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The role of the National Energy Agencies in the process of Industrial Decarbonisation

Decarbonising Industry & Business: what’s new towards 2030?

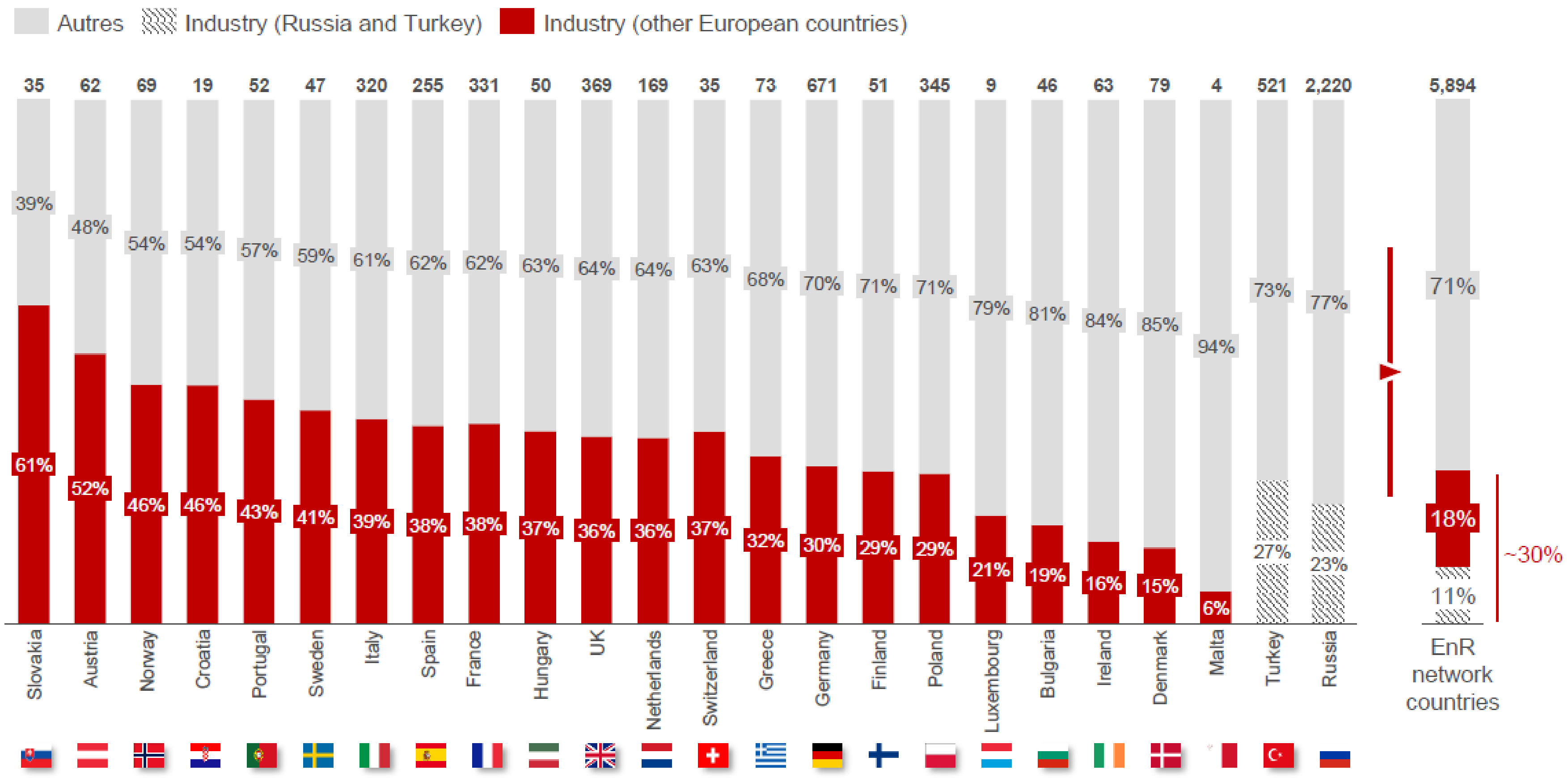
Introduction

1. Presentation of some highlights from a « *Comparative Study of the Roles played by Renewable Energy Network Agencies in the Implantation of Public Policies to Decarbonise Industry* » commissioned by ADEME.
2. Illustration of flagship programmes for industry decarbonisation in post-Covid France.
3. Planning ahead to 2030 and beyond : opening on industry roadmapping initiatives.

