



INNOVATION FUND

Lessons learnt from LSC-2021 and best practices

10 February 2023



#InnovationFund



Best practices Admissibility and Eligibility

Comprehensive application: Complete and timely

Read carefully all the requirements (including the admissibility and eligibility ones), guidance and instructions

Start well on time preparing your application and do not wait for the last day to submit (you can still modify your application before deadline)

Specific supporting documents are requested for **Innovation Fund grants**

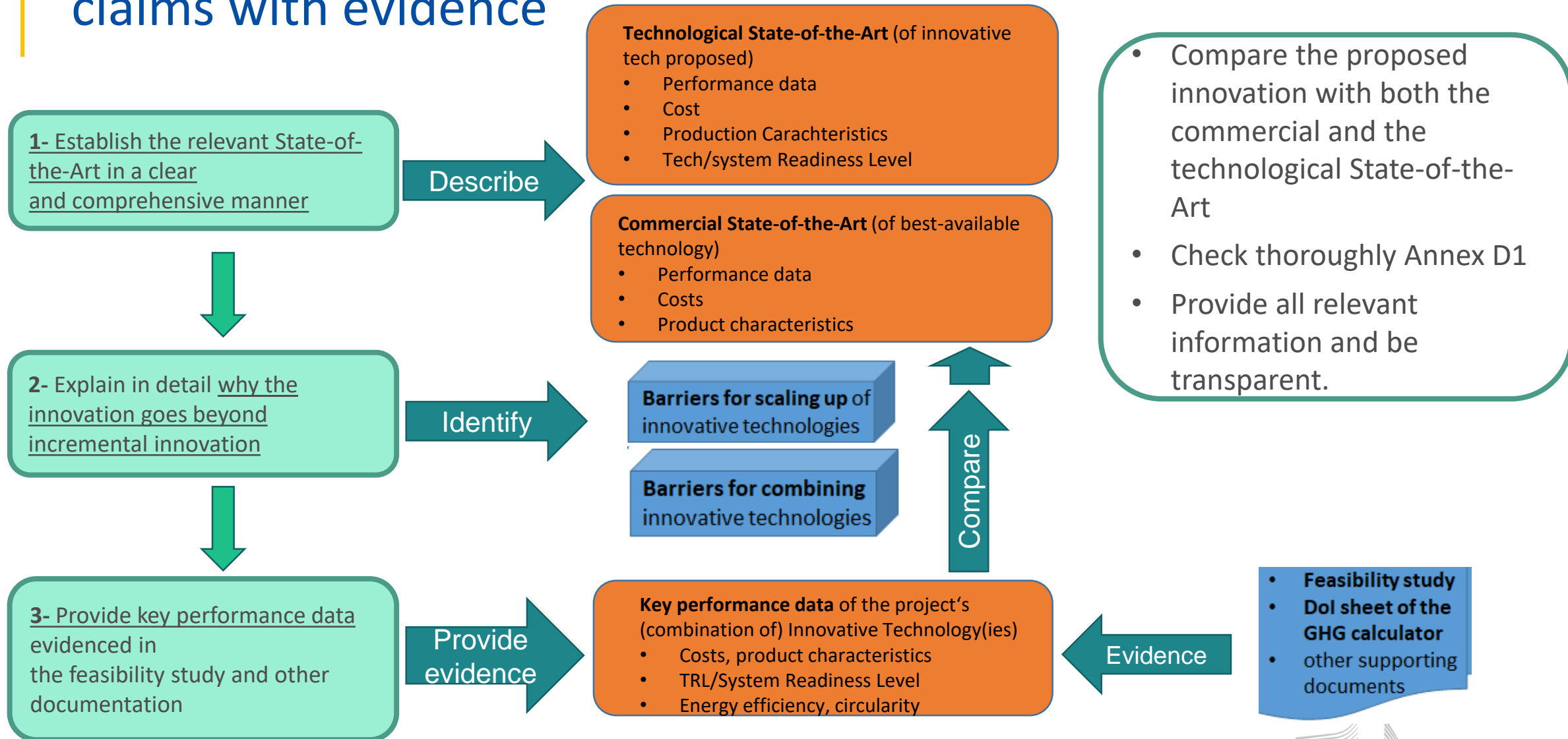
Quality and clarity more important than quantity

