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Electro-mobility Data for Interdisciplinary Studies

C. Mayet, A. Bouscayrol, et al.

Université de Lille, Université Gustave Eiffel, INSA Lyon, MINES Saint-Etienne, European Metropolis of Lille.

Outline

1 **Context & PEPR MOBIDEC**

2 **Presentation of EDIS Project**
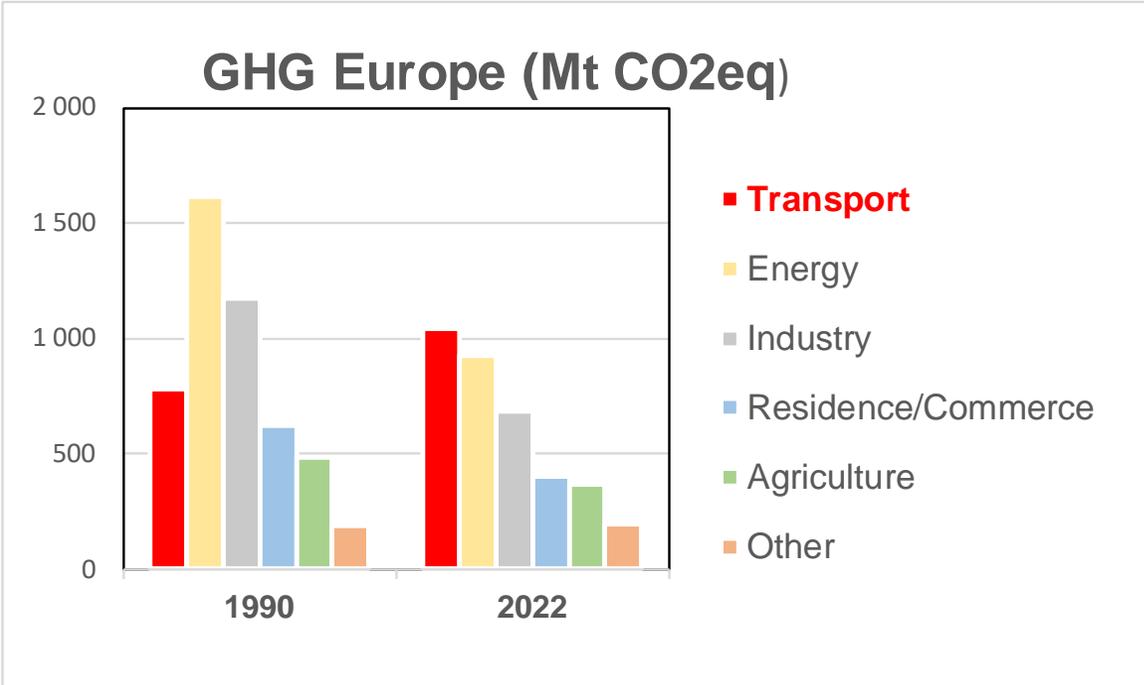
3 **EDIS Implementation**

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Context & PEPR MOBIDEC

Which transport evolution?

Spatiotemporal accessibility of ULille campus for 30min-long trip [Junker 2024]

GHG Europe (Mt CO2eq)

Legend:
- Transport
- Energy
- Industry
- Residence/Commerce
- Agriculture
- Other

Years: 1990, 2022

Transport, only sector still increasing [EEA 2023]

needs of low-carbon mobility

Map labels: Mouscron, Wambrechies, ...ubourdin, Seclin, Lille, Villeneuve d'Ascq, Taintignies, Border France / Belgium

