Deploying net-zero and innovative technologies – challenges and lessons learned from Innovation Fund projects

Agata Prządka, Team Leader - Coordination and Analysis Manager, CINEA

20/05/2026

Workshop Scaling Innovation and Achieving Deployment for Renewable Fuels

European Commission

INNOVATION FUND

Funded by the EU Emissions Trading System

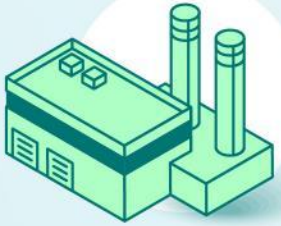
Deploying innovative net-zero technologies for climate neutrality

€40 billion* available between 2020-2030

grants awarded through regular calls and auctions

avoid GHG emissions, boost competitiveness

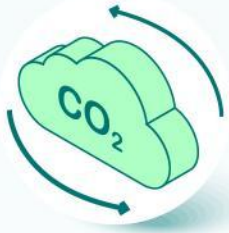
supporting innovation in:



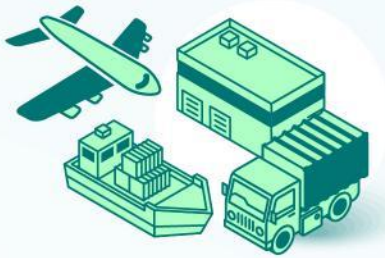
Energy-intensive industries

Renewable energy

Energy storage



Carbon capture, use and storage



Net-zero mobility and buildings

*based on a carbon price of €75/tonne

Innovation Fund Knowledge Sharing Report

Project challenges, including market conditions, finance, offtake agreements, regulatory bottlenecks, and technical constraints.

Insights and **strategies to overcome these challenges** and mitigate associated risks.

Covering: **energy-intensive industries, hydrogen, carbon capture and storage, renewable energy and energy storage**.

Read the 2025 report here

Summaries of closed-door IF workshops

Edition 2026 expected in the summer

What is in the report?

Key findings

IF project overview

- Portfolio overview
- Financial close and entry into operation status and analysis

Challenges and key messages per cluster:

- **Energy-intensive industries**, including biofuels and biorefineries
- **Hydrogen**, including manufacturing of components for hydrogen production and utilisation
- **Industrial Carbon Management (ICM)**
- **Renewable energy** generation, including manufacturing of components for renewable energy production
- **Energy storage**, including manufacturing of components for energy storage
- **Mobility**

Outlook for 2026

IF portfolio - project implementation status*

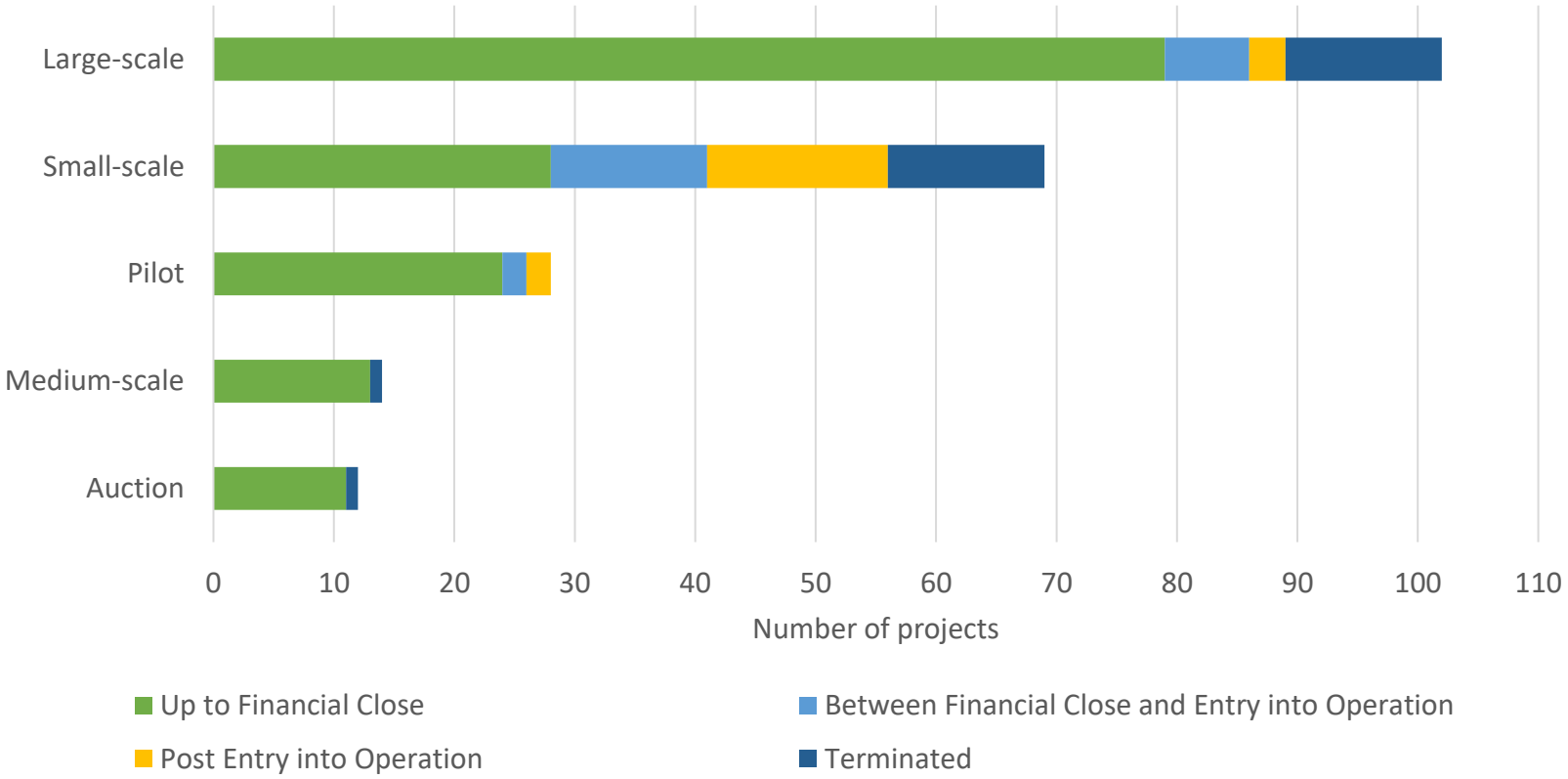
** as on 31 December 2025, as per report methodology*

