

Master Plan for electric vehicle charging installations on the French National Road Network

October 2024



MINISTÈRE
DU PARTENARIAT
AVEC LES TERRITOIRES
ET DE LA DÉCENTRALISATION

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WAVESTONE



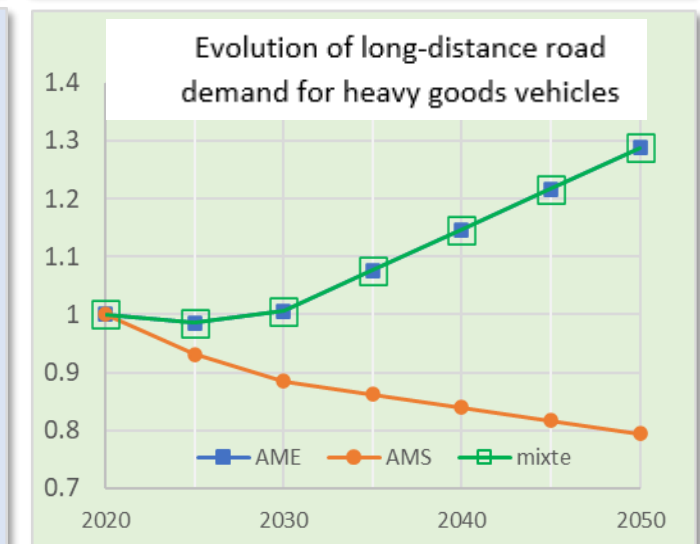
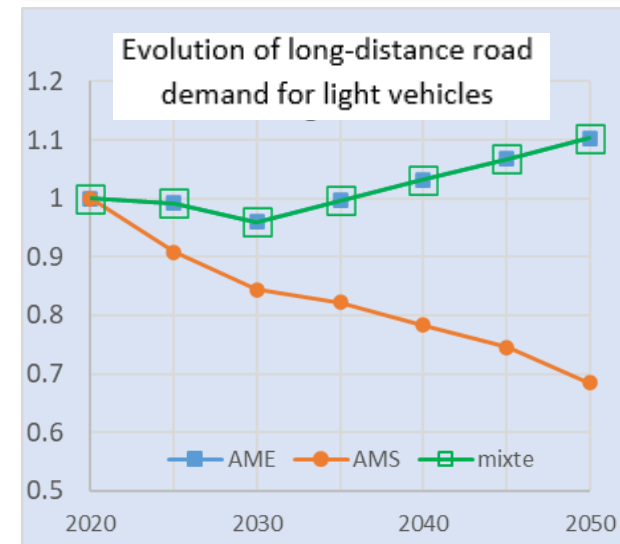
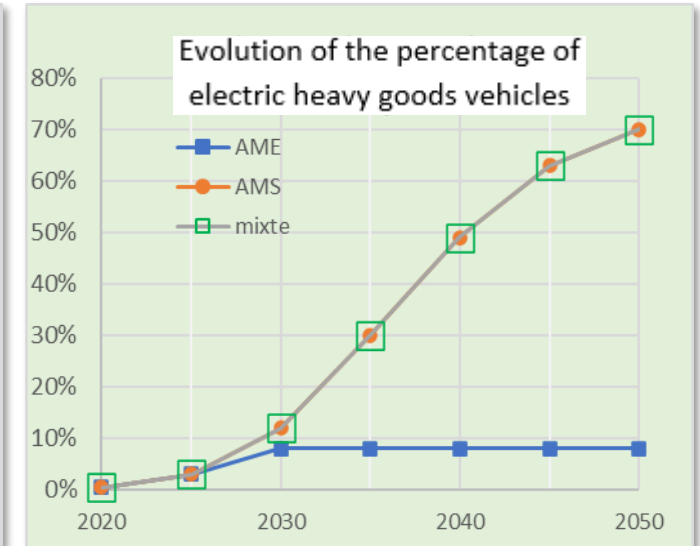
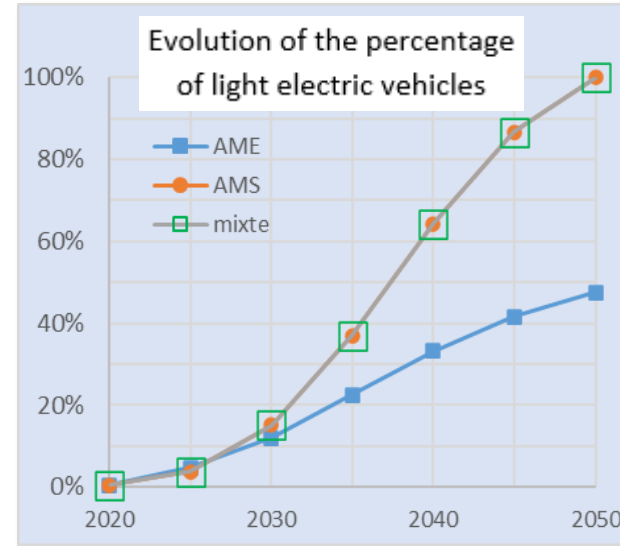
France's ambitions for the electrification of vehicle fleets

