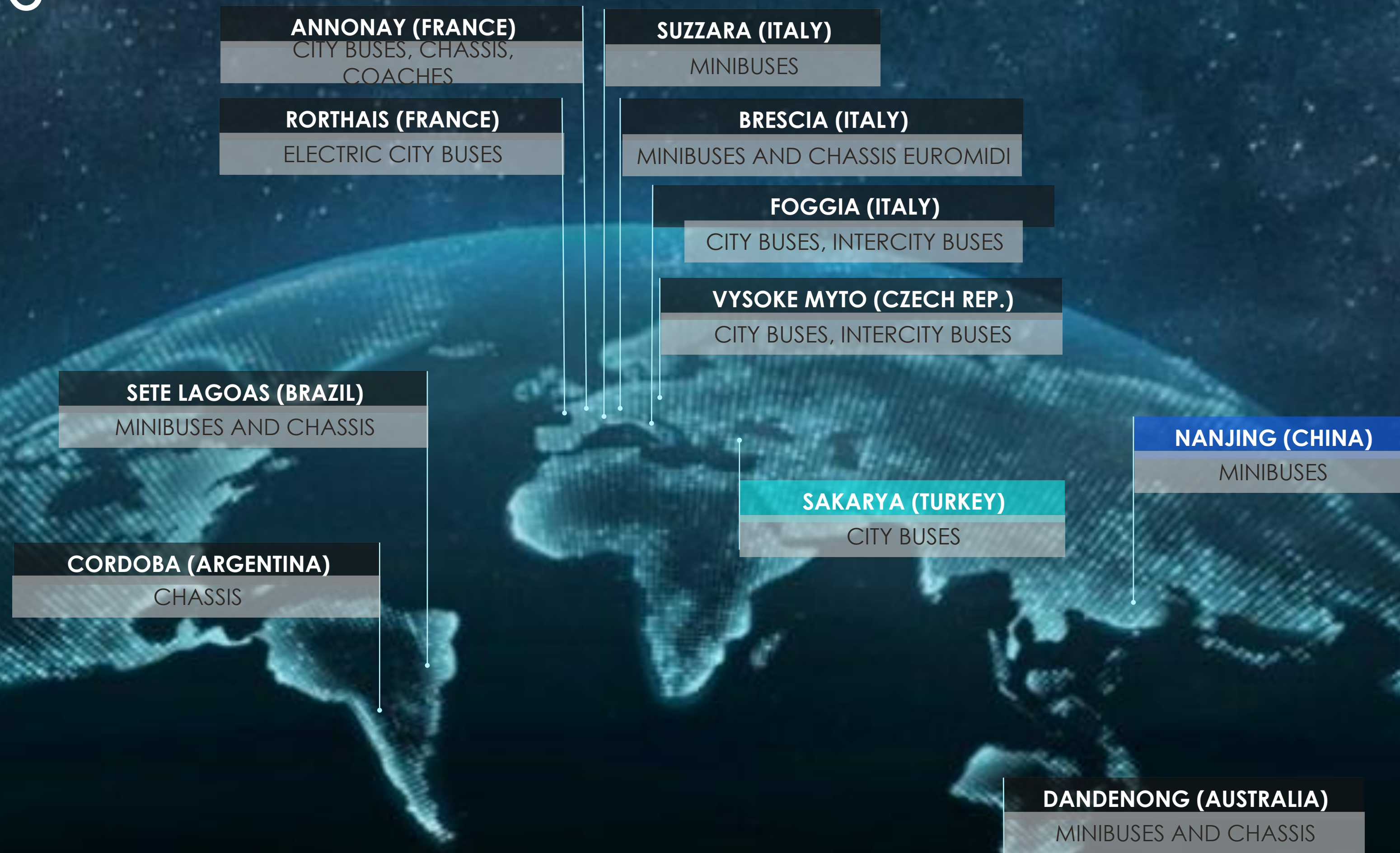
HEULIEZ

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BUS

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11 MANUFACTURING SITES



- 100 % Iveco Group
- Local Joint Venture
- Manufacturing contract




IVECO BUS

OUR BRANDS



IVECO BUS is one of the **major players in the European passenger transport sector** and is expanding globally, with a presence in over 40 countries. A complete range of **urban and intercity buses, tourism coaches, and minibuses** meets the needs of public and private operators, delivering high levels of quality and comfort.

