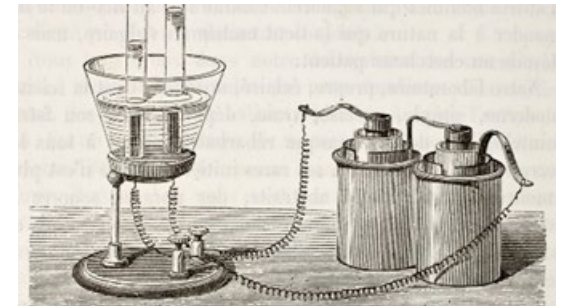


# HYDROGEN: PAN-EUROPEAN COOPERATION, SECTOR INTEGRATION

Enhancing the use of hydrogen in Europe through the price of carbon

Panel discussion, March 10<sup>th</sup> 2021


EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS AND THE ENERGY COMMUNITY SECRETARIAT




*Antique illustration of electrolysis laboratory equipment. Paris, 1873.*

# INCREASED CLIMATE AMBITION: THE EU CLIMATE BANK

## EU CLIMATE BANK objectives

 **Financing dedicated to CA & ES, 50% of Bank operations in 2025 and from then on**

 **Support €1 trillion of investments (2021 – 2030) in CA & ES**

 **Alignment** of all its financing activities with the **principles and goals** of the **Paris agreement** (by the end of 2020)