The major objectives for mobility

- Achieving **climate neutrality** as a European ambition by 2050
- An **end to sales of the most polluting internal combustion vehicles in 2035**

Two levers

- **Purchase subsidies**
- Development of charging infrastructure, including **fast-charging infrastructure for roaming along the French grid**



Why has the French government decided to draw up a master plan for the deployment of fast-charging stations along the main road network?

1

Encouraging the decarbonisation of road transports

- To adapt the infrastructures present on the service stations on the main road network

2

Anticipating changes in mobility practices and guaranteeing quality of service

- To avoid the saturation of service stations
- To make the user experience more seamless

3

Integrating the constraints of the electricity grid and limiting the costs associated with the deployment of Electric Vehicle Charging Infrastructure

Enable electricity grid operators to:

- Contribute to planning
- anticipate construction work and better organise the allocation of capacity

The scope of the master plan



Geographical

The master plan concerns the **National Road Network** made up of :

- **National road network under concession to private companies**
 - 9 137 km
 - 353 service stations
 - 599 rest areas
- **Non-concession national road network managed by decentralised government agencies**
 - 7 955 km
 - 210 service stations
 - 204 rest areas

Routes of the entire national road network under concession to private companies and the non-concession national road network managed by decentralised government agencies



Temporal

The objectives set out in the master plan are divided into **3 main reference timeframes**:

- **2027**
- **2030**
- **2035**

The objectives of the master plan are also broken down for each type of vehicle (light vehicles (LV) and heavy goods vehicles (HGV))



Metrics

The objectives set out in the master plan are made up of :

- **The range of electric capacity to be delivered to users**
 - The number of charge points to be installed
- > **for each road**