https://librairie.ademe.fr/energies-renouvelables-reseaux-et-stockage/5298-comparative-study-on-the-role-of-the-european-energy-network-agencies-in-the-implementation-of-industry-decarbonisation-public-policies.html

However, the industrial sector represents a significant share of national emissions in the majority of countries (~30% on average), therefore most countries are highly concerned

SHARE OF INDUSTRY EMISSIONS (EXCL. ENERGY) BY MEMBER COUNTRY
in 2019[1], in MtCO2eq



1) Sweden, Norway, Turkey and Russia data are from 2018 / hypothesis that emissions are stable from 2018 to 2019
2) Including industry processes, industry and construction, and waste

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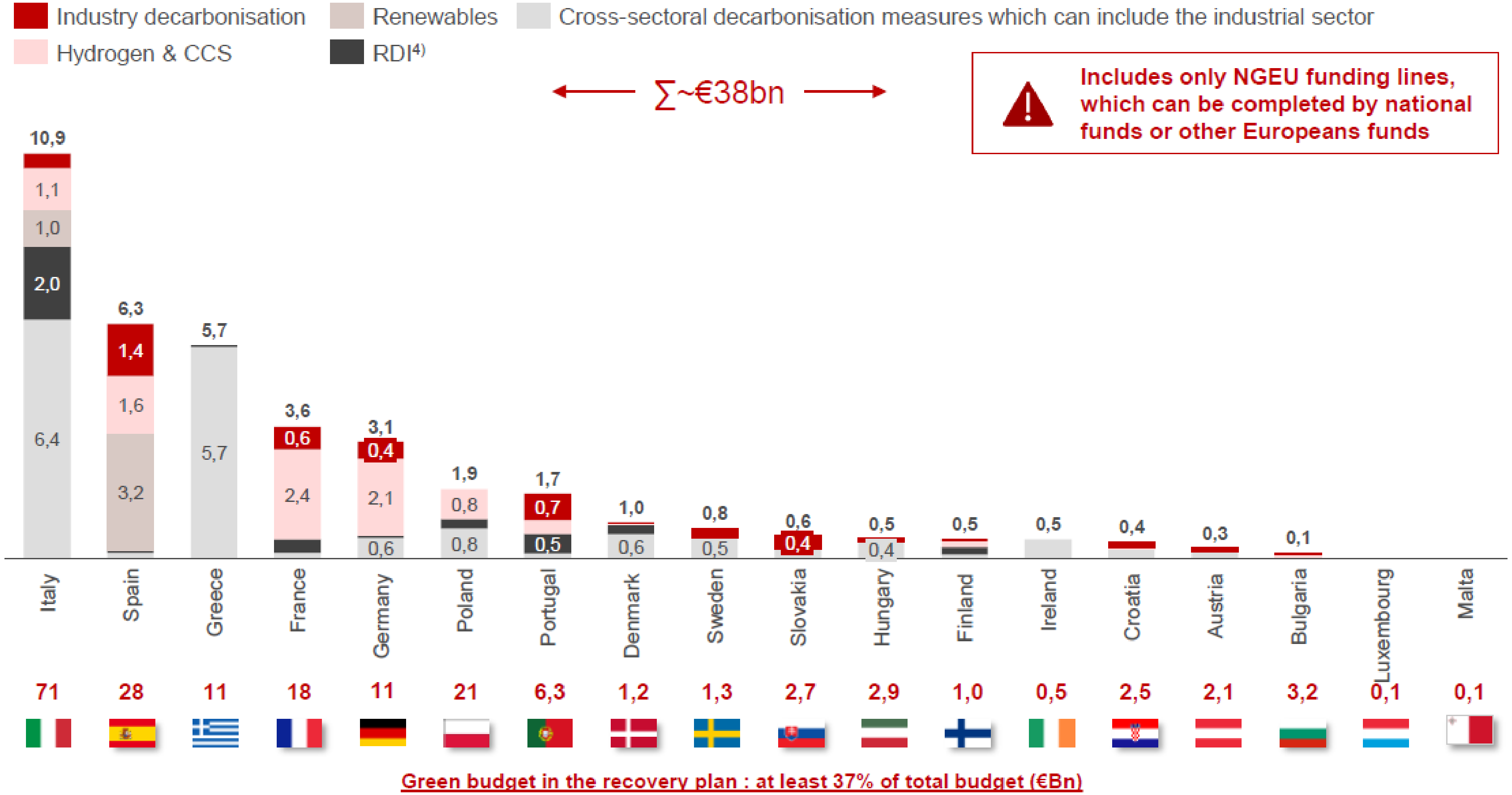
Recovery plans have played a role of accelerator with ~€38Bn within the NextGeneration EU budget directly or indirectly related to industry decarbonisation