IVECO BUS is committed to **sustainable mobility and low-carbon public transport**, offering a full range of environmentally friendly solutions including **natural gas and electric vehicles**, as well as a widespread service network and connected services.

www.ivecobus.com 



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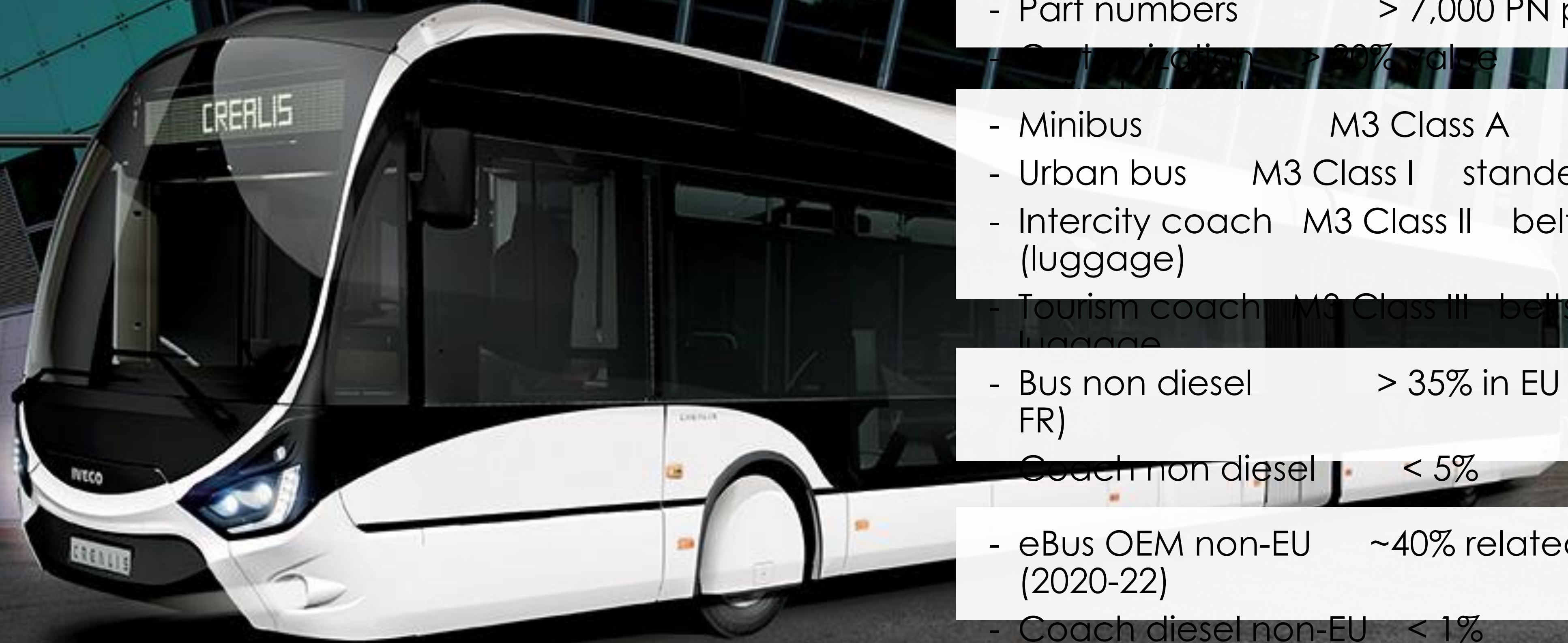
FPT
POWER TRAINS

IDV

ASTRA

MAGIRUS

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FACTS

- EU registrations ~40,000 units p.a.
- Labour intensive > 1000 hours per bus
- Part numbers > 7,000 PN per bus
- Customization > 80% value
- Minibus M3 Class A
- Urban bus M3 Class I standees
- Intercity coach M3 Class II belts - (luggage)
- Tourism coach M3 Class III belts - luggage
- Bus non diesel > 35% in EU (80% FR)
- Coach non diesel < 5%
- eBus OEM non-EU ~40% related (2020-22)
- Coach diesel non-EU < 1%

Sustainable by nature

- Low public space occupancy
- High useage intensity : > 50,000 h
- Low emission / p / km
- High efficiency ICE post-treatment
- Attractive fares

**A modern society is not when
blue collars can afford a car, but
when white collars take the bus**



ENERGY TRANSITION ADVERTISING

TRANSPORT AUTHORITIES AWARENESS TO CONSUMER

To get consumer adhesion
the bus is a human being...