197 ongoing IF projects (56 small-scale, 13 medium-scale, 89 large-scale, 28 pilot-scale and 11 RFNBO hydrogen auction)*

~ EUR 11.7 billion IF funding committed for the IF portfolio

~ EUR 58.7 billion CAPEX

~ 961 million tonnes of $CO_{2\ eq}$ the expected absolute GHG emissions avoidance of ongoing projects based on the GHG methodology



Financial Close (FC) – The point where all project and financing agreements are signed and all conditions contained within them are met.

Entry into Operation (EIO) *- The point where all elements and systems required for operation of the project have been tested and activities resulting in effective avoidance of greenhouse gas emissions have commenced.*

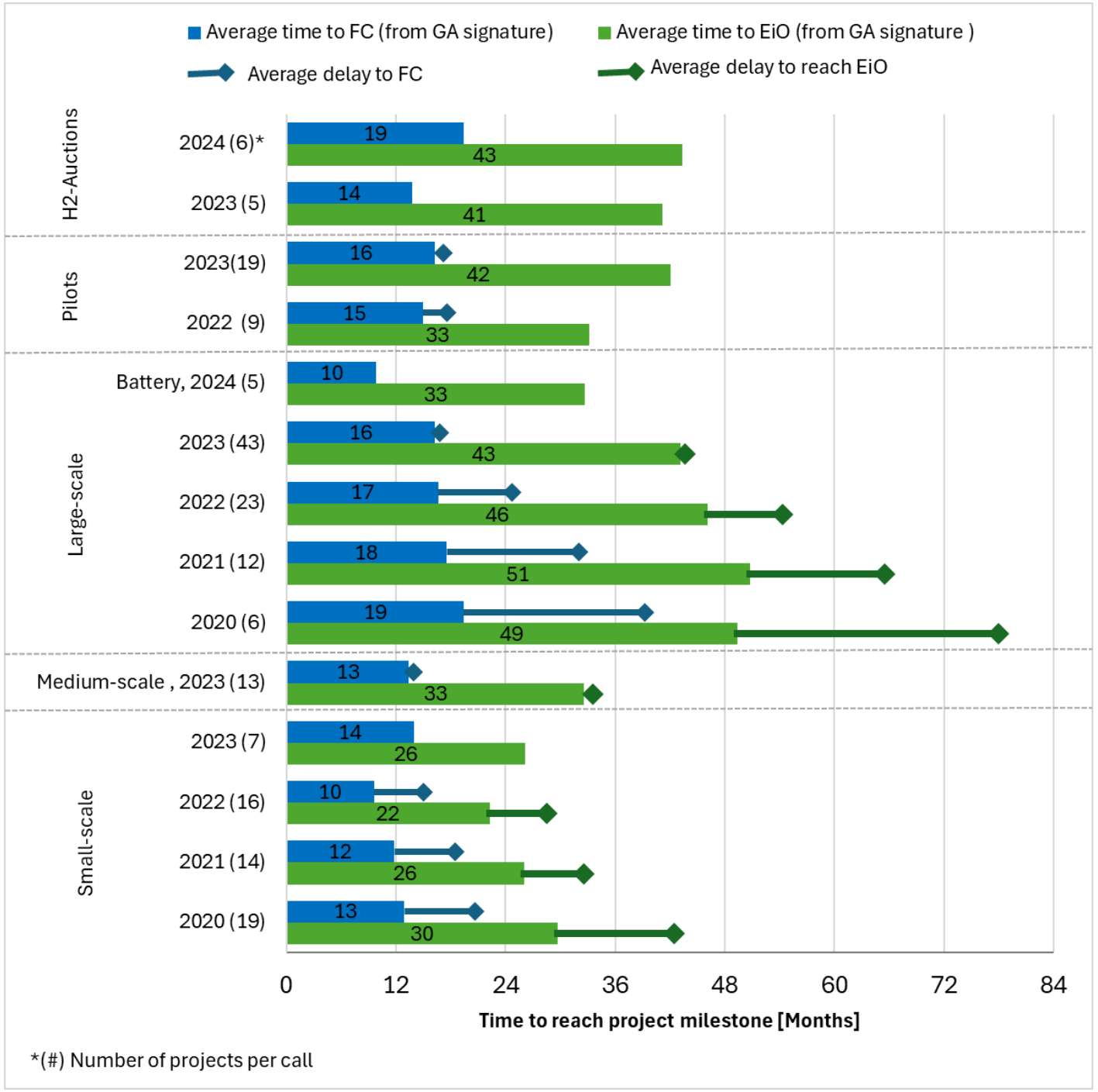
IF portfolio's average time per call to reach FC and EiO milestones*