Consult our FAQ, including for updates, and **use Helpdesk if unclear**



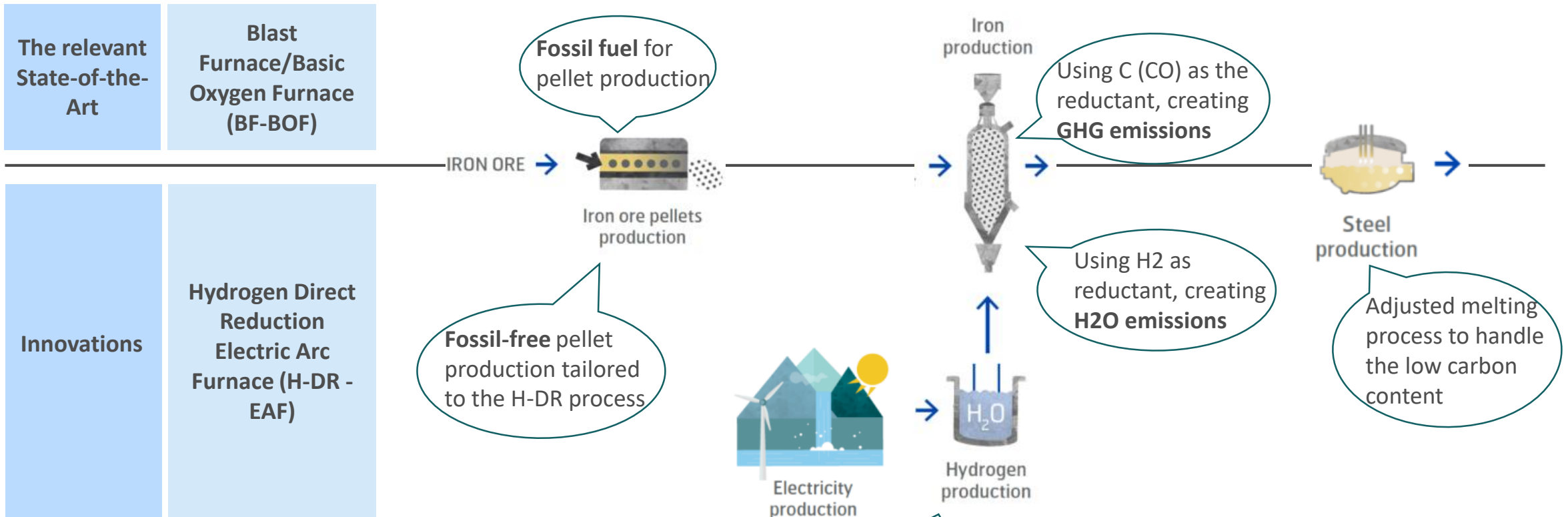
Best practices
Degree of Innovation

Degree of Innovation (DoI): Be exhaustive and underpin your claims with evidence






Degree of innovation- Fossil free steel

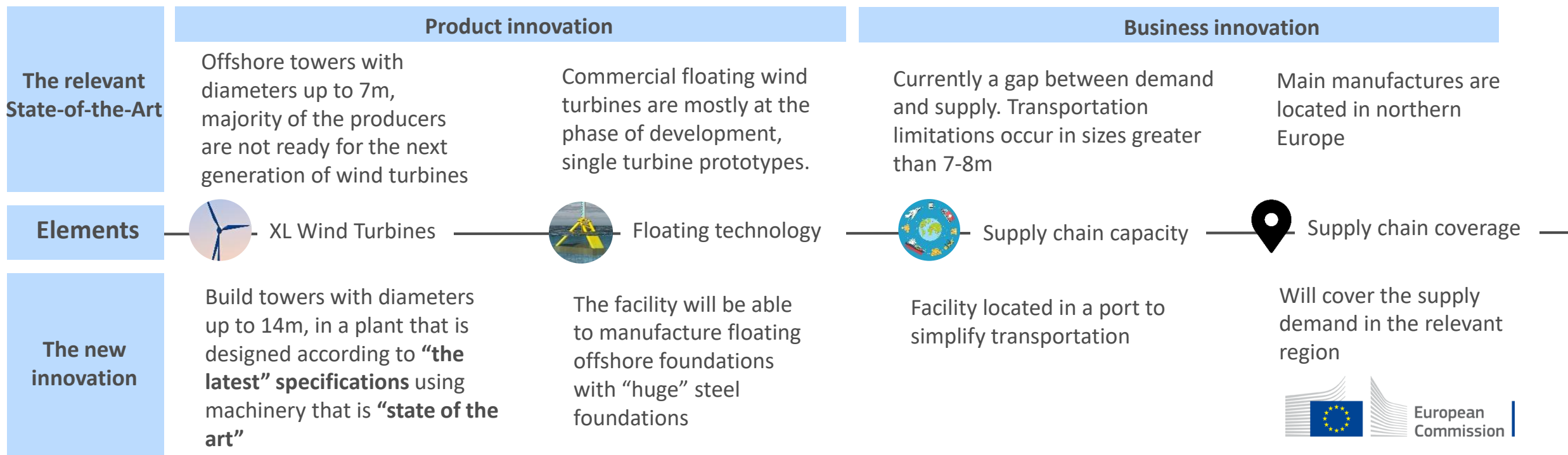
Checklist	State-of-the-art comparison <input checked="" type="checkbox"/>	Describes barriers for scaling up <input checked="" type="checkbox"/>	Describes barriers for combining technologies <input checked="" type="checkbox"/>	Transparency <input checked="" type="checkbox"/>	Evidence based <input checked="" type="checkbox"/>
Examples	The technique sufficiently substantiate industry standard	Fossil free electrolysis is hard to do on a large-scale	Combining the pellets production, DR & EAF	Thoroughly describing all stages in the value chain	Previous pilot plant results



Degree of innovation- A manufacturing facility for large on- and offshore wind turbine towers



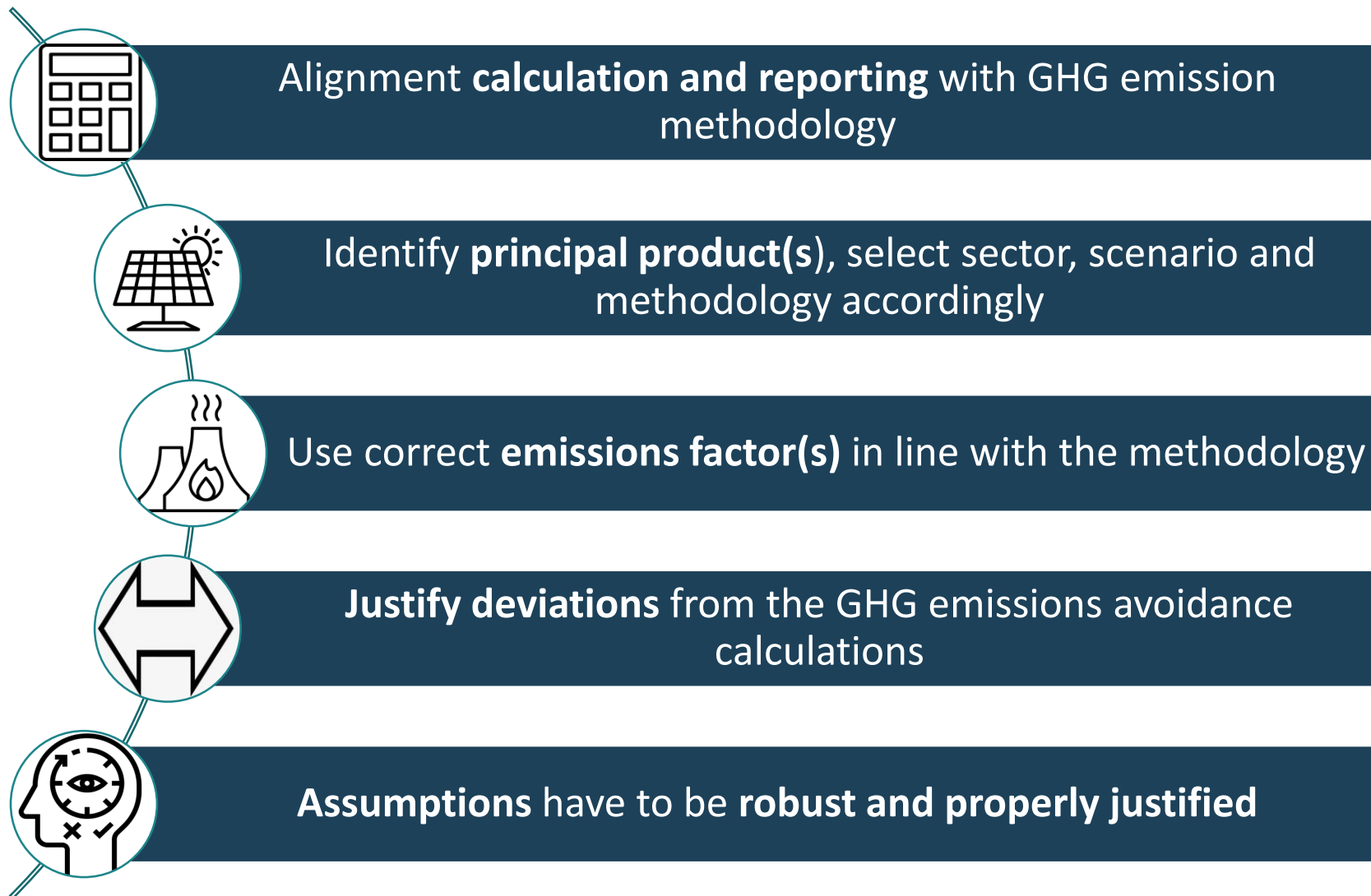
Checklist	State-of-the-art comparison 	Transparency 		Evidence based 
Examples	Proposed techniques that allow the steel towers to be increased are not substantiated in comparison to industry standard solutions	<ul style="list-style-type: none"> Insufficient information regarding specific wind turbine designs that the project claims to support. 	<ul style="list-style-type: none"> The claimed innovative manufacturing processes methods is only referred to with the application of industry best practices 	The proposal does not substantiate the credibility of the innovations.





Best practices
GHG emissions avoidance

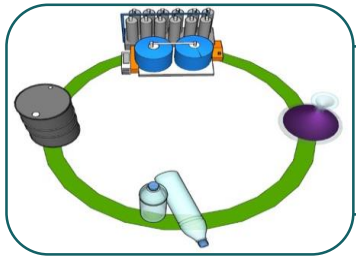
GHG emissions methodology: choose and apply the correct methodology



Use the provided tool: present the required information

Projected operational data			GHG emissions	
Source	Data unit	Comments	Type of data	Value
Inputs <i>[add rows and column, as needed]</i>				
Ref _{inputs}				
Ref _{inputs}				
Ref _{inputs}				

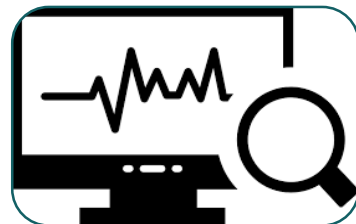
Clean, tidy and organised calculation with colour codes



Provide full LCA assessment in line with the IF GHG emissions avoidance calculator



Further disaggregate parameters for a more transparent and traceable calculation



Provide monitoring strategy by filling in the data traceability column in the calculation tool

Clearly report quantified absolute and relative emissions avoidance: **be consistent across the documentation**

$\Delta\text{GHG}_{\text{abs}}$

Declare upfront the quantified absolute and relative emissions avoidance objectively and visibly in the Application Form. **Follow this with a step-by-step of the calculation** of each parameter and references to the cells in the Excel sheet.



Double check that the absolute and relative emission avoidance amount claimed is the same in the Application Form and in the MS Excel sheet.



Ensure that any **GHG savings that go beyond the boundaries** defined for your sector are **claimed separately** in the tab 'Other GHG emissions avoidance'. Significant other GHG emissions (more than 10%) are rewarded with additional points.