« **I am electric** »

With the e-bus for an environmentally friendly future

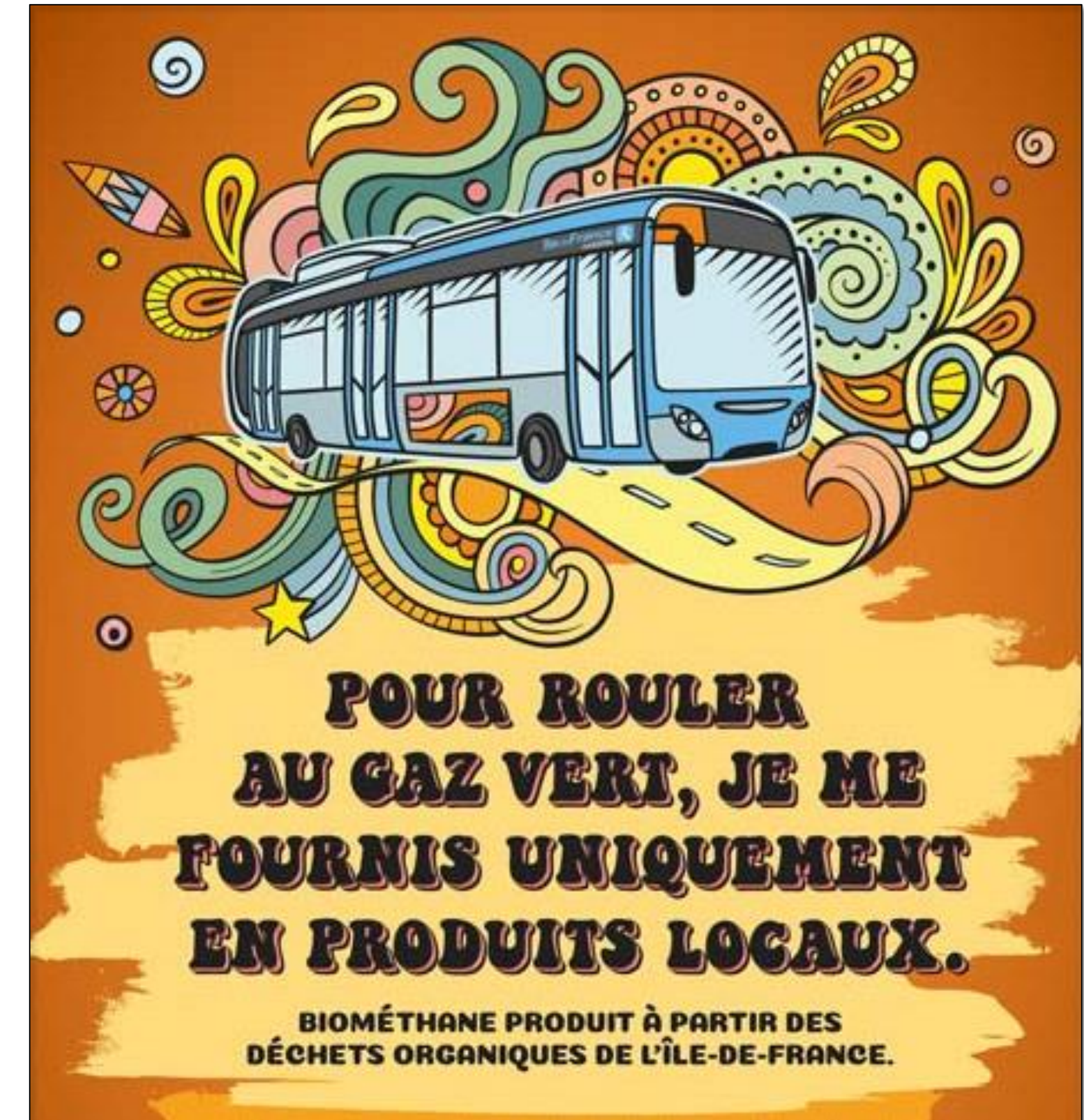
Campaign Traffiq – Frankfurt – 2018



« **Baby don't hear me** »

Welcome in our new e-bus, for a quiet Berlin

Campaign BVG – Berlin – 2021



« **I only need local products to run on green gas** »

