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Investment  
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*The EU bank*

A circular arrangement of twelve blue stars, representing the European Union flag, positioned to the right of the text 'The EU bank'.

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EIB CARBON FOOTPRINT METHODOLOGY**

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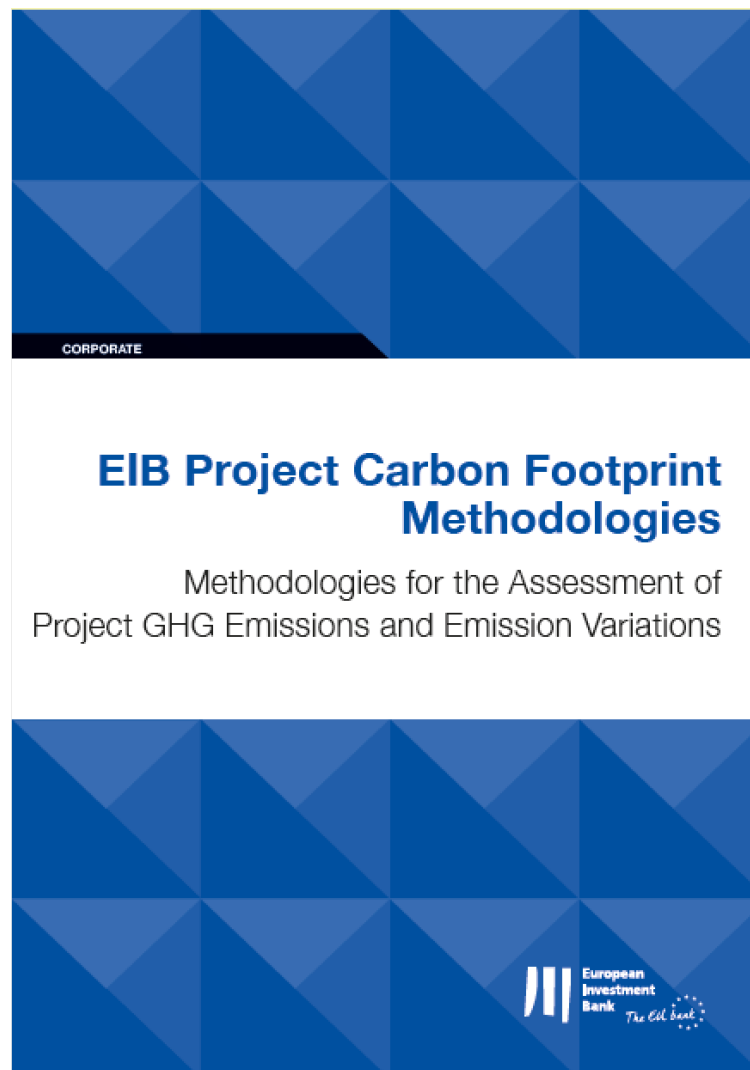
A solid grey rectangular box used to redact information, likely a contact email address, located below the speaker's name.

# Carbon footprinting at the EIB

- ▶ A carbon footprint (CF) is the estimated climate impact (greenhouse gas emissions) of a project
- ▶ At the EIB, undertaken ex-ante as part of the environmental and social assessment (part of a wider project appraisal)
- ▶ Project level data is published on the EIB Public Register in the Environmental and Social Data Sheet (ESDS)
- ▶ Annual aggregated project data is published in EIB Sustainability Report, and subject to external audit

# How does EIB calculate the carbon footprints of projects?

- First version 2009
- Current version: 11.1 – July 2020
- EIB website:  
<https://www.eib.org/en/about/cr/footprint-methodologies.htm>
- In-house methodology based on international standards e.g. IPCC, ISO 14064 parts 1 & 2, WRI GHG Protocol
- Methodologies updated over time to include more sectors, refine approaches, etc.



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# Guiding principles

- ▶ **Completeness:** include all relevant information in quantification – no material omissions
- ▶ **Consistency:** use of consistent methods, criteria & assumptions – allowing meaningful comparisons
- ▶ **Transparency:** Clear information on data sources, assumptions, baseline choice, etc.
- ▶ **Conservativeness:** Avoid underestimation of absolute emissions or overestimation of emissions reductions
- ▶ **Balance:** Reporting on projects above certain thresholds with both positive and negative impacts
- ▶ **Accuracy:** Reduce uncertainty in calculations as far as possible
- ▶ **Relevance:** Select appropriate data, emissions factors, etc.