The three main stages in defining the master plan

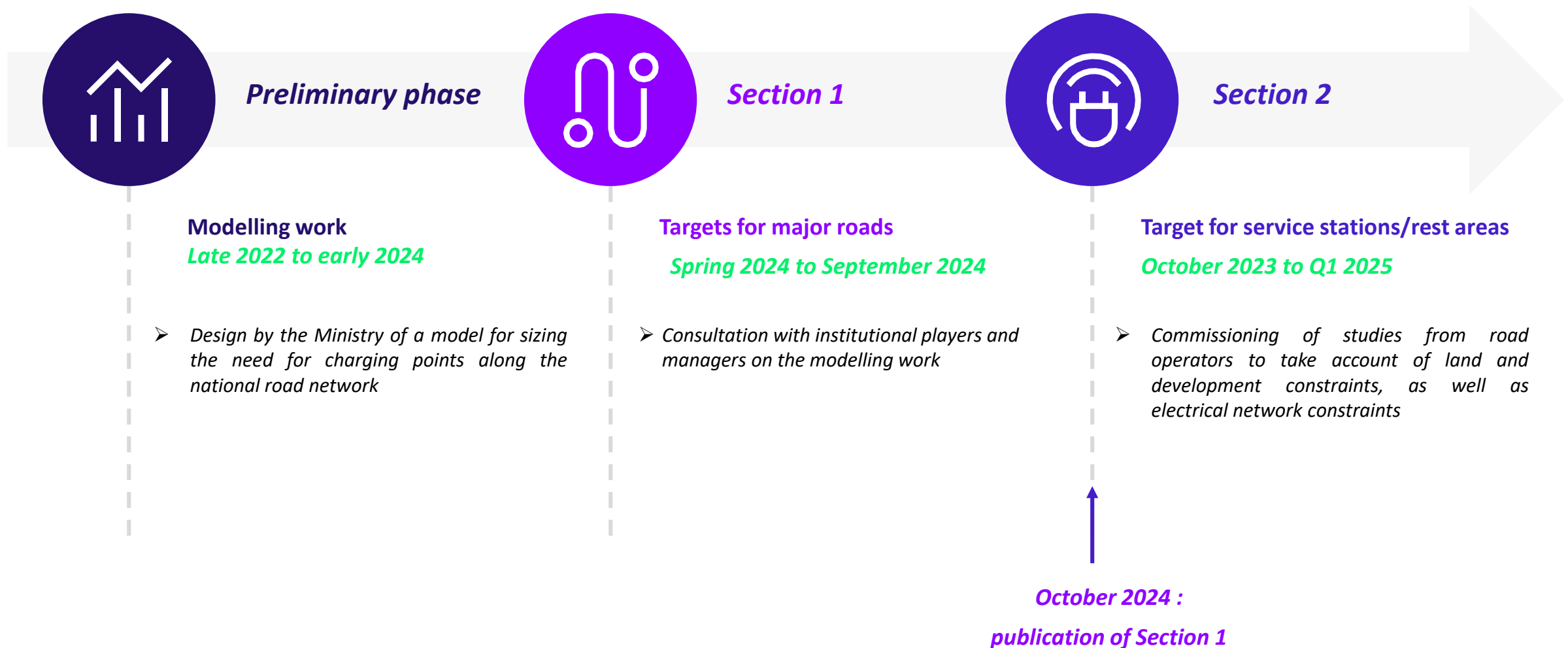
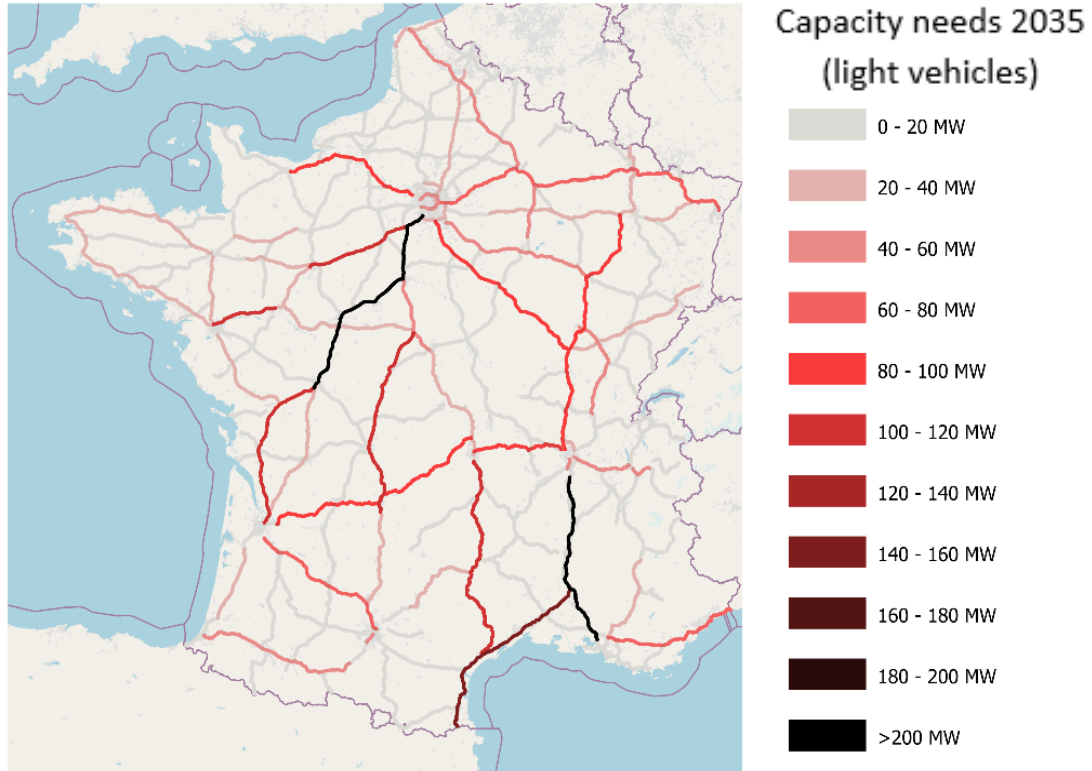