Biomethane produced by organic wastes of the Region

Campaign IDFM – GRDF – 2021

METHODOLOGIES FOR GHG REDUCTION

CO2 HDV Regulation	2023 <i>project</i>	Tail-pipe
Corporate Sustainability Reporting Directive	2023 <i>project</i>	LCA
Count Emissions EU	2023 <i>project</i>	Well-to-Wheel
UITP Tender Structure Annex IV Sustainability	2023	LCA
Clean Vehicle Directive	2019	Renewables
Green House Gas protocole Kyoto	2006 1997	LCA

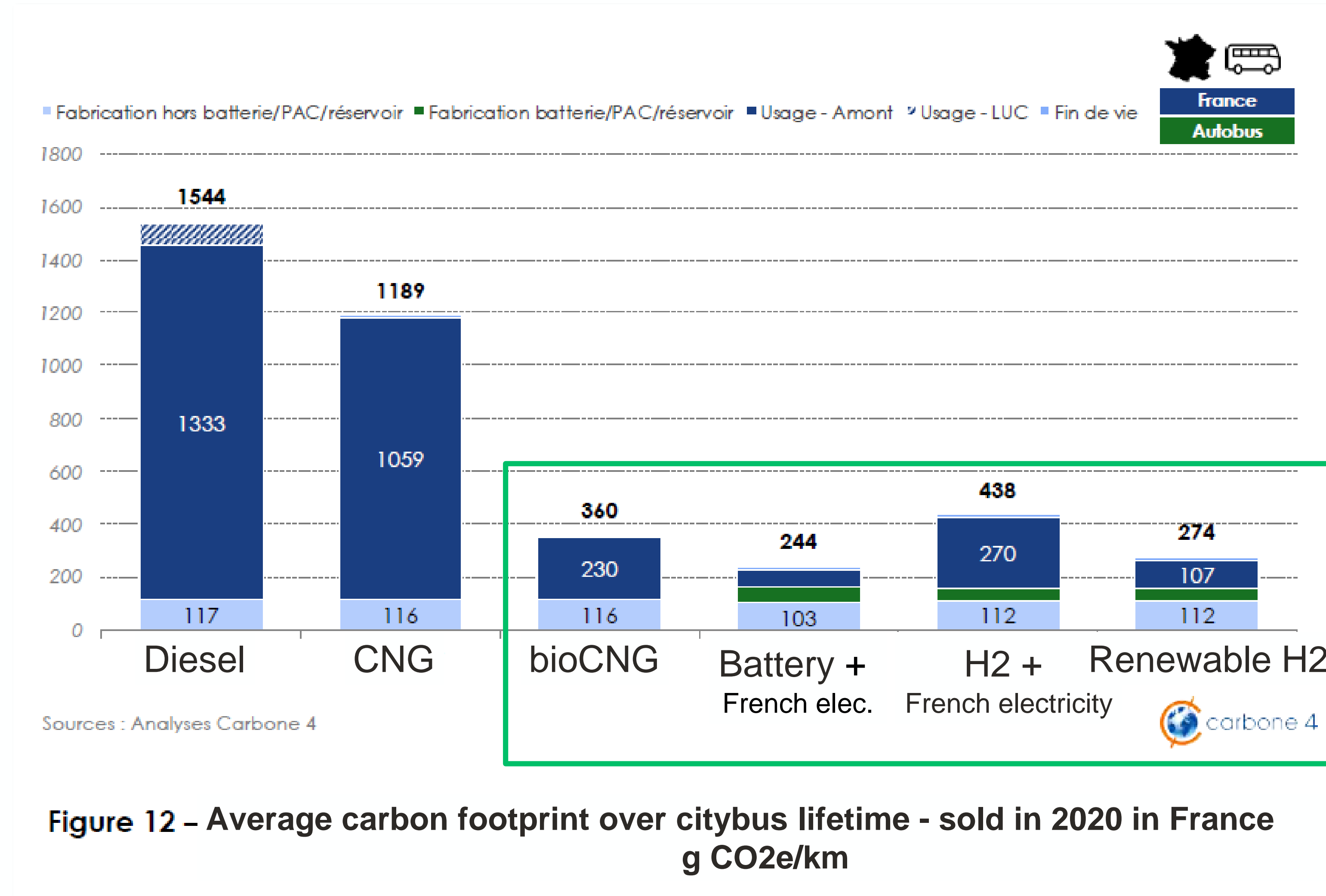
Methodologies to assess GHG emissions of transport must be harmonized