Average period to reach **FC** per call:

- Up to 39 months for **large-scale** projects (including auction projects)
- 14-21 months for **small-scale** projects.

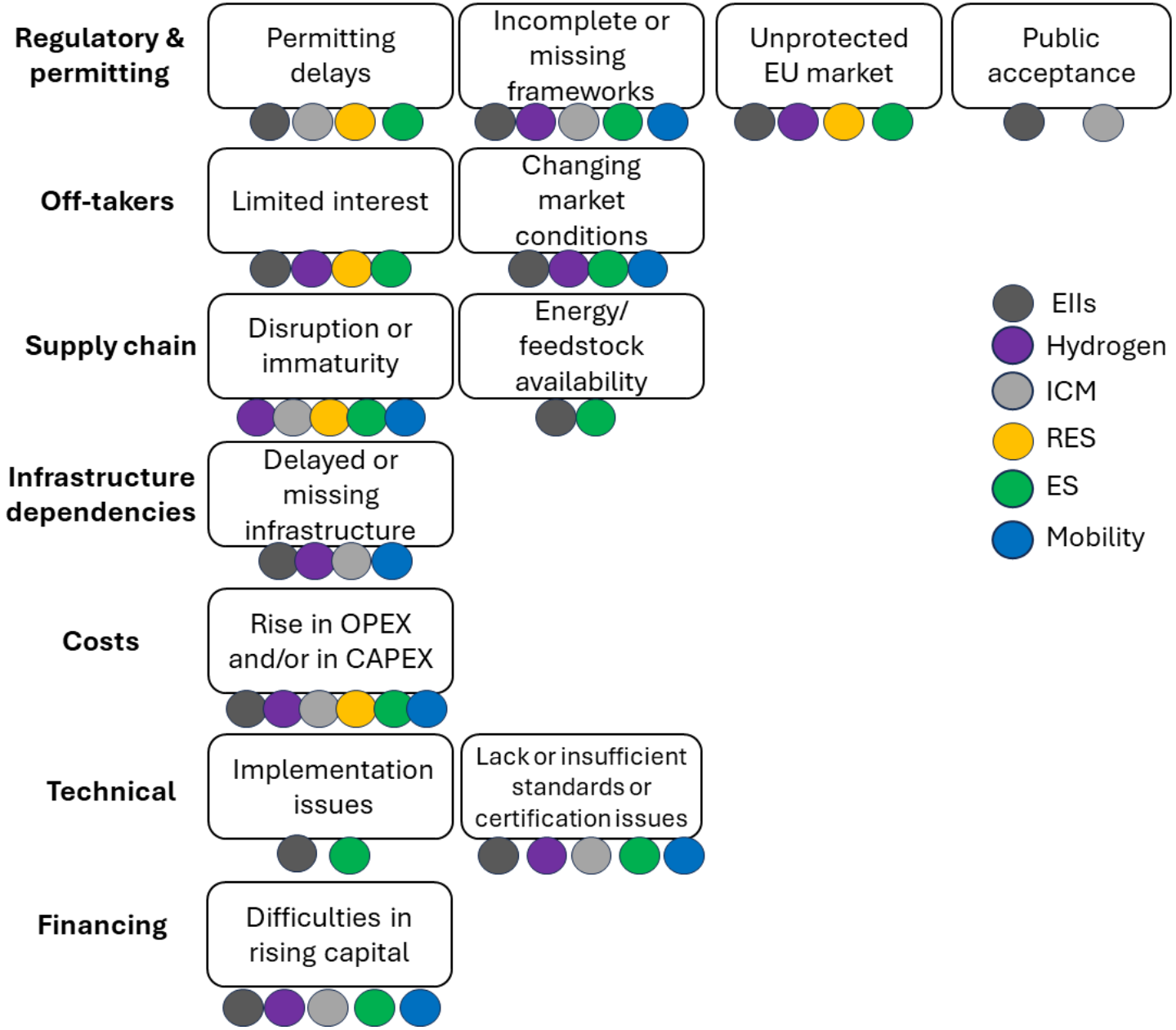
Average period to reach **EiO** per call:

- Nearly 3 to 7 years for **large-scale** projects (including auction projects)
- 2-4 years for **small-scale** projects.



** as on 31 December 2025, as per report methodology*

Key challenges encountered by the projects per IF cluster



Period between FC and EIO

- The challenges experienced before FC persist during construction phase, in particular:
  - **supply chain disruptions**, mainly caused by geopolitical factors and subsequent logistical challenges,
  - the **reliance on additional infrastructure development**, often beyond project boundaries,
  - **cancellation or delay of offtake contracts caused by market changes**, such as pressure from competing products, or a slower than expected demand,
  - need of additional **testing and validation** of their innovative technologies,
  - changes in project governance or organisational configurations,

- Noteworthy exceptions: one project brough forward the planed EIO.

Challenges in the period after EIO

- Only a few projects reached EIO so far. One project is exceeding its initial performance estimates, while others are struggling to achieve their GHG emission avoidance targets due to:
  - technical issues,
  - grid curtailment,
  - lower-than-expected market demand to difficulties in renewing offtake contracts,
  - the cessation of suppliers' activities,
  - changes in national regulatory frameworks, e.g. changes in the support and/or frequency of public tenders for PV markets in some countries; slow or not full transposition of EU policy frameworks into national legislation.

Examples of biofuel and biorefineries projects

W4W

COORDINATOR
Waga Energy

LOCATION
Spain

CALL
SSC-2020 (small-scale)

AMOUNT OF IF GRANT
EUR 2,452,401

Status
In operation

*Project is already producing cost competitive and grid-compliant **biomethane** from landfill gas using the WAGABOX® technology at the Can Mata site located at Els Hostalets de Pierola.*

AMBASSADOR

COORDINATOR
BZK Energy

LOCATION
Poland

CALL
NZT-2023 (medium-scale)

AMOUNT OF IF GRANT
EUR 7,958,245

Status
Prior to the Financial Close

*The project aims to construct and operate an innovative biomethane plant in Poland. This facility will combine advanced anaerobic digestion processes with a range of agri-food waste feedstocks, alongside biogas purification and **CO2 capture** and purification technologies, to create a closed-loop, zero-waste system. **Biomethane** will be injected into the national gas grid.*