Map legend:
- Bike
- Public transportation
- Car
- Campus

no unique solution

https://www.eea.europa.eu/en/analysis/maps-and-charts/
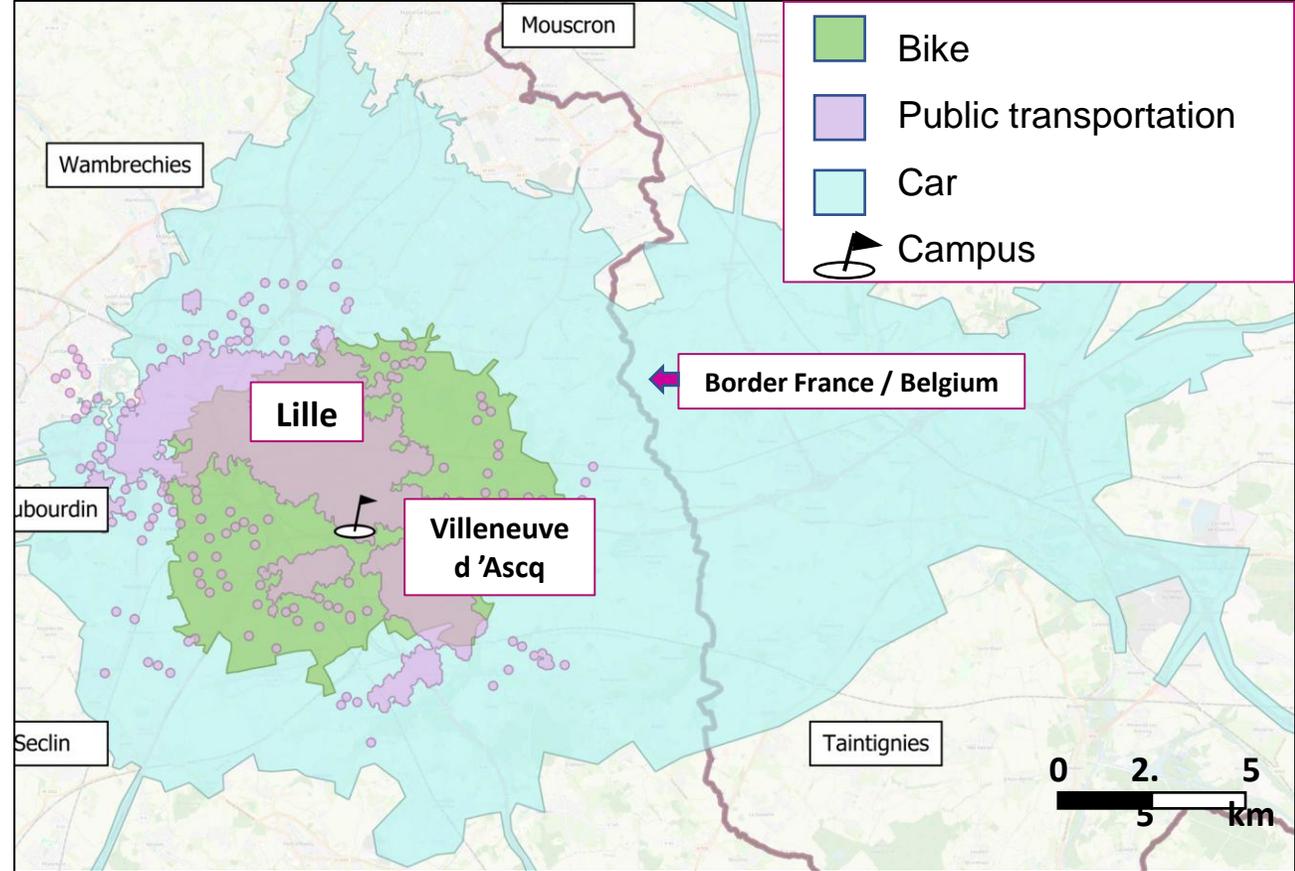
PEPR "Digitalization and Decarbonization of Mobility (MOBIDEC)"