LIFE CYCLE ANALYSIS : WHAT SHOULD BE DONE

- Citybus



October 2020



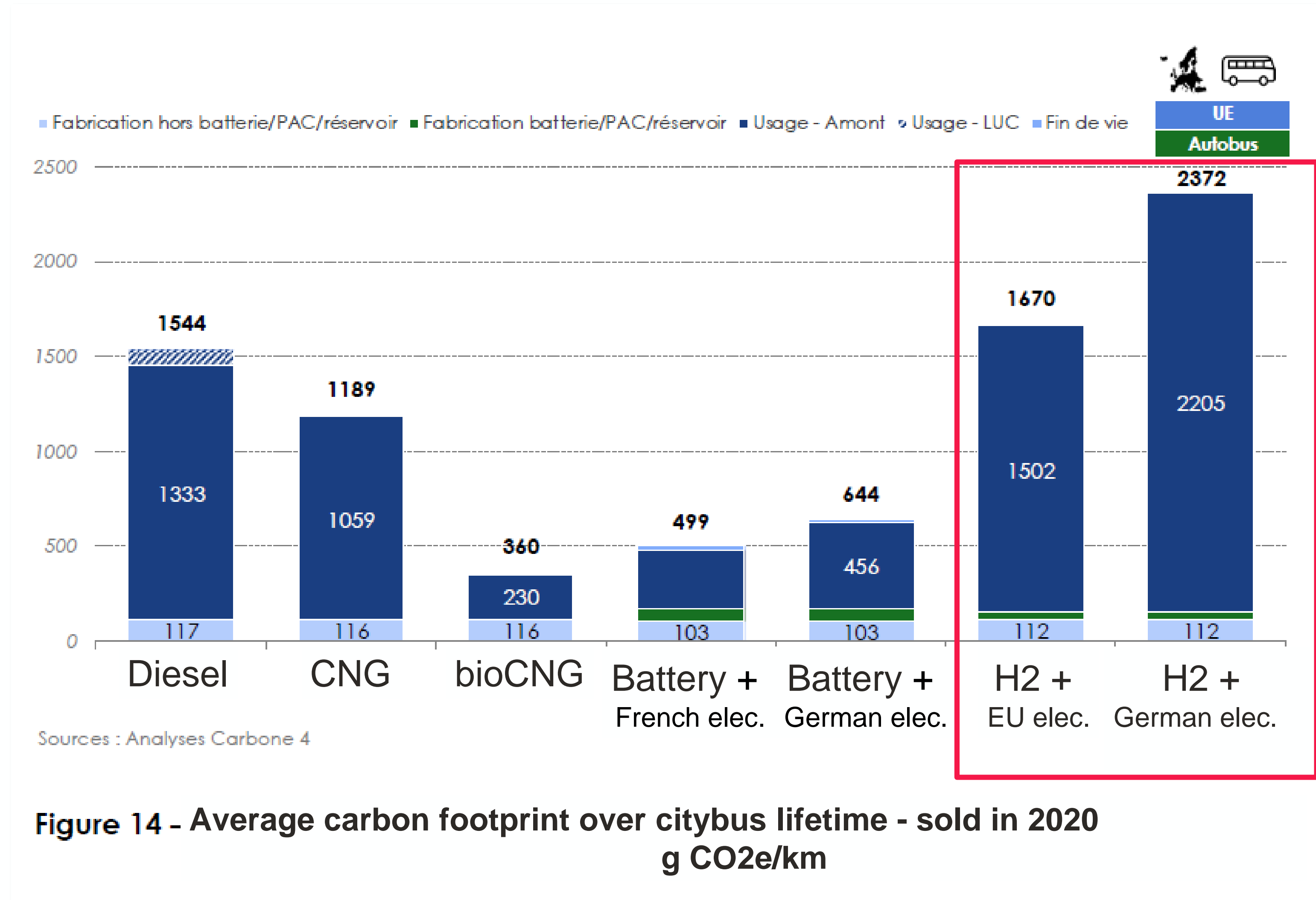
**Figure 12 – Average carbon footprint over citybus lifetime - sold in 2020 in France
g CO2e/km**