FUNDING LINES FROM NGEU[1)] RELATED TO INDUSTRY DECARBONISATION IN EU STATES RECOVERY PLANS[5)]
[€Bn, 2020-21]

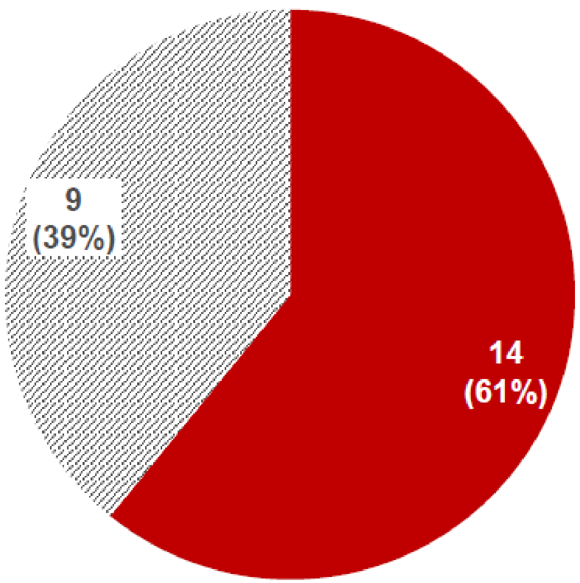


1) Next Generation EU, EU recovery plan – national plans may also include funding lines taken from national budgets or other EU funds (e.g. Cohesion Fund, Just Transition fund) not represented here 2) Includes funding not directed to industry decarbonisation (e.g. development of end-uses) 3) Funding lines targeted at the industrial sector, which can include funding for industry decarbonisation 4) Research, Development and Innovation 5) Only EU countries published a Recovery Plan (it excludes Russia, Turkey, UK and Norway) and Netherlands have not yet published 26

The following analyses are based on the answers of 14 E^{n}R Network agencies which participated in the survey, which represent ~60% of the Network's members

OVERVIEW OF AGENCIES HAVING ANSWERED THE QUESTIONNAIRE

∑ = 23 agencies surveyed



Number of answers

Number of agencies that did not give an answer

Agencies with programmes specifically targeted at industry decarbonisation

ADEME (France)	EWA (Malta)
ENEA (Italy)	ADENE (Potugal)
MOTIVA (Finland)	RVO (Netherlands)
SwissEnergy (Switzerland)	SEA (Sweden)
DENA (Germany)	SEDA (Bulgaria)
AEA (Austria)	IDAE (Spain)