## What we do

### LENDING

- LOANS
- GUARANTEES
- HYBRID/MEZZANINE
- EQUITY

- PROJECT FINANCE
- CORPORATE LOANS
- FRAMEWORK LOANS
- EQUITY FUNDS

### BLENDING

- CO-FINANCING
- FINANCIAL INSTRUMENTS WITH THE EC

- EFSI, INNOVFIN
- INVESTEU
- JUST TRANSITION INITIATIVE

### ADVISING

- TECHNICAL
- FINANCIAL

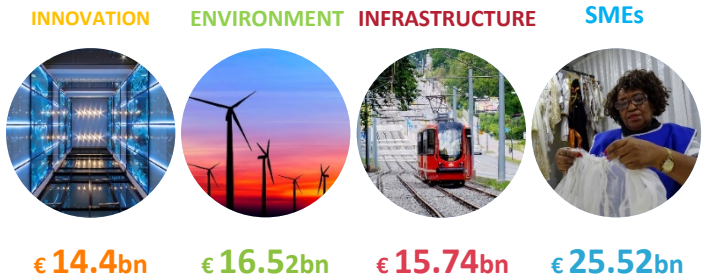
- EIAH
- ELENA
- JASPERS

### WHAT DO WE NOT DO

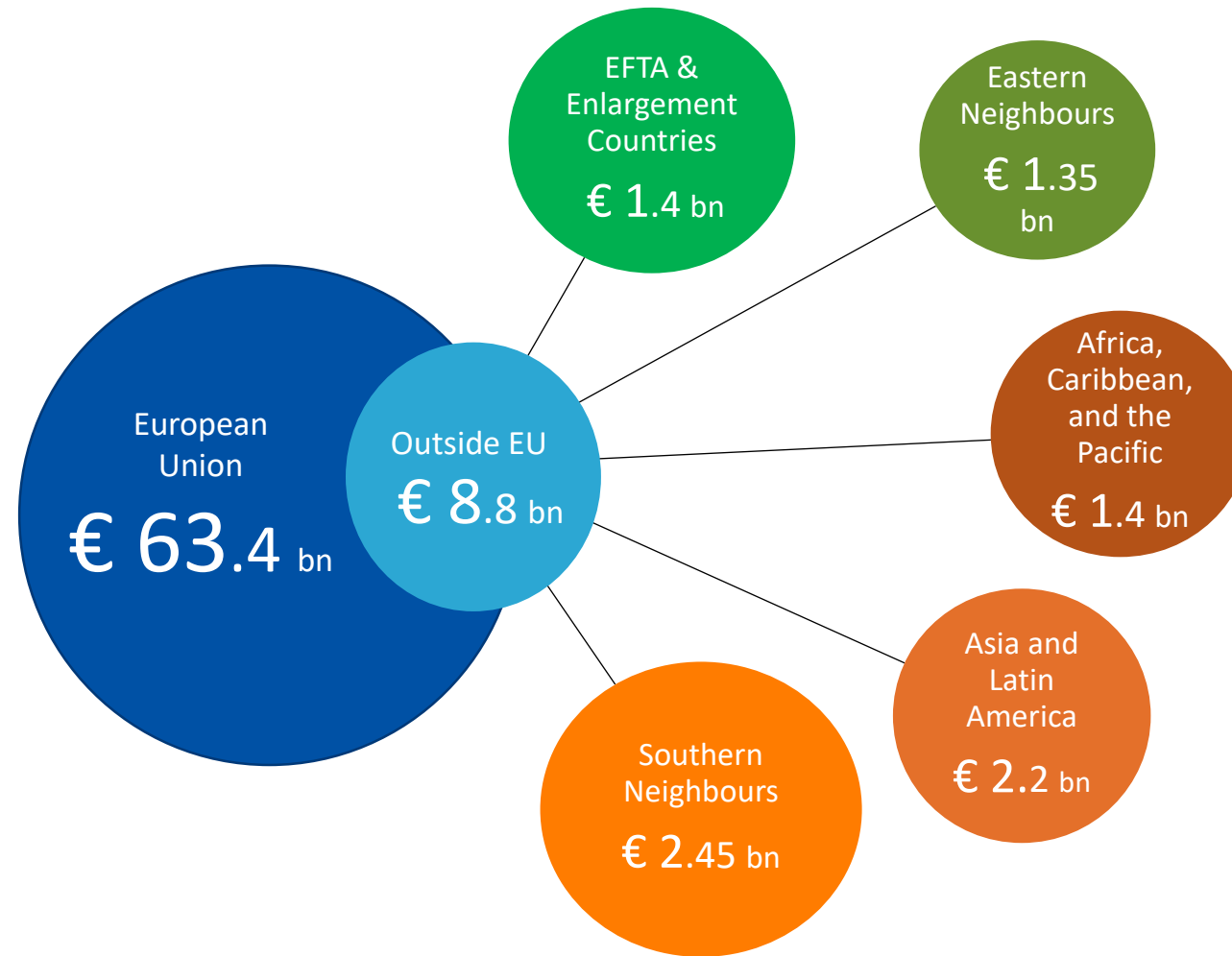
- GRANTS
- RE-FINANCING
- M&A



## 4 key priorities:



# EIB GROUP FINANCING IN 2019 BY REGION

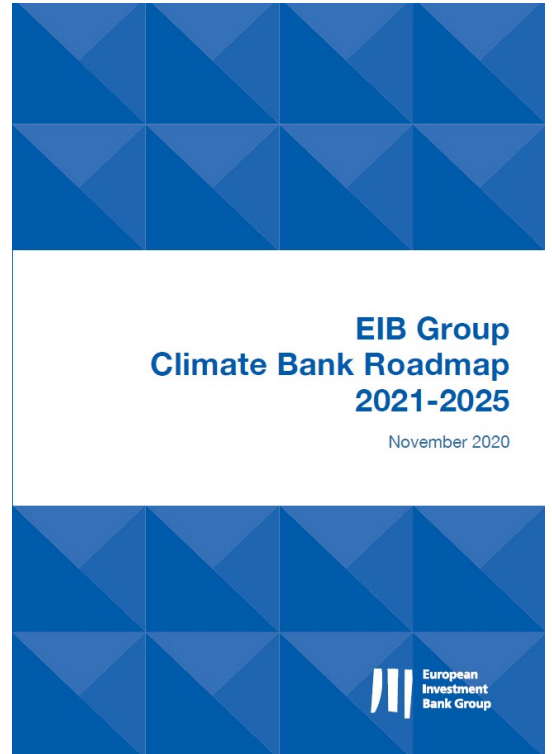


## Nov 2019: Key decision by the Board

- all EIB financing activities aligned with the goals and principles of the Paris Agreement by 2020.'

## Nov 2020: Board approves Climate Bank Roadmap

- **Chapter 4** provides details of alignment framework for new projects
- Alignment of counterparties to follow in 2021.

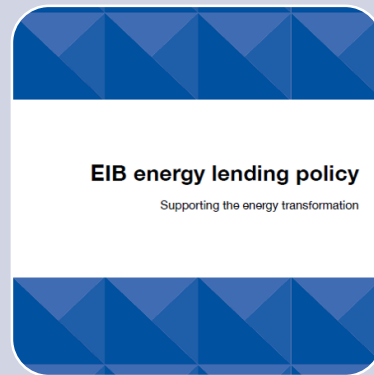


# ESG FRAMEWORKS – SUSTAINABLE FINANCE MECHANISMS AND ASSESSMENT TOOLS AT EIB



**Economic Justification**

- meet at least one of the policy objectives
- be technically sound
- be financially viable
- show an acceptable economic return



**Energy Lending Policy**

- Paris aligned since 2019
- Phase out support to fossil fuels (gas networks by 2021)
- Emphasis on innovation, RES, EE and networks



**Environmental & Social Standards**

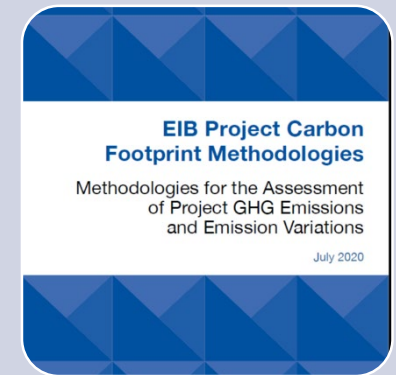
S1

S2

S3

S4

S5 S6 S7 S8 S9 S10



**Carbon Footprint**

&

**Climate Risk Assessment**

## OUTSIDE EU: SAME LENDING POLICY APPLIES

- The same lending policy applies outside the EU  
(phasing out of lending to fossil fuel)
- Regional Focus on Neighborhood and other regions in accordance with the Bank's mandates
- Outside EU activities part of broader discussions on the EU NDICI\*