Assumptions and emissions factors: document and properly reference them

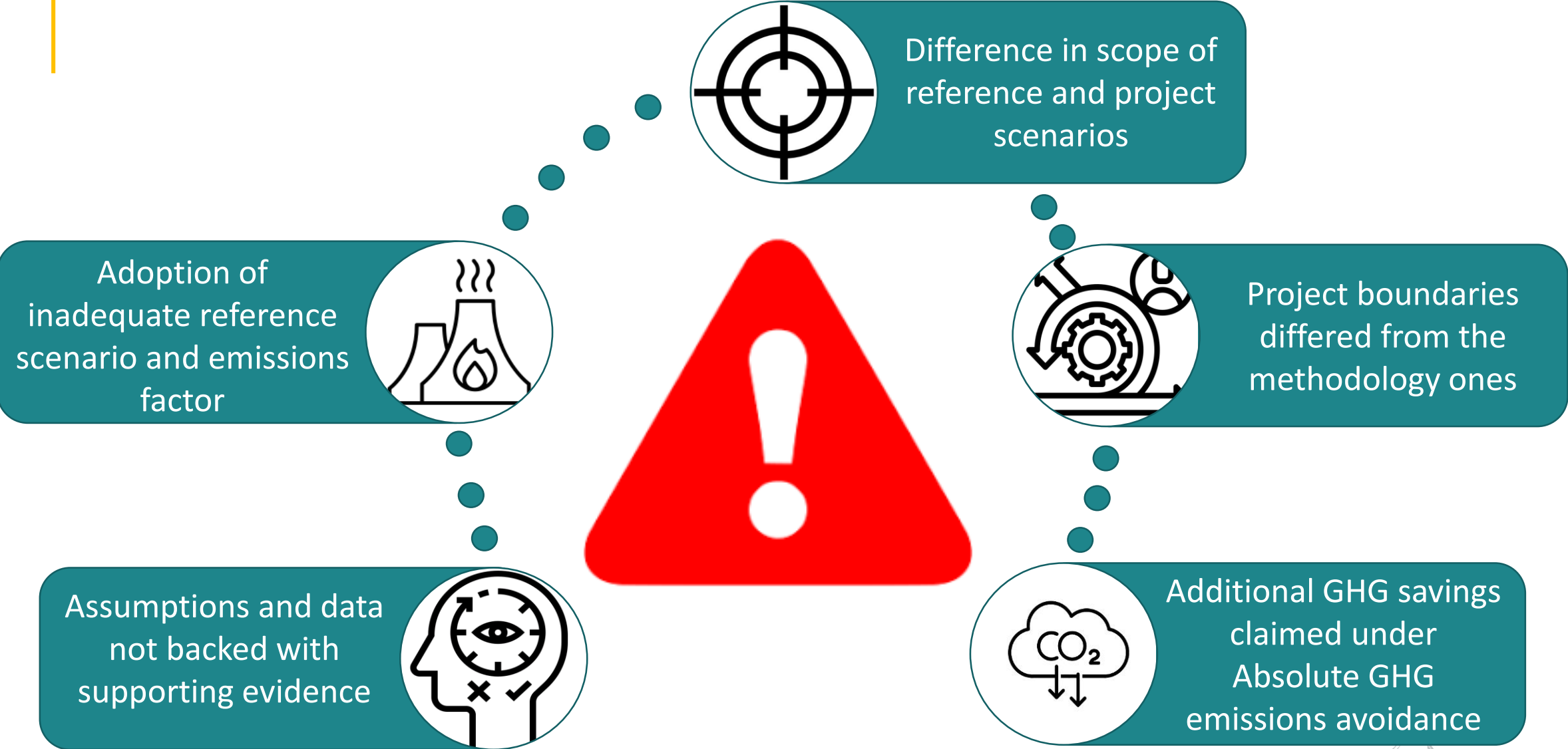
Use projected **operational data backed by robust evidence**. Document in a transparent manner the assumptions adopted to estimate/extrapolate

In case of uncertainties **use conservative values**

Disclose **all assumptions in a disaggregated manner** and properly referenced

Leave a clear verification trail: include the source of information and hyperlinks to the original reference. whenever a value differs from the methodology.

Main mistakes on GHG emissions avoidance





Best practices
Project maturity

Best Practice on Project maturity

1 Define a project timeline

- Make sure it is comprehensive, realistic and consistent with your project's technical and financial elements

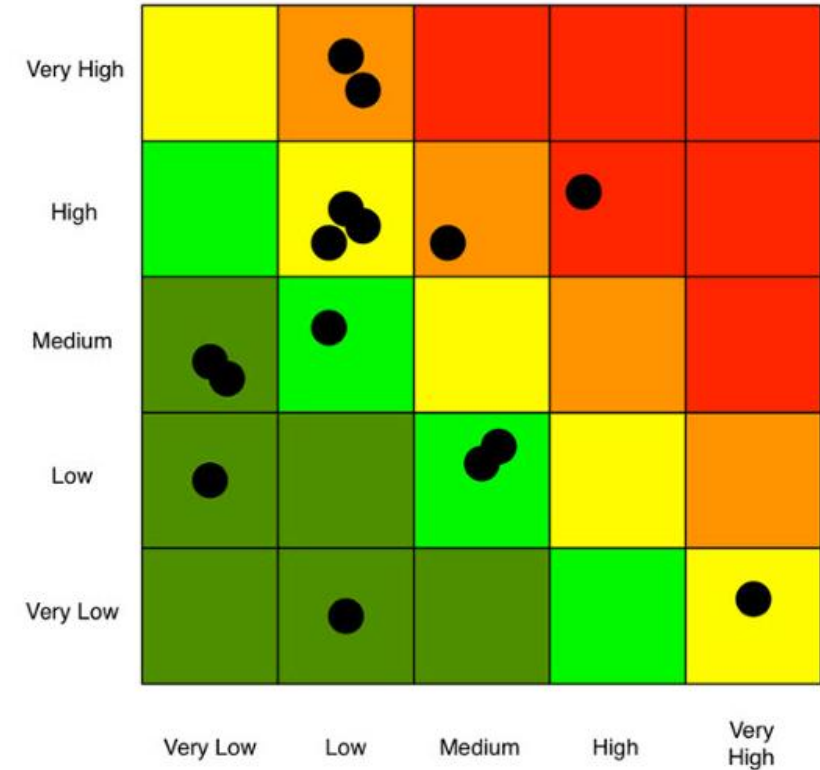
2 Identify technical, financial and operational risks based on a comprehensive risk assessment Impact

- Ensure that your mitigation strategy is convincing across the major technical, financial and operational risks

3 Provide contractual evidence

- E.g., letters of support, MoUs, indicative terms of agreement for off-take agreements, key suppliers, EPC parties

Sample Risk Heat Map



Source: RiskLens

Likelihood



Best practices
Technical maturity

How mature is your technology: Describe the actual readiness level of your technology/solution

Resubmissions are welcome, particularly if the readiness of your technology has improved

1 Provide a thorough analysis and technical description

- Be concise and focus on key facts and figures

2 Justify and provide evidence for the claimed expected output, e.g.:













- Evidence and performance data from previous stage/site/pilot
- Third party confirmations, quotes from vendors or suppliers, signed letters of agreements or head o terms

3 Analysis of technical risks and their mitigation is required




- Use due diligence report when available

Ensure consistency between project implementation plan, feasibility study, business plan and GHG calculations

Technical maturity: Manufacturing HJT and tandem solar cells

Checklist	Justify evidence with demonstrated TRL 	Provide analysis with performance data 	Ensure consistency among the documents 
Examples	 <p>10 years pilot line operations 100 MW/year</p>  <p>AMPERE H2020 project AUTOMATED PHOTOVOLTAIC CELL AND MODULE INDUSTRIAL PRODUCTION TO REGAIN AND SECURE EUROPEAN RENEWABLE ENERGY MARKET</p>	 <p>Capability cells production (expansion of the facility)</p>  <p>Cells efficiency</p>  <p>LCOE</p>	 <p>Feasibility Study</p>  <p>Business Plan</p>  <p>Implementation Plan</p>  <p>GHG calculator</p>

Technical maturity: Integration of technologies for Power to X

Checklist	Justify evidence with demonstrated TRL 	Provide analysis with performance data 	Ensure consistency among the documents 
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Examples