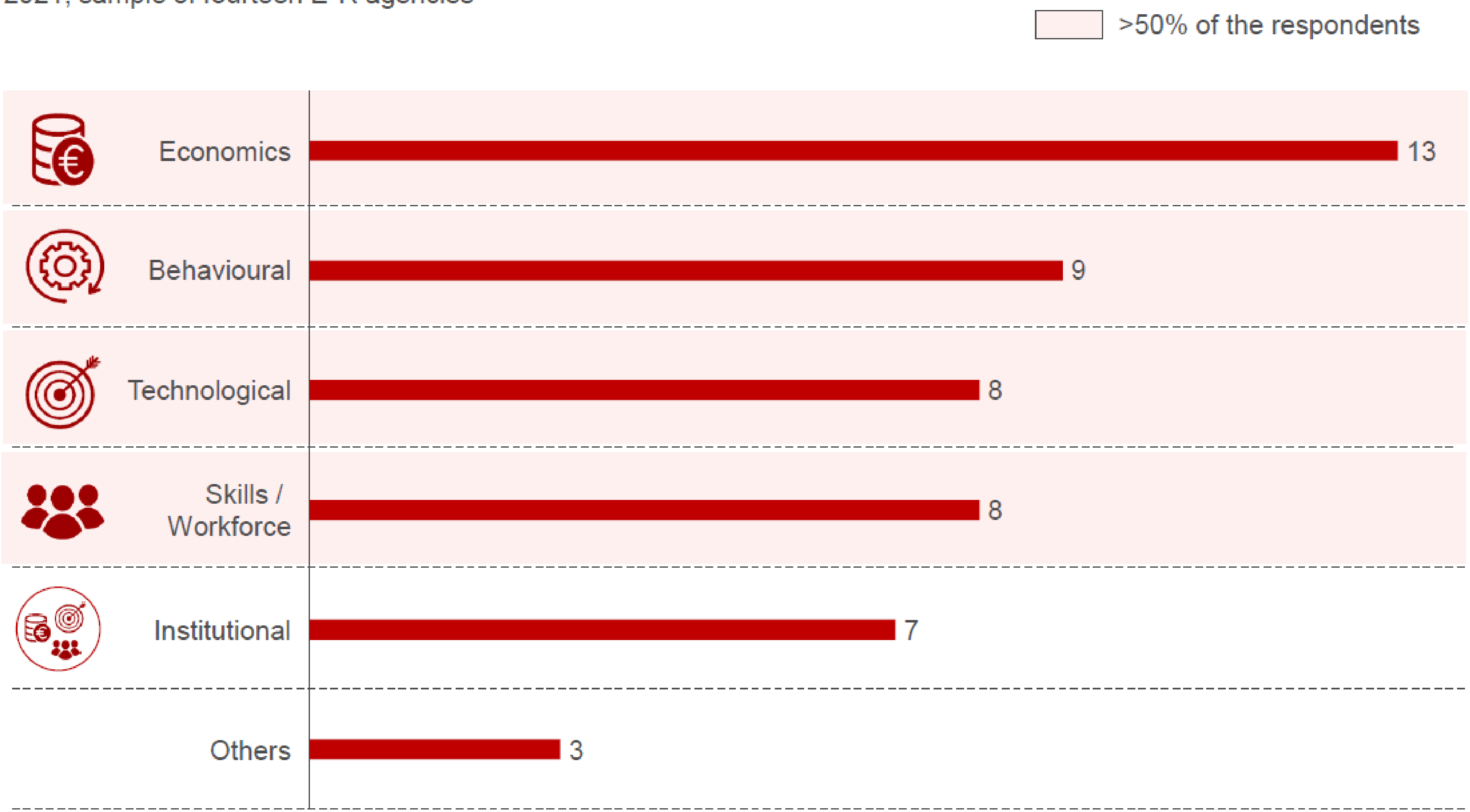
Agencies which mandate do not include industry decarbonisation or do not have instruments specifically targeted at industry decarbonisation

EST (UK)	CRES (Greece)

EST having no activities in the field of industry decarbonisation, EST answers presented in the following pages pertain to the activities of Carbon Trust, which manages industry decarbonisation programmes on behalf of the UK government

Economics, technological and behavioural barriers are the key obstacles identified by E^{n}R agencies to mitigating GHG emissions in industry

OVERVIEW OF MAIN OBSTACLES IDENTIFIED TO INDUSTRY DECARBONISATION BY E^{n}R AGENCIES
2021, sample of fourteen E^{n}R agencies



SYNTHESIS – STAKES, LEVERS, OBSTACLES AND DRIVERS FOR INDUSTRY DECARBONISATION (2/2)