Illustration of the master plan Section 1-



Objectives broken down by route and for each road operator

Timescale	2027		2030		2035	
	Capacity (MW)	Charge points (units)	Capacity (MW)	Charge points (units)	Capacity (MW)	Charge points (units)
A0995	[6,75 : 7,77]	[53 : 61]	[20,78 : 23,90]	[165 : 190]	[28,01 : 32,95]	[228 : 268]
A0996	[0,31 : 0,36]	[2 : 3]	[1,94 : 2,24]	[15 : 18]	[4,29 : 5,05]	[35 : 41]
A0997	[1,33 : 1,52]	[10 : 12]	[2,96 : 3,40]	[23 : 27]	[7,94 : 9,34]	[64 : 76]
A0998	[0,26 : 0,30]	[2 : 2]	[0,98 : 1,16]	[8 : 9]	[3,12 : 3,68]	[25 : 30]
A0999	[0,31 : 0,35]	[2 : 3]	[1,93 : 2,22]	[15 : 18]	[4,24 : 4,99]	[34 : 41]

Merci!



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MINISTÈRE CHARGÉ DE L'ÉNERGIE

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Direction générale de l'énergie et du climat (DGEC)

General Direction for Energy and Climate (DGEC)

The French Multiannual Energy Plan (PPE) 2025 – 2030

First orientations published in december 2023 :

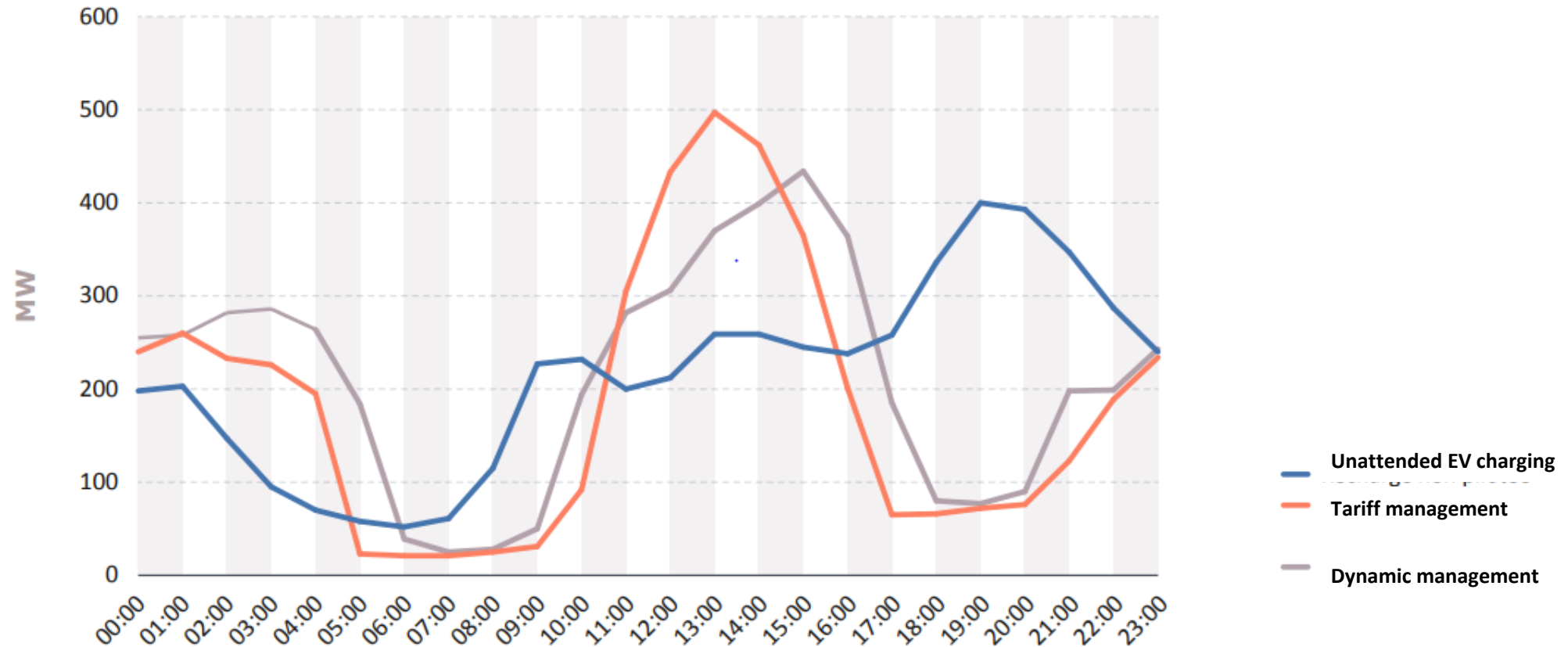
➔ **Objective 2 : adapt our grids** : in terms of investment to connect EV charging stations