- Electrolyser at TRL 4
- No demonstration of Power-to-X
- Wrong system operational assumptions

- No system performance data
- Qualitative indicators of CO₂ capture



Feasibility Study



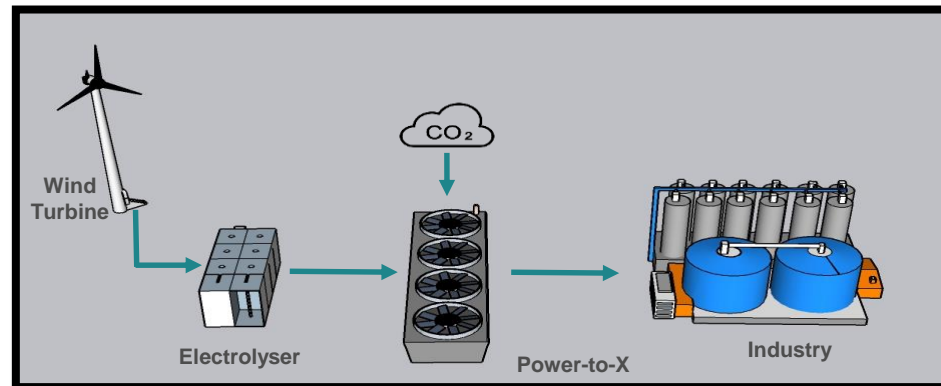
Business Plan



Implementation Plan



GHG calculator

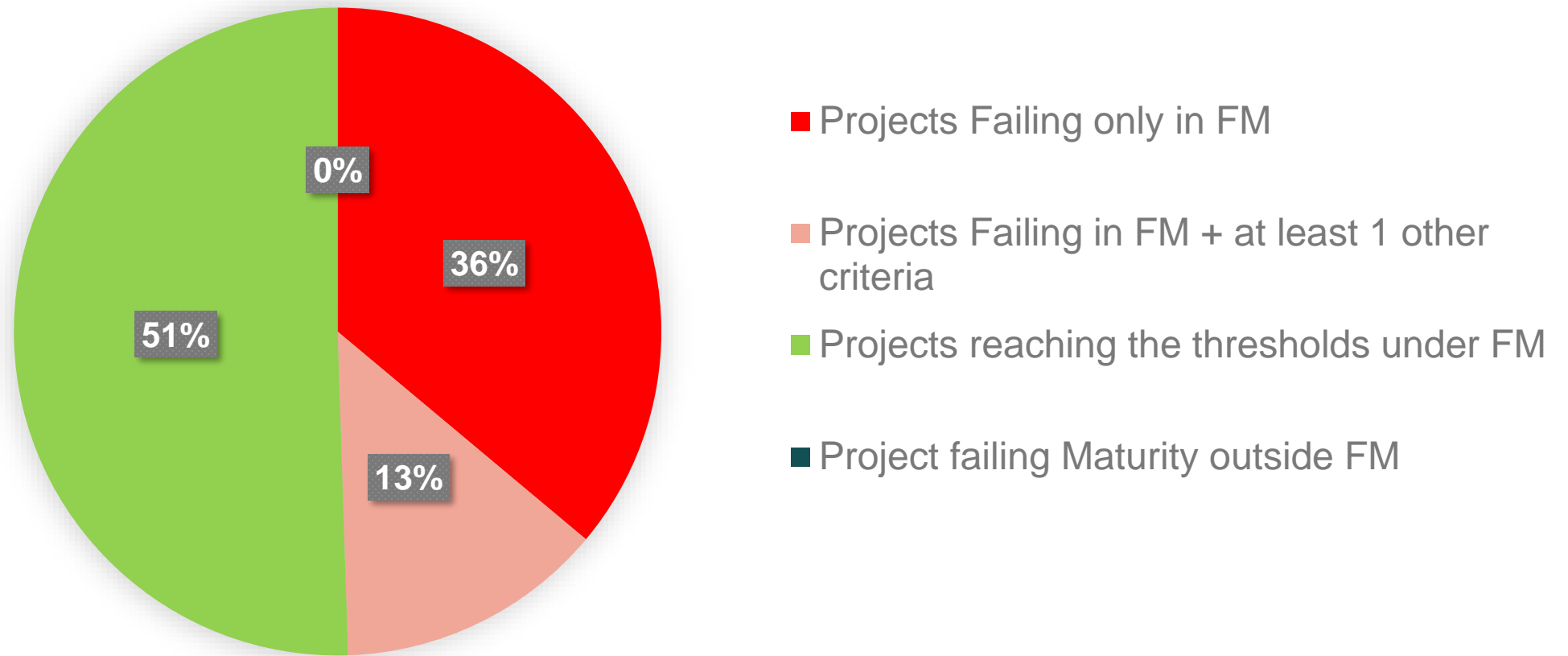




Best practices
Financial maturity

Financial Maturity (FM) : success rates LSC 2021

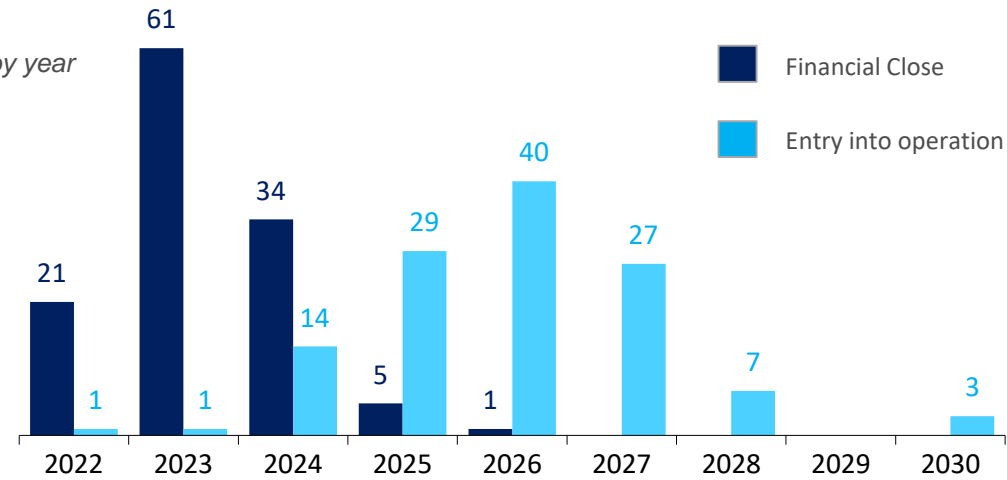
Projects assessed under the Project Maturity Criterion



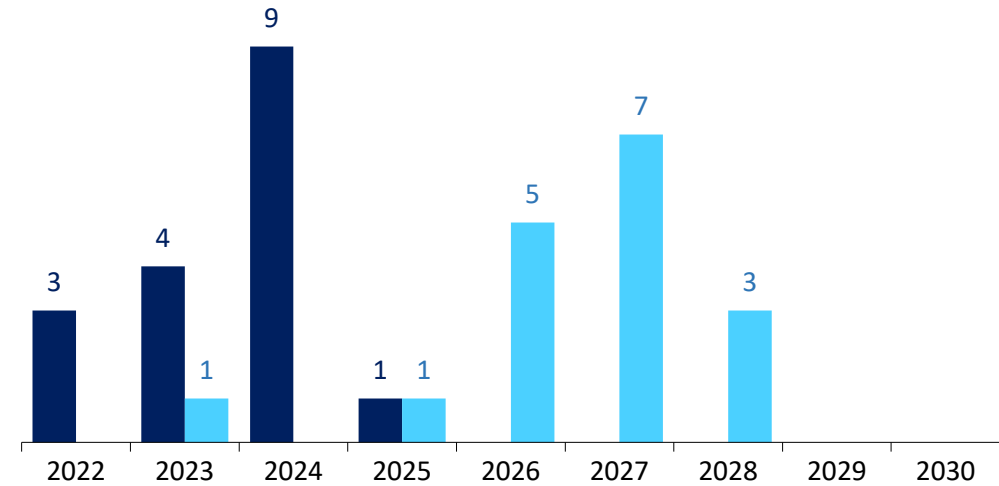
Most proposals anticipate FC within 2 years and 3 years of construction