« Creating knowledge and structuring a community around decarbonizing mobility based on data »
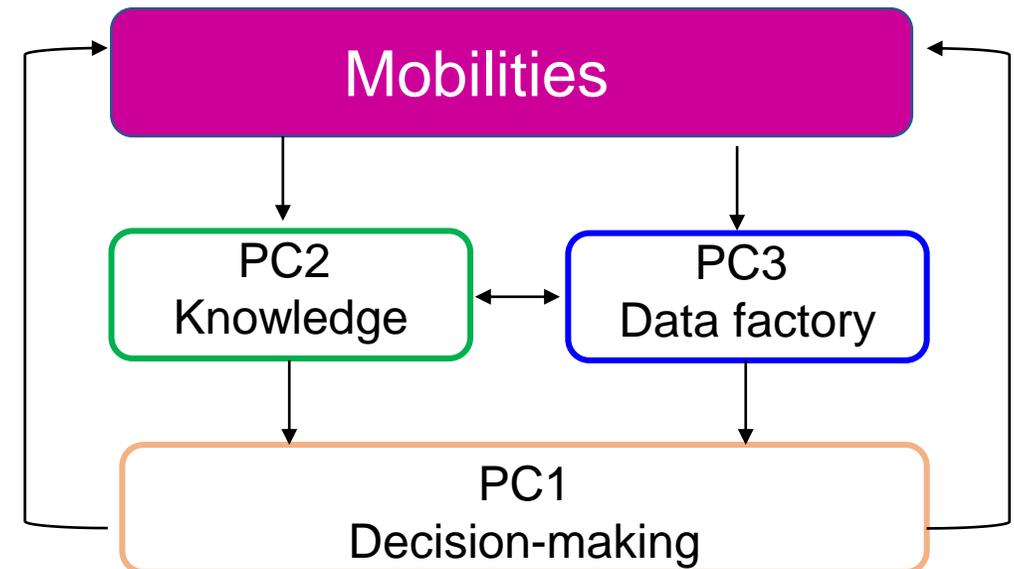
30 M€ over 8 years = 16 M€ for the 3 challenges
+ 8 M€ for CFP1 + 6 M€ for CFP2

3 scientific challenges

PC2 - Improve knowledge of the mobility of people

and goods

PC3 - Make progress in the collection and

processing of mobility data

PC1 - Enable the deployment of decision-making
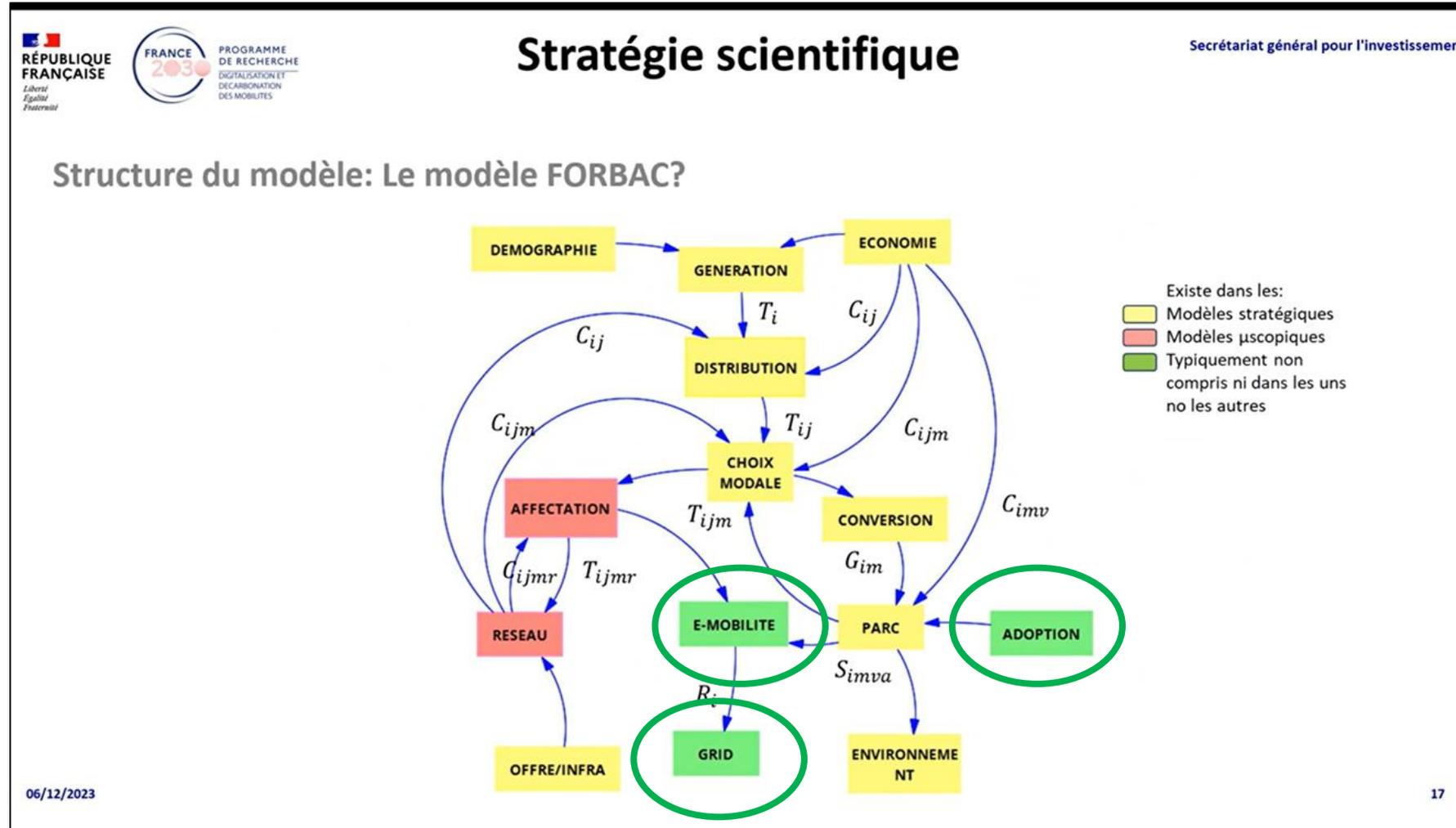
tools and method