➔ **Objective 1 : decrease and better manage our energy consumption**

- « Modulate or shift over time energy consumption especially to smooth out the peaks in consumption during the morning and evening [...] This is typically the case for electric vehicle charging (implementation of vehicle to grid) »

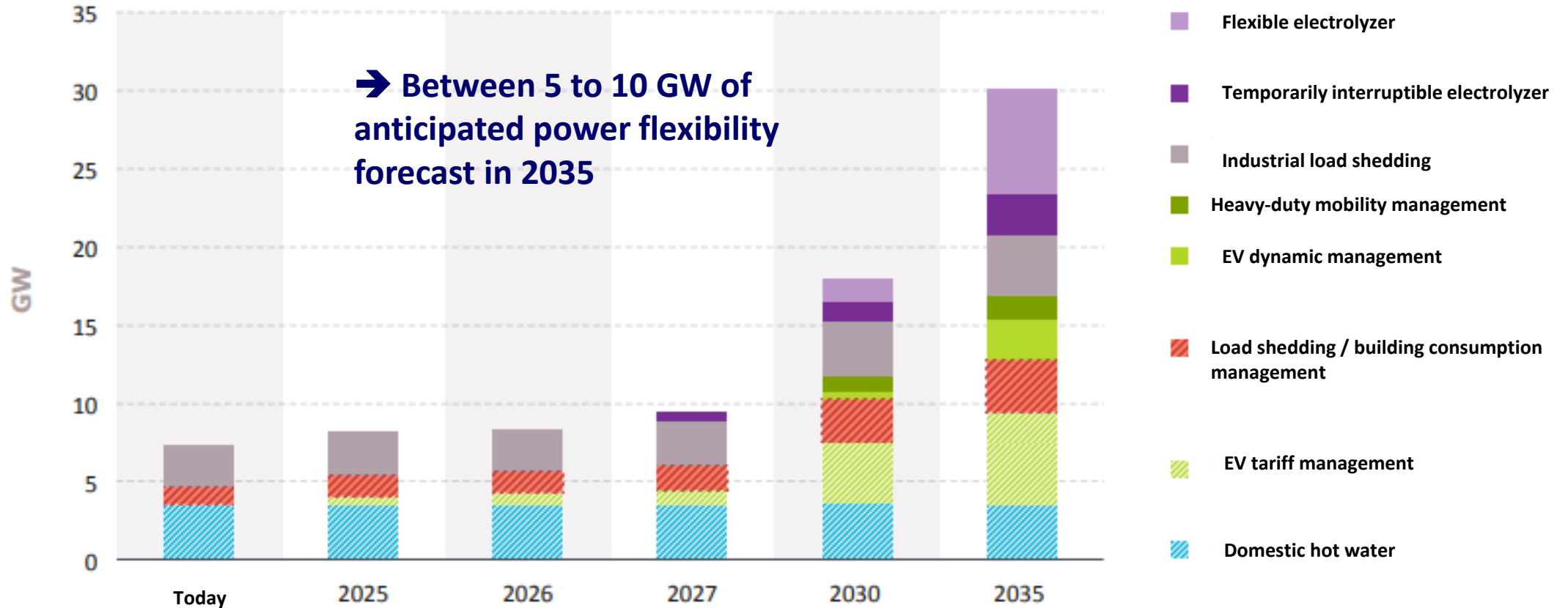


The importance of Electric Vehicle Charging Stations for power grid flexibility



Source : RTE Forecast report, 2023-2035

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Source : RTE Forecast report, 2023-2035

Public policy tools to foster EV charging flexibility

- In 2024, the tax credit supporting the installation of a new EV charging station has been refocused on controllable charging stations
- Tariff lever : the French NRA (CRE) led a reform to adjust the peak and off-peak signals to meet the new needs of the electrical system
- Regulatory sandbox : two requests for experimenting V2G projects