Submitted proposals

Number of proposals by year

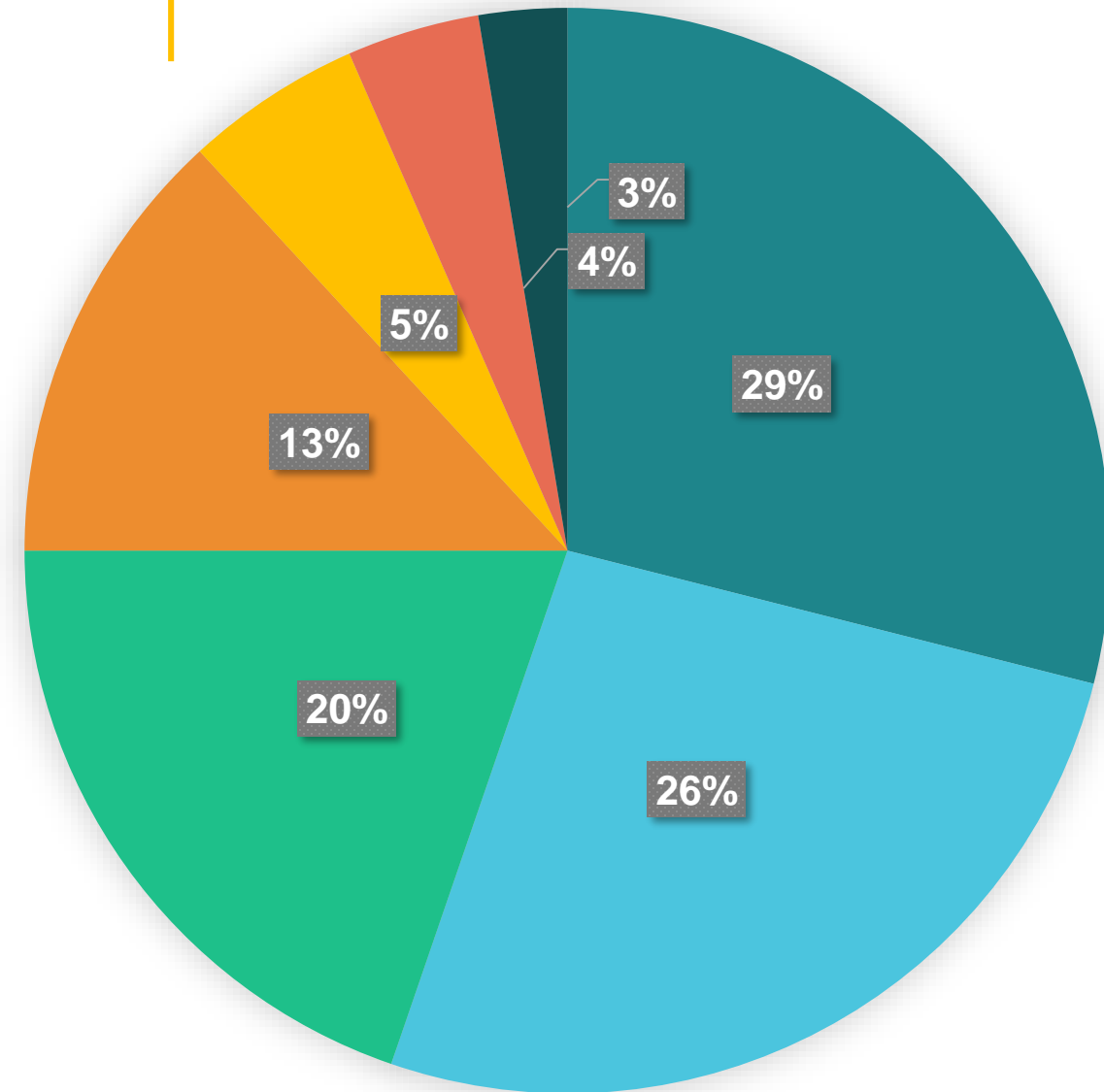


Pre-selected proposals



- Assuming that pre-selected projects sign their grants by end of December 2022, 94% of them are anticipating to reach financial close within 2 years from grant signature
- When taking all projects submitted into account, 95% are planning to reach financial close within 2 years
- Business plans anticipate construction to take about 3 years on average, but for some projects completion is expected to take more than 5 years

Most frequent Significant Weaknesses



- The project is not profitable + the financing plan is not credible
- The business plan is not credible + assumptions are not substantiated nor credible
- There are inconsistencies between RC - BP - FMSS - Detailed Business Model
- The WACC is not credible : there are inconsistencies or is not calculated according IF Methodology
- The business and financial risks and their mitigations are not identified nor substantiated
- The scope of the business plan is inconsistent and not substantiated
- The Financing Plan is not credible + the commitment of the funds providers is not credible nor substantiated

Credibility of the Business Plan

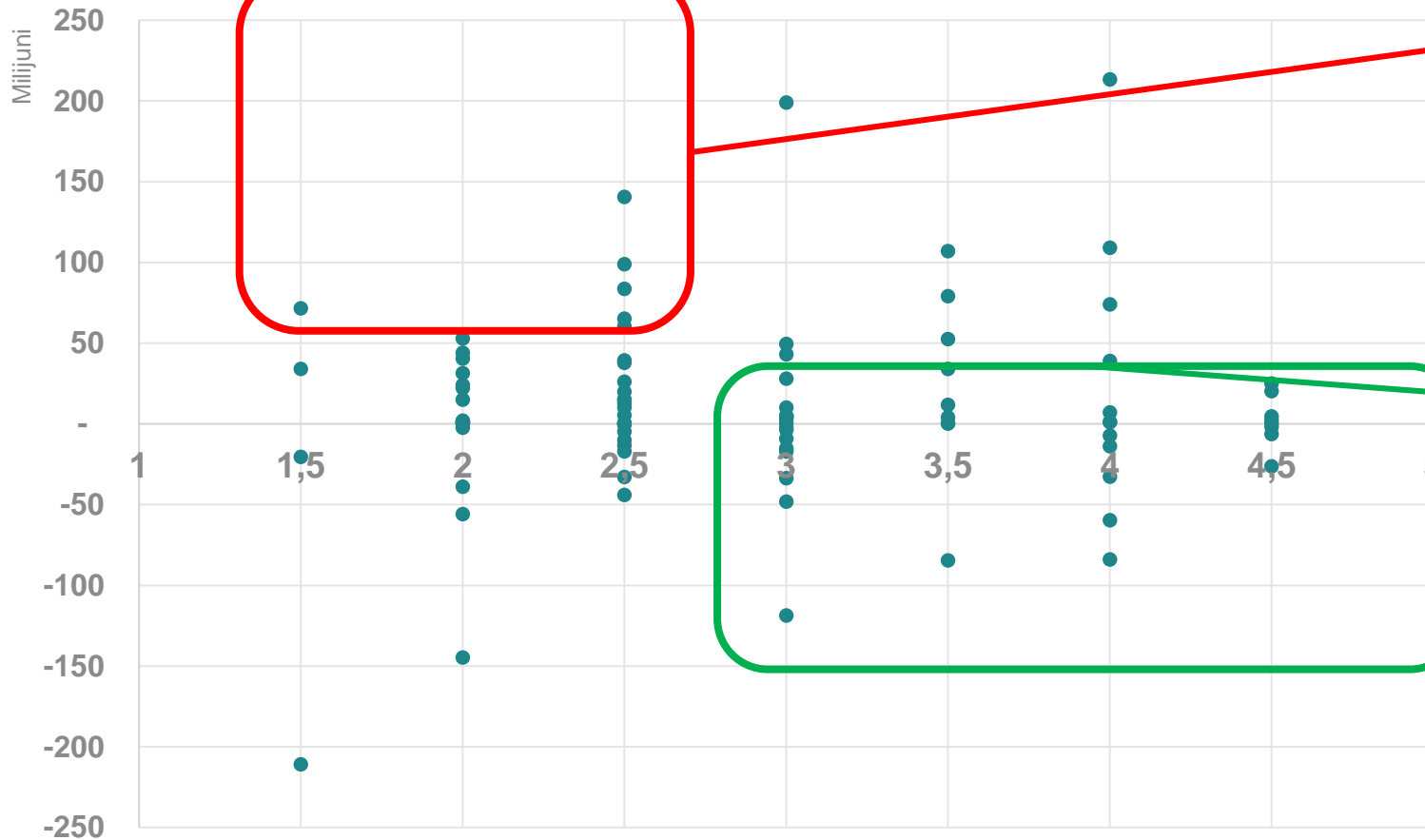
- Make sure that the financial projections are coherent with the assumptions detailed in the business plan and used in the other application documents
- Fully describe and substantiate the main revenues and cost assumptions: provide and justify volumes, prices assumed, write a clear narrative for your assumptions and make sure they are coherent with your thorough market assessment and technical feasibility assessment
- Provide a clear and full breakdown of CAPEX with references and justifications
- Make sure that the scope of activities of your business model and business plan match the scope of the project you submit, that the assets and costs of the project are borne by the applicant and grant beneficiaries
- Justify the cost contingencies assumed and ensure that they are in line with market practice in your sector
- Focus on quality instead of quantity of information