https://pepr-mobidec.fr/

Overall e-Mobility data

MOBIDEC webinar 2024:

Missing data:
- e-mobility
- grid
- adoption

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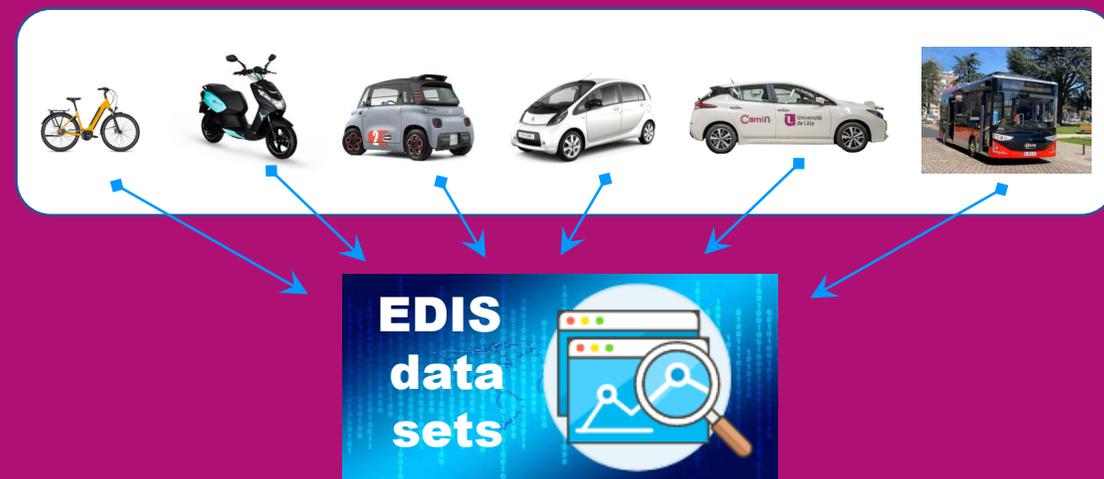
Presentation of EDIS Project

EDIS Objective

MOBIDEC "lack of mobility data for development of relevant decision-making policies"
        (….) especially on e-mobility" [MOBIDEC 2024]

EDIS: **collection and publication of ST & SHS datasets on various types of e-vehicles**
        and their charging points

Not only e-car !