KEY DRIVERS AND INFLUENCE ON OBSTACLES TO INDUSTRY DECARBONISATION

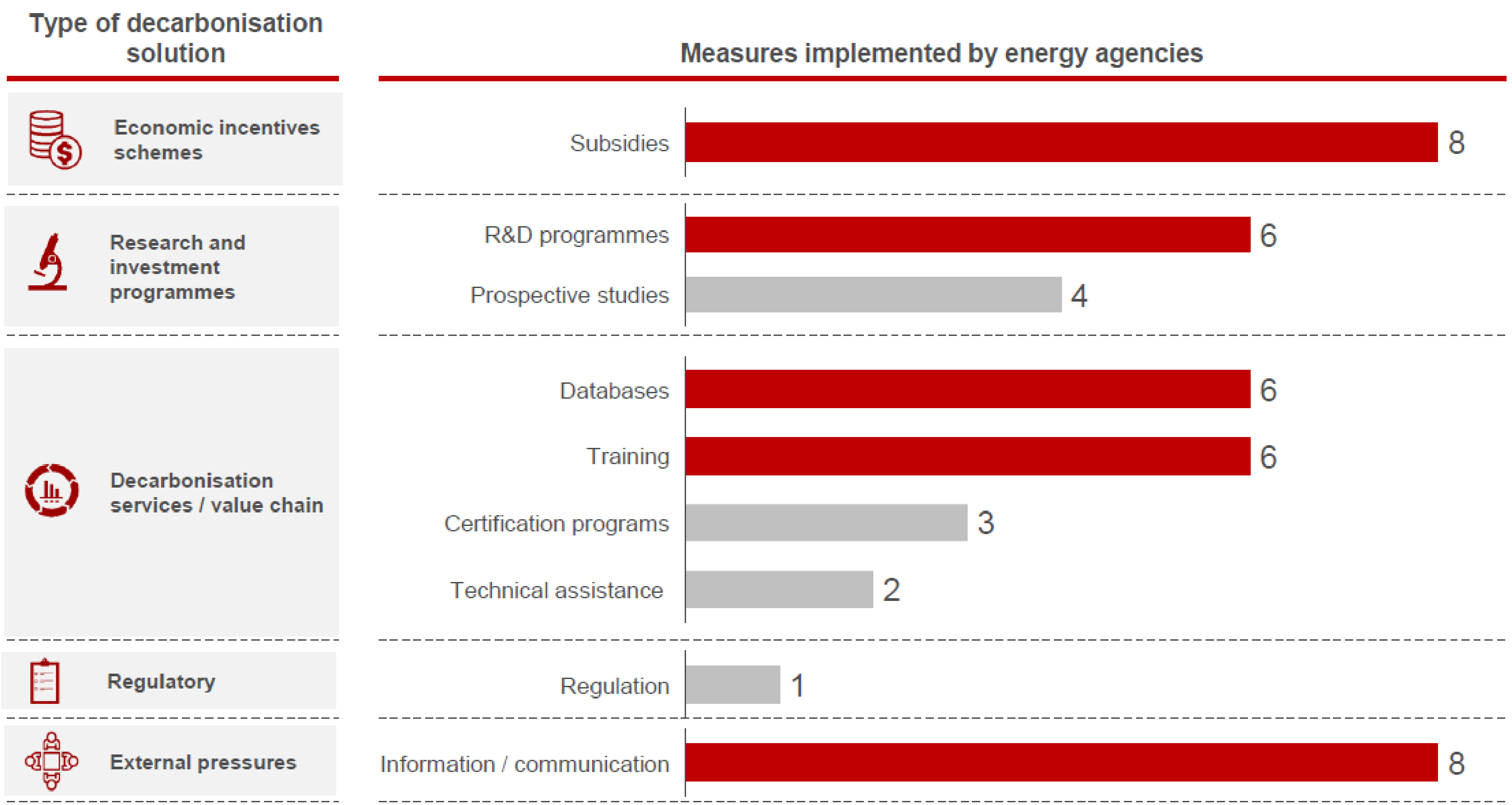
Key drivers identified by ≥ 60% of surveyed agencies