The EIB will **support projects** that reinforce the **Nationally Determined Contributions (NDCs)**

\* NDICI: Neighbourhood Development and International Cooperation Instrument



- potential to play an important role to achieve the EU's target of carbon-neutrality by 2050,
  - a key enabler for the greening of hard-to-abate emissions from transport and industrial sectors.
- 
- Today, however, hydrogen is mainly produced from fossil fuels and its adaption is limited



## Enhancing the use of hydrogen in Europe WHAT IS NEEDED?



- Public support: subsidies, adequate carbon pricing, regulations on infrastructures



- Cost reduction of production and utilisation through R&D and large-scale deployment



- Economies of scale: supply chains, widespread infrastructure



- Massive investments (longer term) in additional production of renewable energy (or CCS)



# SUSTAINABLE FINANCING – EU TAXONOMY – H2

## H2

## CO2 transport

## CO2 storage



### 3.5 Manufacture of Hydrogen

Sector classification and activity	
Macro-Sector	C - Manufacturing
NACE Level	4
Code	C20.1.1
Description	Manufacture of hydrogen (CPA: 20.11.11.50)
Mitigation criteria	
Principle	The manufacturing of hydrogen is a highly carbon-intensive activity within the chemical industry <sup>20</sup> . Reducing the emissions from the manufacturing activity itself can positively contribute to the mitigation objectives.  Hydrogen generated as a process by product of the chlor-alkali production is not eligible.  Mitigation measures are eligible provided they are incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions
Threshold	The following thresholds need to be met: <ul style="list-style-type: none"> <li>• Direct CO2 emissions from manufacturing of hydrogen: 5.8 tCO2e/t Hydrogen in alignment with energy thresholds in the taxonomy.</li> <li>• Electricity use for hydrogen produced by electrolysis is at or lower than 58 MWh/t Hydrogen<sup>20</sup></li> <li>• Average carbon intensity of the electricity produced that is used for hydrogen manufacturing is at or below 100 gCO2e/kWh (Taxonomy threshold for electricity production, subject to periodical update).</li> </ul>

### 5.11 Transport of CO2

Sector classification and activity	
Macro-Sector	E - Water supply; sewerage; waste management and remediation activities
NACE Level	4
Code	E39.0.0
Description	Transport of captured CO2 by rail, ship and pipeline
Mitigation criteria	
Principle	<ul style="list-style-type: none"> <li>• The activity provides substantial contribution to achieving net-zero GHG emissions target by 2050</li> <li>• The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere</li> <li>• The activity leads to significant emissions reductions compared to BAU</li> <li>• Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO2e</li> </ul>
Metric & Threshold	Transport modalities that contribute to the transport of CO2 to eligible permanent sequestration sites are eligible, only if the asset operates below the leakage/tonne of CO2 threshold.  Leakage/tonne of CO2 transported from head(s) of the transport network to injection point(s) is <0.5%, and the CO2 is delivered to a taxonomy-eligible permanent sequestration site or to other transport modalities which lead directly to an eligible permanent sequestration site are eligible.  Assets or activities that enable carbon capture and use (CCU) will deem all the connected elements of an existing transport network ineligible.

### 5.12 Permanent Sequestration of Captured CO2

Sector classification and activity	
Macro-Sector	E - Water supply; sewerage; waste management and remediation activities
NACE Level	4
Code	E39.0.0
Description	Permanent Sequestration of captured CO2
Mitigation criteria	
Principle	<ul style="list-style-type: none"> <li>• The activity provides substantial contribution to achieving net-zero GHG emissions target by 2050</li> <li>• The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere</li> <li>• The activity leads to significant emissions reductions compared to BAU</li> <li>• Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO2e</li> </ul>
Metric & Threshold	Operation of a permanent CO2 storage facility is eligible if the facility complies with ISO 27914:2017 for geological storage of CO2. These requirements are subject to periodical review.
Rationale	
The TEG recommends that the following ISO standards are incorporated into this Taxonomy threshold when made publicly available: <ul style="list-style-type: none"> <li>• ISO/CD 27919-2 - Carbon dioxide capture -- Part 2: Evaluation procedure to assure and maintain stable performance of past-combustion CO2 capture plant integrated with a power plant</li> <li>• ISO/CD 27920 - Carbon dioxide capture, transportation and geological storage (CCS) -- Quantification and Verification</li> </ul>	

The Draft Delegated Act specifies:

H2 from electricity:

- CO2 intensity of  $\leq 94$  gCO2e/MJ; does not prescribe the source of electricity for electrolysis

H2 from natural gas incl. CCS:

- Transport: leakages less than 0.5 % of the mass of CO2 transported and a permanent CO2 storage site
- Storage: *within EU:* compliance with Directive 2009/31/EC; *within 3<sup>rd</sup> countries,* compliance with ISO 27914:2017





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