# What do we footprint?

- Projects with significant emissions  $> \pm 20\text{ktCO}_2\text{e}$  “absolute emissions” &/or “relative missions”
- Direct investment loans & large allocations of framework loans included
- Do not currently footprint other intermediated lending e.g. credit lines, investment in equity funds

## Typically included:

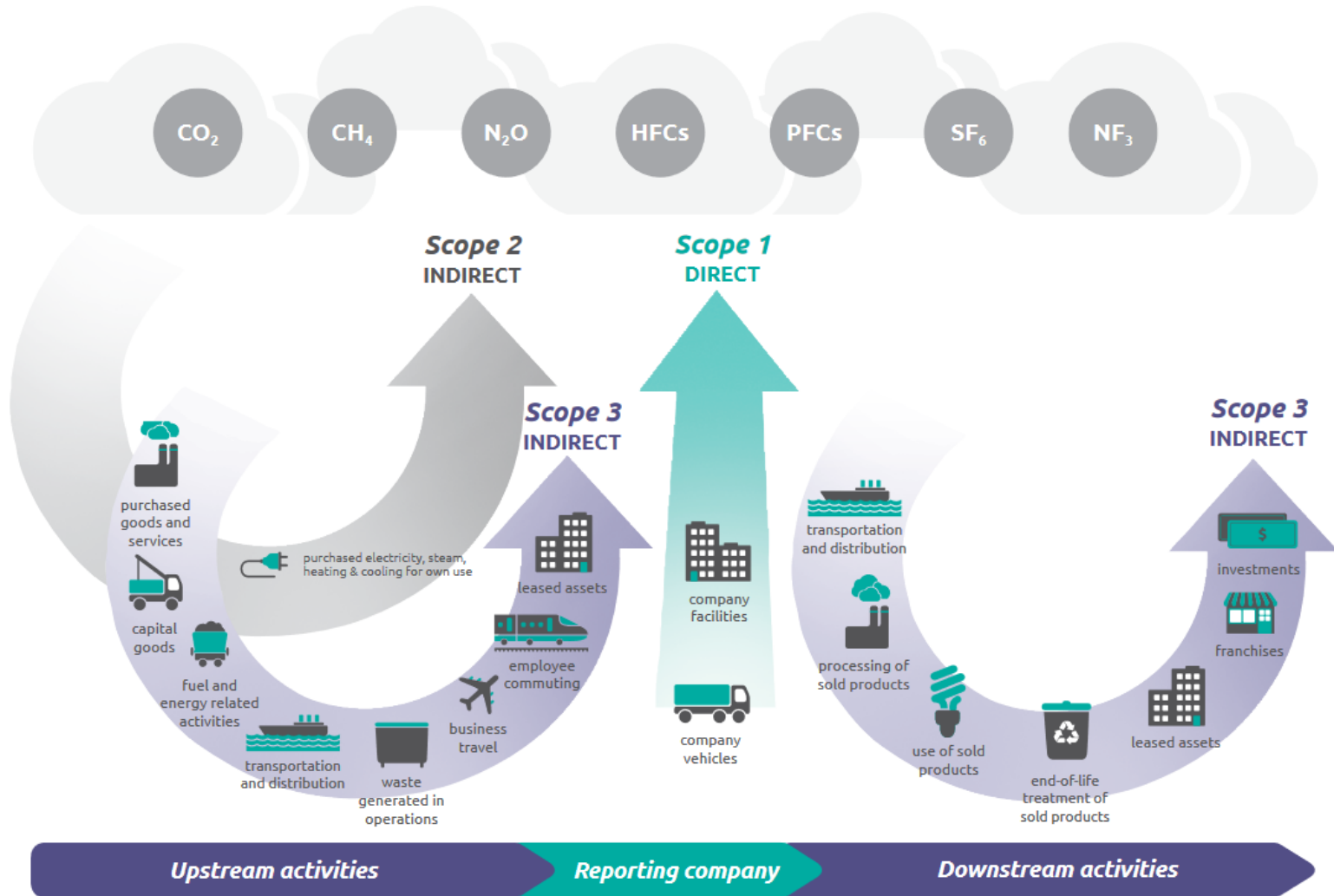
- Energy generation/ networks
- Large projects for Road, rail, urban transport
- Heavy industry
- Forestry
- Large building renovations