How to collect relevant multidisciplinary data?
How to publish FAIRly e-mobility datasets for Open Sciences?

Scientific Research Questions

- e-mobility is a relatively new mobility

- usages and perceptions are not yet well established

- average data are not relevant vs. the diversity of usages

Need more knowledge on the **different types of e-vehicles** and their charging points

challenge of a common framework

Heterogenous data

EDIS data sets

challenge on Open Data Science

Data management and visualization

data.gouv.fr

PROGRAMME DE RECHERCHE
FRANCE 2030
DIGITALISATION et DECARBONATION des MOBILITES

External – other Databases

ESFRI

External – Exploitation of e-Mobility data

https://www.esfri.eu/

Which data?

EV driving cycle
Lobal indicators:
e.g. GHG/km

EV charging cycle
Lobal indicators:
e.g. GHG/charge

User driving
practices
e.g. daily trip

User charging
practice
e.g. part of
fast charging

EDIS data sets

Indicators (**to be defined**):
- Environmental (GHG…)
- Economical (TCO…)
- Social (charging time….)
- Technical (Energy, battery lifetime…)

User mobility scenarios
for a type of e-vehicle
and charging station

Global indicators:
e.g. LCA-based GHG
for 5 years

Diversity of vehicles and charging points

Vehicle categories (EU)

Cycle	L	M1	M2 & M3

Cycles   2/3-wheelers   Quadricycles   Compacts   Sedans   Buses & coaches

A panel of e-vehicles and e-infrastructures

is being developed

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EDIS Implementation

EDIS Consortium

Field	Lab	Discipline
ST	L2EP	electrical engineering
	Emob-Lab	
	LIRIS	computer sciences
	LIMOS	
	MEL	transport enginnering
SHS	TVES	urbanism & geography
	CLERSE	socio-economics
	MODIS	psychology
	GERiiCO	Information & communication
	S2HEP	