	Impact on identified obstacles			
Drivers	*Technical-technological*	*Economics*	*Organisational & competences*	*Behavioural & institutional*
Economic incentives schemes	**Moderate** – *indirectly incentivizes research*	**Strong** – *improvement of investments' IRR*	**Weak**	**Strong** –*economics as key driver of decarbonisation decisions*
R&D programmes	**Strong**	**Moderate** – *in the long run improves the economics*	**Moderate** – *may point out policies shortcomings*	**Weak**
Decarbonisation services / value chain	**Weak**	**Moderate** – *more efficient values chains, better economics*	**Strong** – *fills technical/ competencies gaps*	**Weak**
Regulatory & institutional measures	**Moderate** – *indirectly incentivizes research*	**Moderate** –*indirect economic incentives for decarbonisation*	**Moderate** – *Incentive organisational structuring*	**Strong –** *regulatory pressure as key driver of decarbonisation decisions*
External pressures	**Moderate** – *indirectly incentivizes research*	**Moderate** –*indirect economic incentives for decarbonisation (impact on demand)*	**Moderate** – *Incentive organisational structuring*	**Strong –** *external pressure as key driver of decarbonisation decisions*

E^{n}R Network agencies constitute states' key operational bodies to implement and manage the instruments providing industry decarbonisation concrete solutions

OVERVIEW OF MAIN INSTRUMENTS USED BY ENERGY AGENCIES
2021, sample of thirteen of E^{n}R agencies

≥ 6 respondents (~50%)
< 6 respondents



Source: Survey questionnaire to European Energy Network agencies (2021), E-Cube Strategy Consultants analysis

Illustration of flagship programmes for industry decarbonisation post-Covid France (1/2)

Industry Decarbonisation Fund
€1.2bn by France Relance for 2020-2022

Purpose : stimulate the economy in some strategic areas (incl. industry) for a post-Covid recovery

Summary

- 236 projects selected (decarbonisation of industry processes and utilities and integration of low-carbon heat)
- €1bn of CAPEX aid granted for a total of €4.1bn worth of investments (~25% of public support)
- €327M of OPEX aid (for low-carbon heat projects)
- 4.5 MtCO_2e of GHG emissions avoided (~5-6% of national industry-related emissions at constant production level)