LIFE CYCLE ANALYSIS : WHAT SHOULD NOT BE DONE

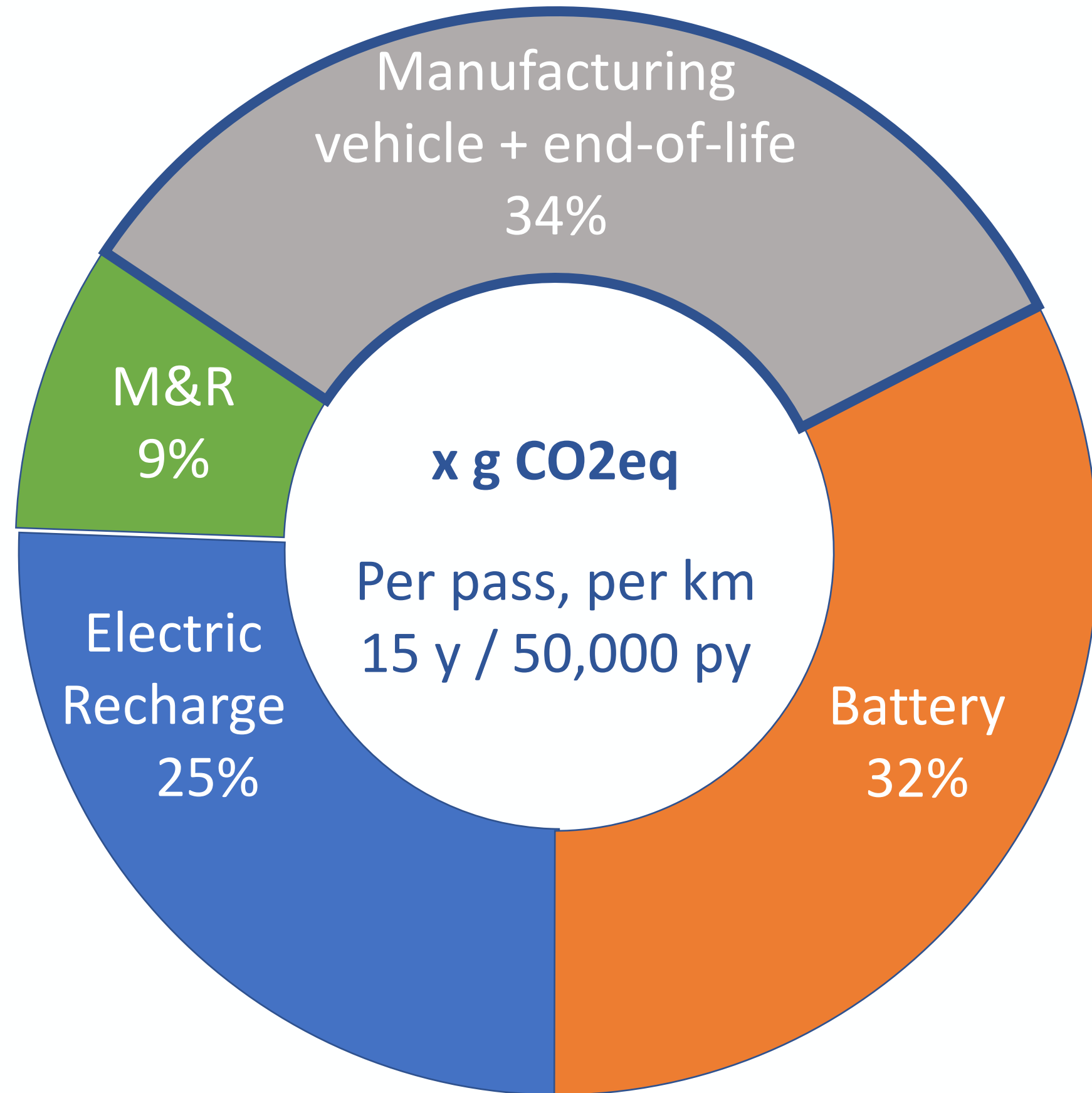
- Citybus



October 2020

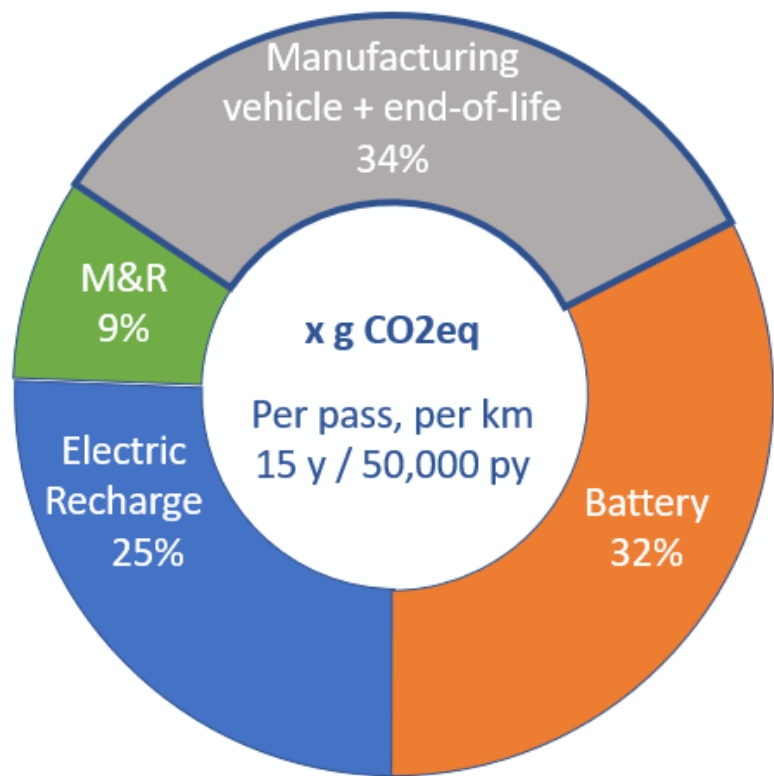


LIFE CYCLE ANALYSIS : CITYBUS / BEV / FRANCE



What is impacting :

actions :



- Energy / Gas for factory
- Recycled material

- Energy saving investments, 100% renewable electricity
- Recycled content : xx% in weight

- Battery Life Cycle
- Battery 2nd life

- New IVG - FPT Battery : long life time, increased warranties
- '4R' : Requalify – Renew – Repurpose – Recycle

- Electricity consumption
- Climatic performance

- Low consumption / recharge
- Heat pump & testing = right design



- Vehicle design & Infras
- Vehicle monitoring

- Turn-Key Solutions
- Telematics



MORE THAN LCA, 'ENVIRONMENTAL & SOCIAL GOVERNANCE'

SUSTAINABILITY  REPORT 2022

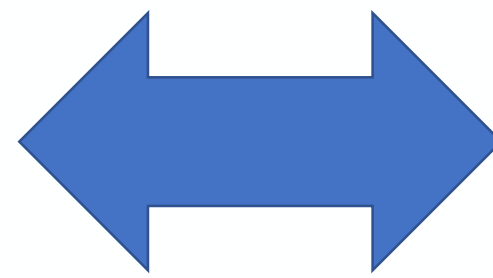
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WE GO BEYOND


WORKPLACE AND
PRODUCT SAFETY

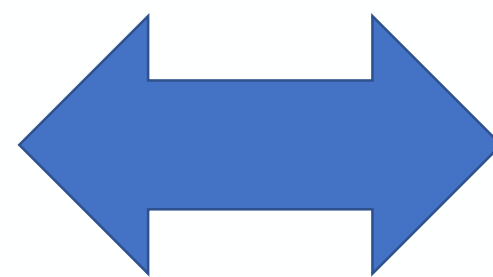


INCLUSION AND
ENGAGEMENT


CARBON
FOOTPRINT



LIFE CYCLE
THINKING



Workforce



Manufacturing





Investments driven by :

- Internal / external benchmarks
- Pay-back
- Rationalisation vs. polyvalence
- Health & safety
- Energy savings
- CO2 emission reduction

Examples of KPI

- CO2 emissions : Bilan Carbone Ademe ®
- Energy consumed per vehicle built & per production hour
- Wastes tonnage & categories incl. landfill wastes
- Industrial water consumption

Factory 4.0

- Connected machineries, cataphoresis, paintshop
- Monitoring performance & behavior
- Decision making tool for ressources & planning

OEM TRANSFORMATION PATH

DIESEL → FULL HYBRID → BEV

New energy buses & diesel : on same production line

- Flexible manufacturing already in DNA
- Contains add-costs & lead-time of new energy vehicles
- Allows incremental training of labour force
- Adaptable production on % Diesel / EV due to tenders batches
- Allows EV parts to be substituted after updated sourcing
- Secures the base for replication in other footprint
- 10 year-long market transformation
- 1 factory now 100% EV + 1 factory non Diesel 80%



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