Credibility of the Financing Plan

- Highlight the financing structure indicating whether the debt will be raised at the level of the corporate entity or of the project, and the level of recourse to the project shareholders
- If the project is planning to raise external debt, justify the key terms assumed, expected cash flows and that this debt level and repayment profile is in line with market standards. If possible, provide letters from banks/debt investors to support these assumptions
- **If project has low profitability and/or subject to high volatility of cash flows, we expect strong evidence of commitment from sponsors.**

Profitability is not the whole story

Project Net Present Value



Profitable proposals could be penalized severely if their business and/or financing plans lack credibility

Proposals with low returns could still meet scoring thresholds in particular if the funders provide strong evidence that they are committed to fund the project

Profitability is only one element considered in the evaluation of financial maturity

Avoid inconsistencies and provide supporting evidence

- Provide contractual evidence (e.g., letters of support, MoUs, indicative terms of agreement) for off-take agreements, key suppliers, construction/EPC parties
- Make sure that the grant disbursement schedule is in line with the call text guidelines
- Ensure that assumptions used for WACC are adequately reflecting the project risks and **refer to dedicated section on WACC assumptions in the guidance on relevant cost methodology**
- Provide a detailed financial model covering the entire project lifetime and consistent with the project milestones



Best Practice :

Use your own Detailed Financial Model to fill the Financial Information File

Item	Unit	EUR/t	2023	2024
Volumes				
Baseline				
Feedstock	kt		17	50
Product - Light	kt		9	26
Product - Heavy	kt		4	14
With Project 1				
Feedstock	kt		17	62
Product - Light	kt		9	32
Product - Heavy	kt		4	14

[PROJECT] - Model inputs				
Year		2023	2024	
Period Start		01-01-2023	01-01-2024	
Period End		31-12-2023	31-12-2024	
Profit & loss				
Revenues				
(1) Total revenues from products and other revenues	k EUR		Total	
(2) Total revenues from products	k EUR			
[Product/Service 1]				
Price	[Unit]			
Volume	[Unit]			
[Product/Service 2]				
Price	[Unit]			
Volume	[Unit]			

Provide supporting evidence : example

Macroeconomic assumptions		2022	2023	2024
Inflation	%	19.00%	9.20%	3.50%
GDP growth	%	4.50%	2.00%	3.00%
Increase in exports	%	4.80%	5.00%	4.40%
Growth rate of gross average earnings	%	15.80%	7.10%	7.00%
Corporate tax rate	%	9.00%	9.00%	9.00%
Employer's contributions	%	13.00%	13.00%	13.00%
Risk-free forward return	%	0.27%	1.10%	1.57%
Unlevered industrial beta	—	0.75	0.75	0.75
Market risk premium	%	6.00%	6.00%	6.00%
Country risk premium	%	1.85%	1.85%	1.85%
Innovation risk premium	%	3.00%	3.00%	3.00%

For EACH of the assumption used, provide the sources and the justification:

- If it is publicly available – the website reference
- If it is NOT publicly available - the detailed data as annex of the Business Plan

The justifications provided have to be accessible, verifiable and reproducible.

Identify the risks, mitigate them and clarify the scope

Example 1 : Carbon capture and storage (CCS)

If the carbon storage is outside the scope of the project, ensure that you do have enough strong indication that CO2 transport and storage infrastructure will be available and related contracts secured to ensure that your project can mitigate these risks

Example 2 : Waste-to-power for production of hydrogen or chemicals

If the feedstock is externally sourced, ensure that you have Letters of intent (LoI's) from potential suppliers and provide a detailed overview of the feedstock availability in the project area. Take the potential cannibalisation effect into account.

The 7 golden rules of FM

Clearly outline project scope, legal structure (*) and potential interdependencies with other projects

Identify & provide effective mitigation measures for key business risks

Ensure your business plan is fully funded and provide evidence of funding commitment

Substantiate and justify your business assumptions

**Financial
Maturity**

Be consistent and follow our guidance on how to calculate your project WACC in line with your project risks

Give evidence of preliminary contract agreements with your main suppliers, construction contractors and offtake parties

Assess market, competitive landscape and commercialisation of your technology



Best practices
Operational maturity

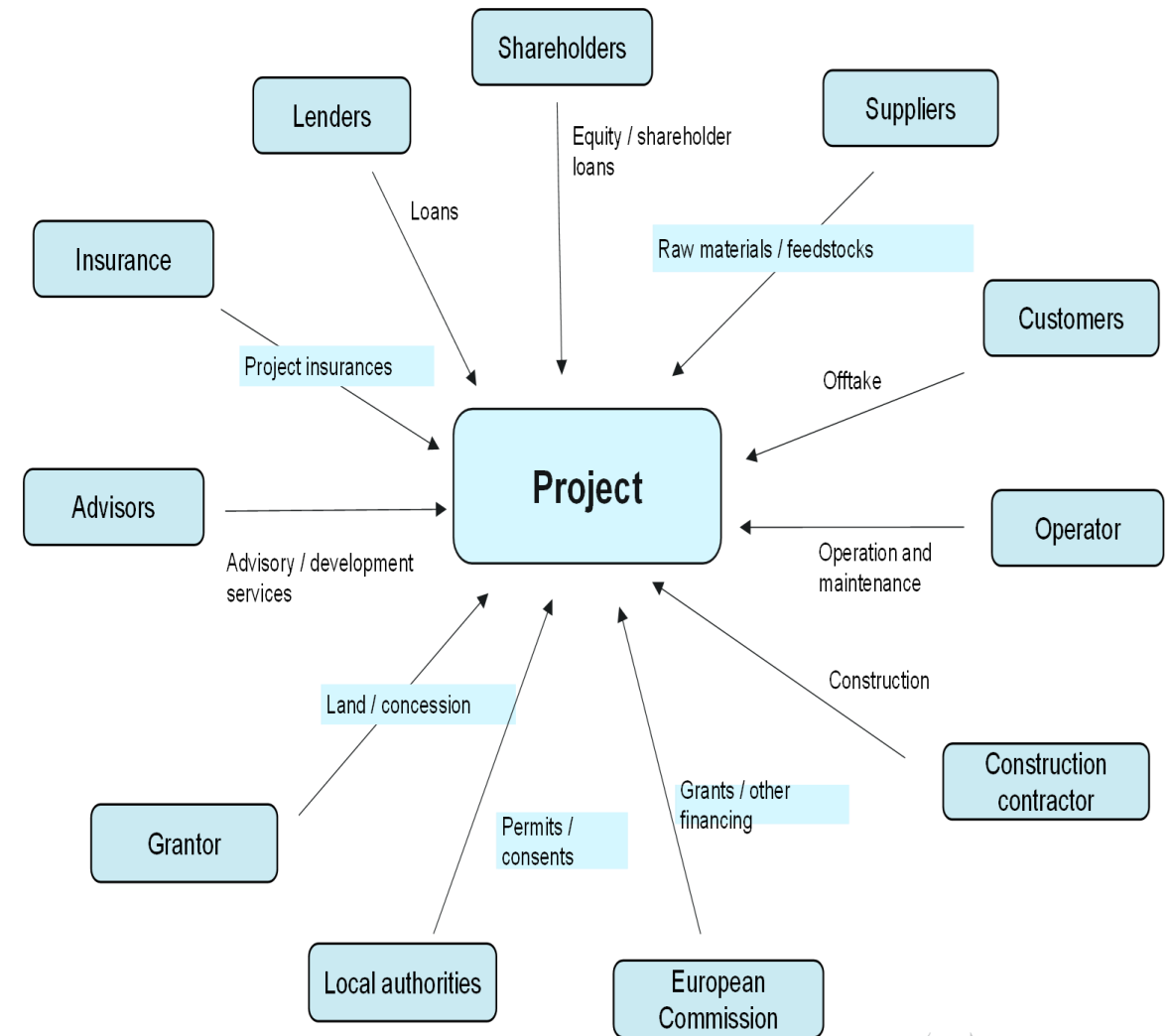
Operational maturity: Justify the likelihood of your project deployment as planned