Disciplines: 11 ST & 8 SHS

Gender: 9 F & 10 H

Lille / Lyon: 9 CUMIN & 10 G4M

A balanced reliable consortium

EDIS organization

Methodology layer

Application layer

Digital layer

WP1 – e-mobility framework

rules

WP2 – Driving uses

WP3 – Charging uses

data

WP4 – e-Mobility data platform

data

Axis - Mobility Knowledge

Axis - Mobility Data

Axis - Tools for Decision making

14
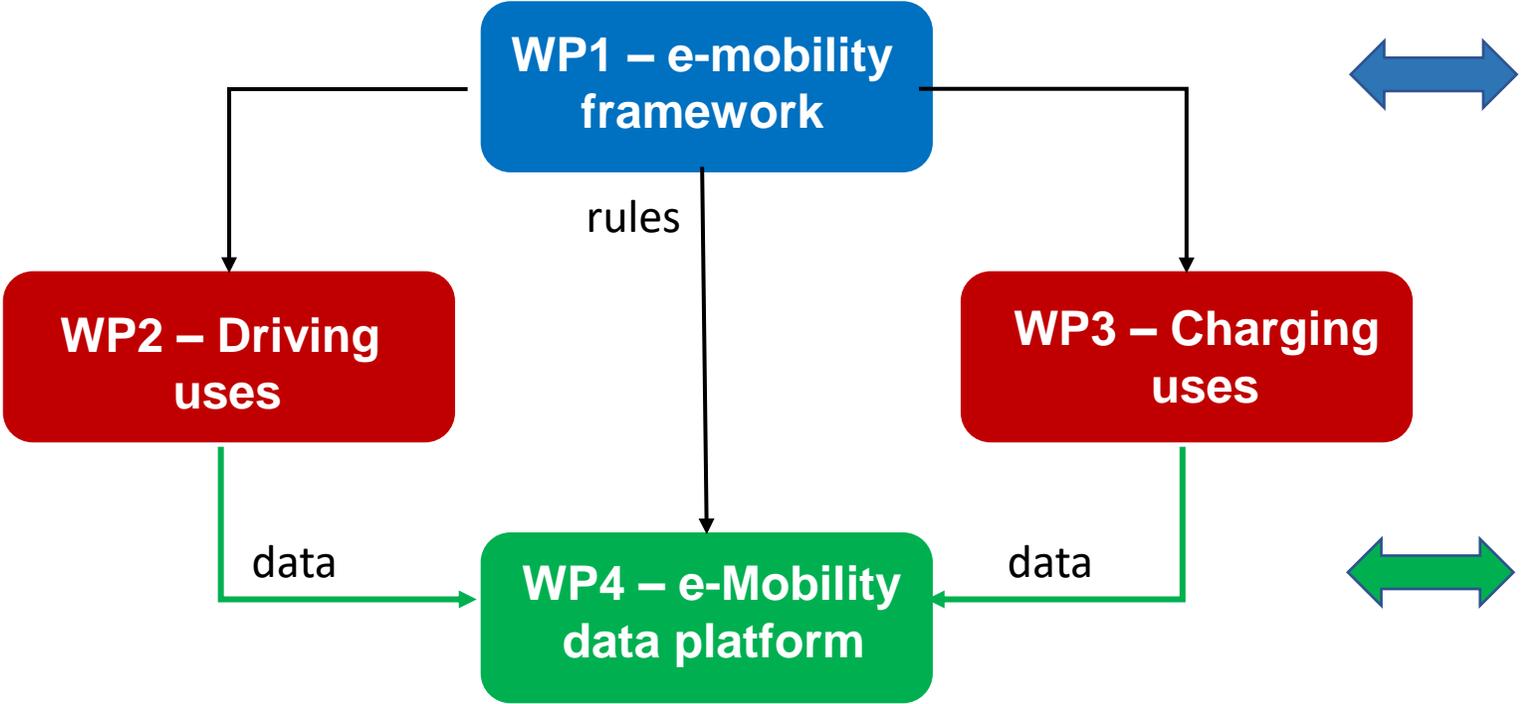
EDIS impacts

KICKOFF of EDIS
Friday, February 6, 2026

Outputs

data collection method

e-mobility datasets

Outcomes

debates and policies

mobility transition plans
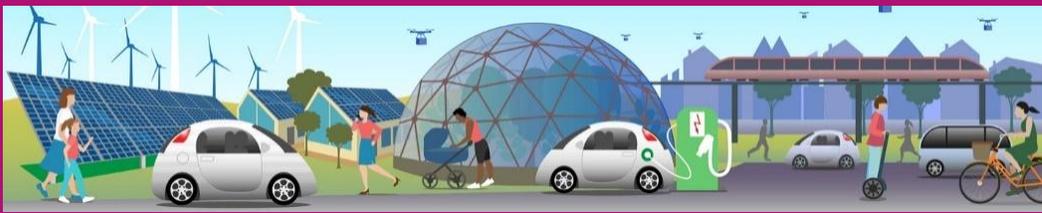
Impact

contribution to Net zero 2050

EDIS

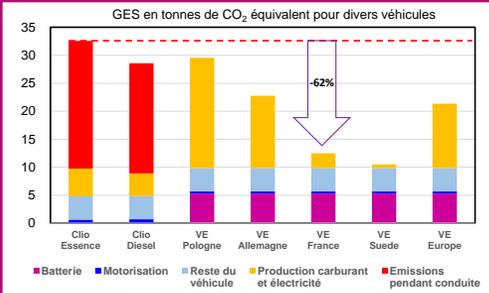2028

2050

e.g., mobility transition plans of Univ. Lille and MEL

e.g., charging deployment plans of UGE, ULyon

MOBIDEC

data for Axis - Tools for Decision making

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