## Typically not included:

- Smaller buildings projects
- Telecoms
- RDI
- Traffic control systems
- Smaller projects for Road, rail, urban transport

# Scope 1, 2 & 3 emissions

Figure [1] Overview of GHG Protocol scopes and emissions across the value chain



Source: Figure 1.1 of *Scope 3 Standard*.

[https://ghgprotocol.org/sites/default/files/standards/Scope3\\_Calculation\\_Guidance\\_0.pdf](https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf)

# Which emissions?

- Normally:
  - ✓ Scope 1: Direct emissions from operation  
e.g. **fuel combustion**, process emissions, fugitive emissions
  - ✓ Scope 2: Indirect from purchased energy  
e.g. **electricity**, heating, cooling
- Mostly not included:
  - ✓ Scope 3: Other downstream/upstream emissions
    - In the case of transport infrastructure links, vehicles using transport infrastructure (including modal shifts) are important and these scope 3 emissions are included in calculations.
    - Can be important in circular economy/resource efficiency/waste projects due to indirect impacts
    - Also dedicated upstream/downstream facilities are included.
    - Scope 3 emissions likely to be included more in future as data and methods develop)



# Greenhouse gases

- ▶ The greenhouse gases (GHGs) included in the footprint include the seven gases listed in the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulphur hexafluoride (SF<sub>6</sub>); and nitrogen trifluoride (NF<sub>3</sub>).
- ▶ Emissions quantification process converts all GHG emissions into tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) using Global Warming Potentials (GWP)
- ▶ The GWP accounts for the different potency of GHGs e.g. methane is 28 times more powerful than CO<sub>2</sub> over 100 year time horizon , therefore 1 tonne CH<sub>4</sub> = 28 tonnes CO<sub>2</sub>e

# Introduction to terms

- Absolute emissions: expected annual emissions generated by the project (gross emissions)
- Relative emissions: absolute minus baseline emissions (net emissions)
- Baseline emissions: credible expected alternative scenario without the project

# Absolute Emissions

$$\begin{array}{ccccc} \text{Absolute} & = & \text{Activity Data} & \times & \text{Emissions factor} \\ \text{emissions} & & \text{(e.g. volume of fuel or} & & \text{(e.g. tCO2e/unit of fuel} \\ \text{(tCO2e)} & & \text{product)} & & \text{or product)} \end{array}$$

- “Typical year of operation” (i.e. not including commissioning/unplanned shutdowns)
- Emissions Factors
  - Default factors published in the methodology document
  - Or, local/project specific factors if more accurate & reliable

# Relative emissions

Relative emissions = Absolute Emissions – Baseline Emissions

- Relative emissions:
  - Estimates the GHG impact of the project (positive or negative)
- Baseline:
  - The project baseline scenario (or “without project” scenario) is defined as the expected alternative means to meet the output supplied by the proposed project
  - Enables comparison with estimated project emissions to determine relative emissions

# Baseline Scenario

- ▶ Expected alternative to the proposed project
- ▶ Step 1: Does alternative in technical terms meet the required output?
  - ▶ Could be met through existing capacity where no growth in demand
  - ▶ Where demand growth, need to consider if existing capacity can meet demand, or alternative new capacity would need to meet some or all of demand (e.g. operating/build margins in electricity generation projects)
- ▶ Step 2: Is the alternative credible?
  - ▶ Economically & legally sound
  - ▶ Baseline cannot assume to continue using existing assets beyond their economic life

# Harmonisation of Approaches

- EIB is working with other IFIs to develop harmonised approaches to GHG accounting
- IFIs have since developed sector specific harmonisation approaches for energy efficiency, renewable energy and transport, and in 2019 harmonised electricity grid factors



**International Financial Institution Framework for a Harmonised Approach to Greenhouse Gas Accounting**

November 2015

THANK YOU!