Have a **defined strategy** for off-take agreements in place

Have a strategy for **construction and supply contracts** in place

Ensure your project **parties, partners and contracts** are well-defined and sufficiency explained

Provide a **clear and realistic timeline** of key project deliverables and milestones



Workplan: Comprehensive, realistic, and consistent



Properly associate work packages (WPs) with activities and with their planned costs



Define adequate deliverables, milestones and means of verification



Do not underestimate the risk analysis



Present a detailed and realistic strategy to obtain all relevant permits and licenses

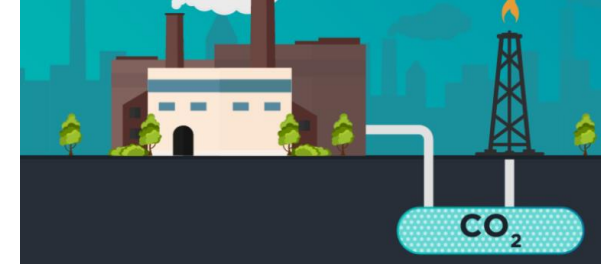


Make sure that the role and responsibility of each entity and party is clearly explained



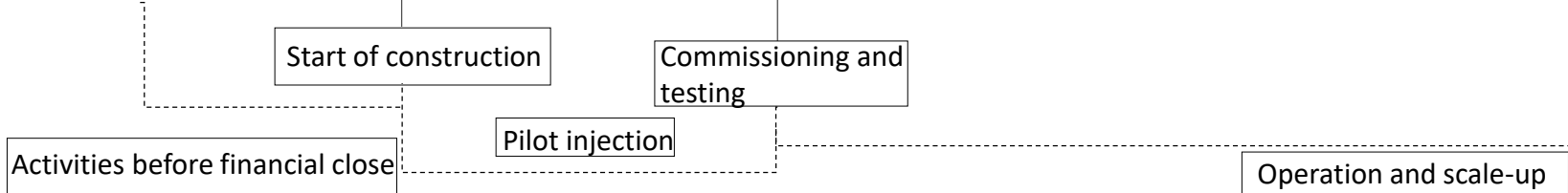
Ensure consistency

Operational maturity- CCS



Adequate WPs, deliverables & milestones <input checked="" type="checkbox"/>	Appropriate know-how & responsibilities <input checked="" type="checkbox"/>	Ensuring public acceptance <input checked="" type="checkbox"/>	Strategy for permits, rights & licences <input checked="" type="checkbox"/>	Operational risk assessment <input checked="" type="checkbox"/>
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<p>Proof of keeping initial timeline</p> <p>12 WPs with same 8 interconnected tasks in each</p> <p>Clear deliverables e.g. report on storage reservoirs</p>	<p>Management have experience of large portfolios of projects including coordinating EU funded projects</p>	<p>Support at the highest level of government in the country</p> <p>Conducted an independent survey to evaluate local acceptance that showed support from the public</p>	<p>Identified legal framework for national and international laws and regulations</p> <p>Plan for permits needed in all stages of the process</p>	<p>Early risk identification with mitigation measures</p> <p>E.g. plan for:</p> <ul style="list-style-type: none"> - A heavier environmental impact assessment (EIA) process than expected - Infrastructure not ready in time - Uncertainty on inject permit process
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Operational maturity-Circular bio-refinery to produce high-performance, bio based rheology modifiers

Adequate WPs, deliverables & milestones



Identification of the tasks is too generic

Activities such as **engineering, construction preparation** and **preparing for investment decision** are **not sufficiently developed** in respect of the relevant sub-tasks

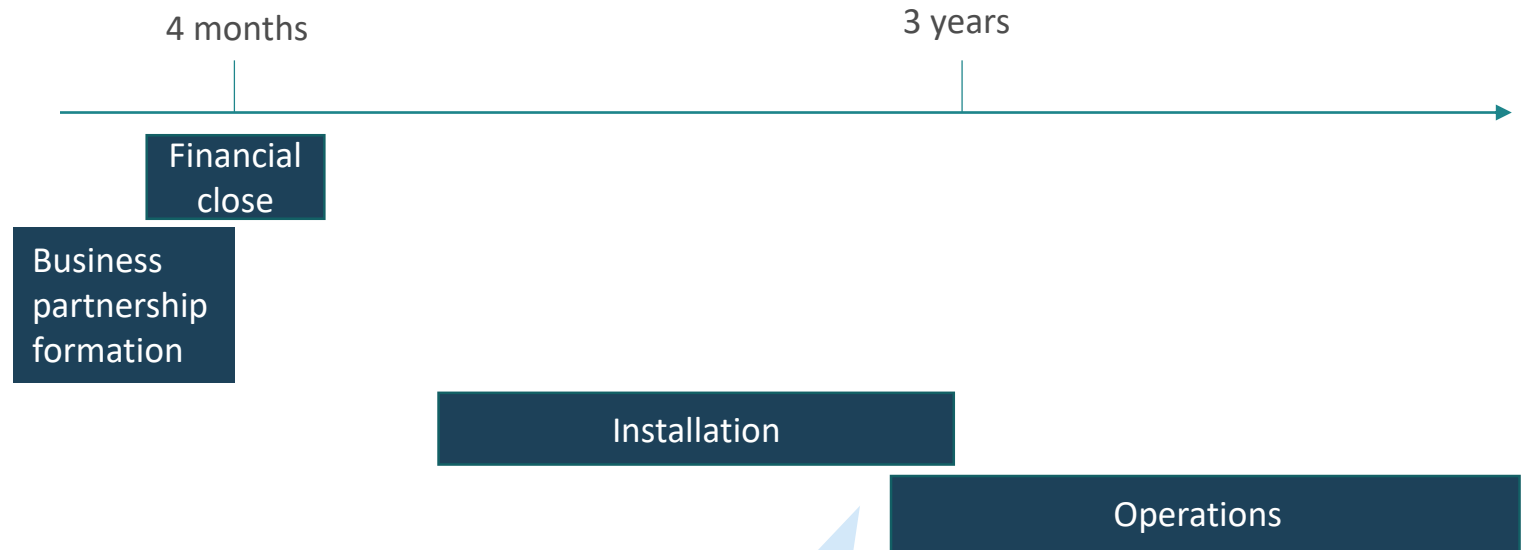
Work plan is not sufficiently consistent with the Gantt chart

Does not consider inter-dependencies between activities

Schedule is not sufficiently convincing given the current state of development of the project

Key mile stones and deliverables are insufficiently identified.

E.g. Plan and timeline for **forming the proposed business partnership** is insufficiently elaborated



With the provided timeline **interdependent activities will not be done before operations start**

Operational maturity- Low-temperature geothermal power plant

Adequate WPS, deliverables & milestones



Timing related to one of the most critical tasks

Preparatory site construction works and research mining works to establish reserves is largely underestimated with only 4 months between drilling start for 2 to 4 wells and end of drilling, completion & testing, as well as proven reserves reporting



Ensuring public acceptance



Public resistance to fracking activities are insufficiently addressed



Strategy for public acceptance

Mainly based on one-way communication and dissemination activities with insufficient focus on public engagement and stakeholder involvement

Operational risk assessment



Some key project operational risk are insufficiently defined.