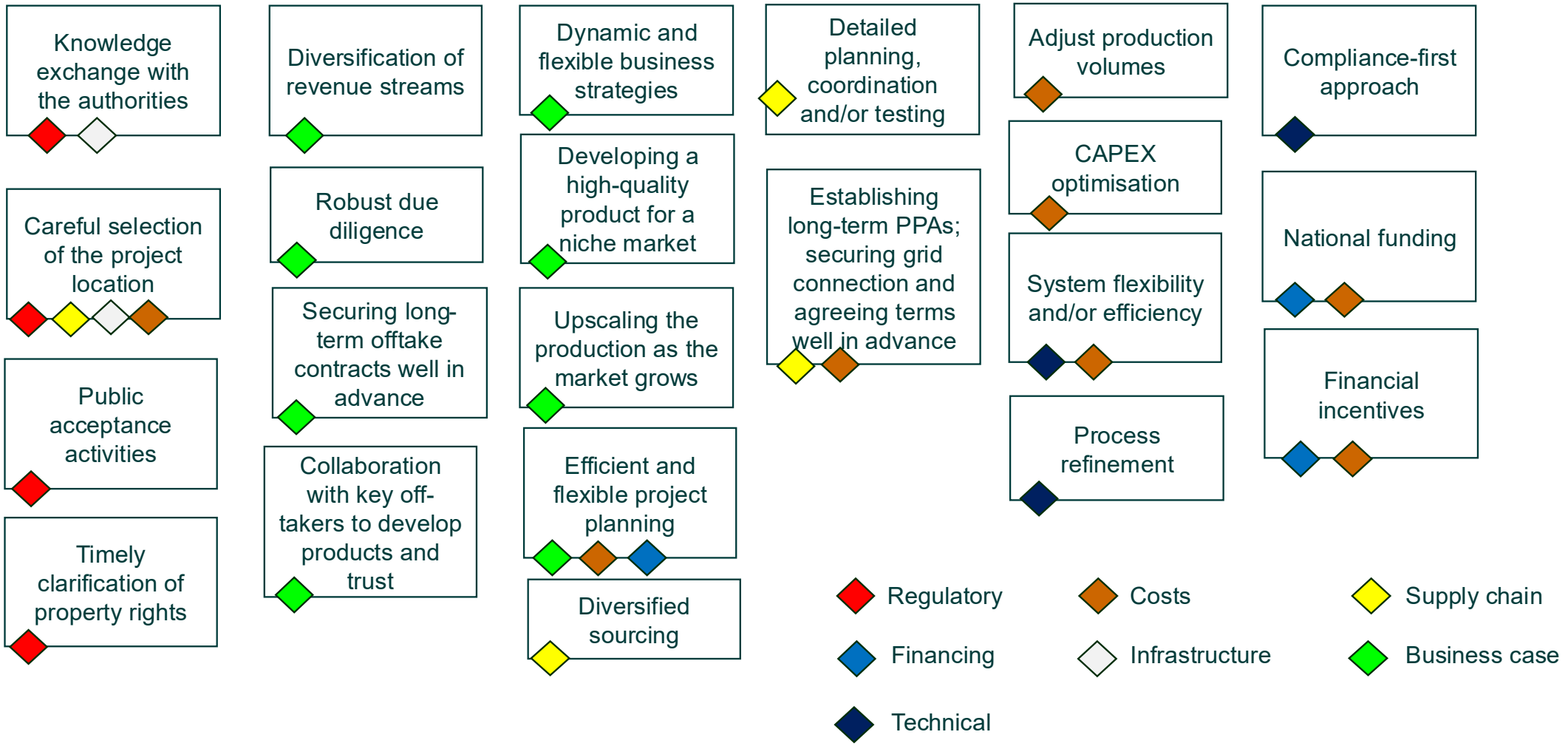
Challenges of the biofuel and biorefineries projects

Market challenges: ***Off takers remain hesitant to pay green premiums*** *or to commit to long-term purchase agreements. Although biomethane production costs can compete with those of natural gas,* ***energy price volatility means that feed-in tariffs, green premiums and direct subsidies remain necessary*** *to ensure the competitiveness of the biomethane injected into the gas grid. For SAFs, maritime fuels and biochar, demand is constrained by limited willingness among potential offtakers to absorb the higher costs and operational risks associated with switching to these new products. EIIs projects are encountering significant obstacles due to* ***market volatility, global tariffs and severe worldwide competition.***

Regulatory framework: *biomethane and waste-/residue-based biofuels are intended for transport applications, these face* ***competition*** *from lower-cost and more technologically flexible alternatives derived from* ***used cooking oil or animal fats****. Although* ***RED III*** *provides a more ambitious framework to support the market uptake of biofuels in heating, industry and transport sectors, its* ***fragmented implementation across Member States*** *creates barriers to securing long-term off-take.*

Public acceptance *is critical in energy-intensive projects, due to local concerns regarding emissions, waste management, traffic impacts, or noise. This is especially relevant for biofuels and biorefineries projects.*

Mitigation strategies addressing challenges encountered by the Fund's projects



Outlook for 2026

IF is adapting to an evolving industrial and political context

2025

3 calls closed

- Net-zero call
  (5 topics)
- Hydrogen Auction
  - For both RFNBO and low carbon H2
  - Topic dedicated to maritime and *aviation* **(new)**
- Heat Auction **(new)**

2026

- **Portfolio development:**
  - 42 projects expected to reach FC
  - 17 projects expected to reach EIO
  - 6 projects expected to be finalized
- **New calls** under preparation
- Knowledge Sharing Annual Report 2026 – summer 2026

Thank you