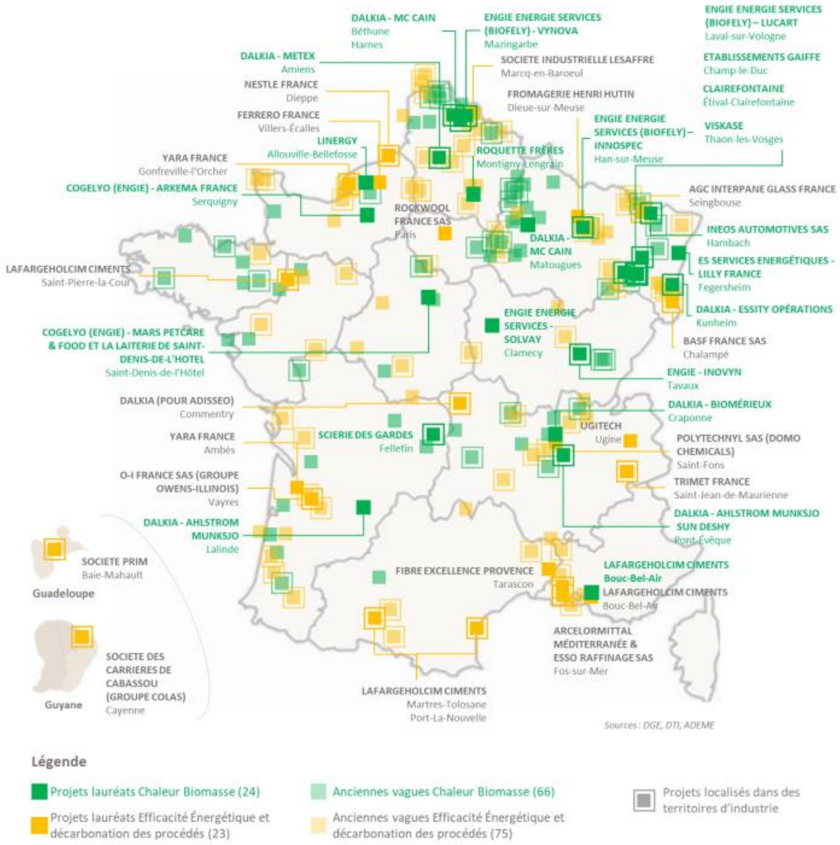


Illustration of flagship programmes for industry decarbonisation post-Covid France (2/2)

France 2030 investment plan for industry
€5.6bn for 2022-2026

Purpose : align industry GHG emissions with the -55% target by 2030 and with neutrality by 2050

Overview of the strategy

- €1bn for mature technologies (same spirit as the Industry Decarbonisation Fund under France Relance)
- €4bn for deep decarbonisation projects directed towards the most emission-intensive sectors (cement, steel, aluminium and chemicals)
- €600M for R&D and innovation to develop a technical offer for industry decarbonisation (e.g. heat pumps, electric furnaces, CO_2 capture)

Example of subsidy scheme

« DECARB FLASH » call for project launched following the war in Ukraine (budget of ~€25M)

- Spirit : rapidly reduce fossil fuel consumption on small to medium industrial sites
- Project CAPEX between €100k and €3M from a list of eligible technologies (e.g. heat recovery, electric furnace, heat pumps)
- More than 445 projects received to date (~€100M of aid demanded), selection still in progress !

Others subsidy schemes are under construction, to be published in 2023-2024 …

Planning ahead to 2030 and beyond : opening on industry roadmapping initiatives

Several countries (representing ~54% of those on which data has been collected) have issued a / or updated their industry decarbonisation roadmap after issuing their recovery plans

OVERVIEW OF COUNTRIES HAVING UPDATED THEIR INDUSTRY DECARBONISATION ROADMAPS AFTER 2020
Based on agencies' answers to the study's survey (14 answers)

Countries that issued or updated their industry decarbonisation roadmap	Countries which had a decarbonisation roadmap before their recovery plans and did not update it	Countries without any decarbonisation roadmap
~50%	~30%	~15%

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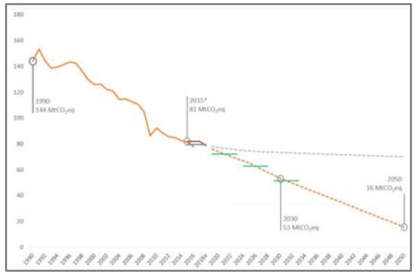
Industry roadmapping: overview of ongoing initiatives in France



French National Low-Carbon Strategy (« NDC ») defines a GHG target of -81% for the manufacturing industry by 2050

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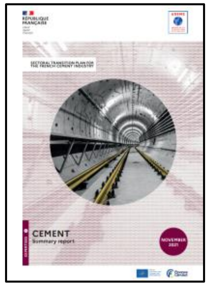

Construction of Sectoral Transition Plans (STP) for the 9 most energy-intensive industries in France

conseil national de l'industrie

Publication of sectoral roadmaps to share the vision and commitments of the industry

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Asked the 50 most emission intensive industrial sites to produce a decarbonisation roadmap (confidential) to 2050

Industry roadmapping methodologies : can we develop a common basis ?

Objective: Develop and EU standard on

« *Industrial decarbonisation: requirements and guidelines for sectoral transition plans* »

Timelines: Jan. 2023 – Jan. 2026 (3 years)

What is a **good**, **credible** and **ambitious** Sectoral Transition Plan?

Examples of questions to be addressed :

- *Stakeholders' involvement*
- *What operational perimeter?*
- *Which geographic perimeter is relevant?*
- *Demand evolution taken into account?*
- *What GHG emissions inventory standards?*
- *What decarbonisation objective?*
- …

If you are interested to join or to get more information :

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Thank you for your attention

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