Risk for potential gas depletion of the reservoir

Risk that the operating hours of engines are less than expected

Risk connected to fractures induced by fracking

Environmental impacts throughout the project life-cycle are not sufficiently elaborated

- E.g The issue of induced seismicity is insufficiently





Best practices
Scalability

Scalability: Demonstrate your growth potential

Plan for technology uptake in other sites

Provide detailed assumptions on cost reductions

Underpin your claims with evidence and calculations (GHG calculator)

Present how IPR and licensing issues will be handled, e.g. technology transfer at sector level

Avoid unsubstantiated, generic claims related to EU green deal and REPowerEU objectives

Clear and comprehensive communication & dissemination strategy

Scalability – Recycling Plastics Waste Project and regional

Checklist	Expand and upgrade the facility beyond IF 	Build a new site in EU or worldwide 	Direct impact on regional economy 	Indirect impacts on regional economy 
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Targets



50ktons of waste plastic by 2028

838,9 ktons GHG emissions avoidance



500ktons of waste plastic by 2030

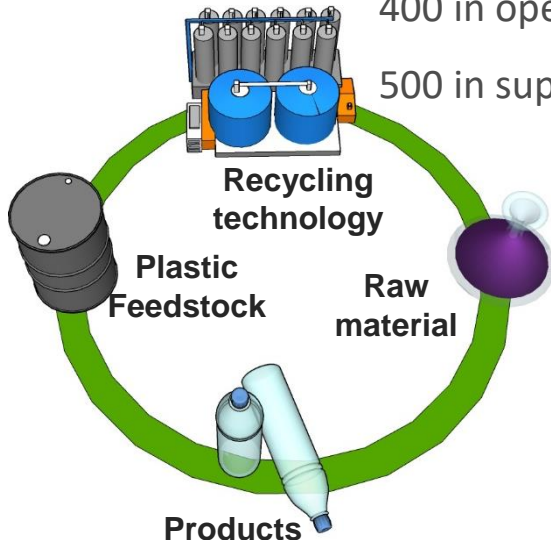
9029,2 ktons GHG emissions avoidance

2500 jobs in the new value chain


- 800 in the expansion of the facility
- 300 in waste management
- 500 in engineering functions
- 400 in operations
- 500 in support functions



- Equipment manufacturers
- Packaging companies
- Research organizations
- Plastic converters



Scalability – Recycling Plastics Waste Sector

Checklist	Technology deployment within the sector 	Technology capacity expansion 	CAPEX & OPEX reduction 	Cost & recyclability of raw material 
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Targets

Plastic recycling solutions – chemical recycling

Total capacity expansion:
 3 plants by 2035 of 200kta

 350 ktons CO2 GHG emissions

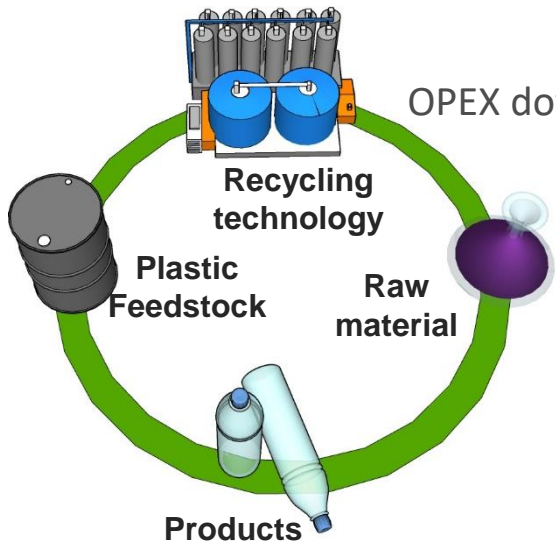
Costs reduction

 10% CAPEX decrease

 Plants operations and troubleshooting increase capacity 5% with same CAPEX.



 OPEX down 15%

Raw material costs down to 10%



Scalability – Recycling Plastics Waste

Economy-wide & knowledge sharing

Checklist	New end-use streams 	Knowledge sharing 
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Targets

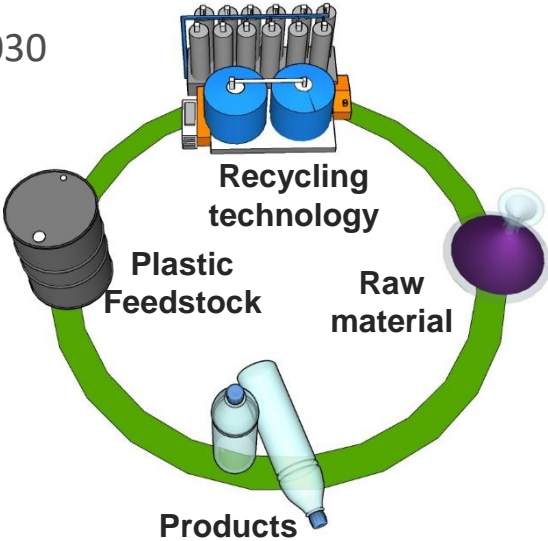
Increased the demand for recycled materials

- Electronics industry – 2.1 Mta by 2030
- Automotive industry – 1.3 Mta by 2030
- End-life-tyres – 1.9 Mta by 2030

Dissemination strategy towards

- Industry
- Academia
- General public

Accelerate the scale-up of the technology



Scalability- New focus areas since previous calls



Scalability in terms of efficiency gains

- Expected technology cost reductions
- Efficient use of resources or other ways to address resource constraints

Scalability in terms of further technology or solutions deployment

- Plans for expansion at the project site and possible technology transfer to other sites
- The extent the technology can be applied within the sector, regionally, EU or globally
- Potential to transfer the technology to other sectors
- Related expected additional emission avoidance
- Impacts on economic growth and jobs



Potential to become cost-competitive and financially viable over time

- For projects that are largely dependent on subsidies the potential to become cost-competitive in the absence of subsidies is evaluated



Potential to create new value chains or reinforce existing ones in Europe

- With regard to the contribution to the development of strategic autonomy in industrial supply chains, as defined in the EU Industrial Strategy 2021 and the Communication on a Recovery plan for Europe





Best practices
Cost efficiency

Relevant Cost Methodology

Read carefully Annex B and implement correctly the chosen methodology

Implement the methodology carefully in the relevant cost template

- Strictly taking into account the methodology guidelines
- Do not try to have your own reading: check with Helpdesk if needed

Justify the reference price and price premium used

- **Ensure consistency** between the Financial Model Summary Sheet ('FMSS') and the Relevant Cost Template

Use the **same reference scenario(s) and methodology** as used in the calculations of GHG emissions avoidance potential to ensure consistency

- Some exceptions are allowed under specific conditions (methodology of relevant cost calculation), and they should be clearly explained and justified

Do not include project-specific public support in the calculation of relevant costs.

Cost efficiency – be consistent

Main change VS previous calls

Cost Efficiency
= automated in the « Relevant Cost Calculator / Financial Information File » (FIF)

Main attention points



- 1 Do not change or alter the file and the cells
- 2 Follow the instruction mentioned in the file
- 3 Do not forget to add the GHG emission reductions
- 4 Fill the file completely
- 5 **BE CONSISTENT** – Business Plan / FIF / Detailed financial model



Final Recommendations

Full application: **Ensure consistency, clarity and reliability**



Ensure consistency

- Clarity of information is more important than quantity
- Cross-reference to annexes clearly
- Use requested font size and template
- Respect page limits



Be realistic



Be clear on the proposed legal and organizational structure of the project

- E.g. the possibility to include or create an SPV and present a solid strategy and timeline



Make sure everyone is onboard

- Entities and parties upon which the project implementation depends need to be fully in line with the proposal and provide explicit and solid support.
- E.g. permits, buy-back rights, licenses, commitment for additional funding clearly stating the amounts and dates of injection of fund etc.

It's always a good idea to have **someone** (that's not involved in the preparation of the proposal) **checking the proposal documents**

Where to find more information?



All (past) call documents available on the Funding and Tenders Portal including:

- ✓ Guidance and calculation tools on GHG emissions and relevant costs
- ✓ Frequently asked questions <https://europa.eu/!QB67by>



For individual questions on the Portal Submission System:
[Helpdesk](#)



Further info, planning of new calls, recorded webinars and videos available on the IF Website:

<https://europa.eu/!rx34Dt>



Innovation Fund - YouTube

<https://bit.ly/2WxK8w7>

