
INNOVATION FUND
Lessons learnt from the applications to the 2020 calls
28 April - 10.00 CEST

First call for large-scale projects

Lessons learnt from first stage

Common mistakes and best practices

Based on a comprehensive review of:

- Anonymised applications to the First-Stage Large-Scale Call –
  - representative selection across sectors, firm sizes, achieved score
- Corresponding evaluator consensus reports
- Survey on the application process of the First-Stage Large-Scale Call
- Survey on the evaluation process of the First-Stage Large-Scale Call

GHG Emissions Avoidance

Laura Pereira, ICF

Best practice on GHG emissions avoidance

Take full advantage of the provided GHG calculation tool

- Use the provided GHG calculation MS Excel tool, which helps to calculate emissions as required by the IF GHG methodology. Any specific deviations should be clearly disclosed and justified.
- If possible, further disaggregate a parameter into various emission sources to allow for a more transparent and traceable calculation, but keep the reference on where each project emission would fit in the methodology.
- Any additional GHG emission savings claimed in relation to emissions generally excluded (see section 1.3.4. of Annex C) should be presented separately.

Clearly report quantified absolute and relative emissions avoidance

- Declare 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.
- E.g.: Absolute GHG emission avoidance potential for the project is XXX million tons CO_2 for the first 10 years of operation.
- Double check that the absolute and relative emission avoidance amount claimed is the same in the Application Form and in the MS Excel sheet.

Best practice on GHG emissions avoidance

Common mistake to avoid:
Discrepancies between figures reported in the GHG calculation MS Excel tool and Application Form B.
Confusing and often excessive amount of project information in Form B but no sufficient explanation of the calculation and assumptions.

Absolute GHG Emissions Avoidance

Net absolute GHG emissions avoided due to operation of the project during the first 10 years of operation, in tCO2e.

Acummulated GHG emission avoidance	=	Reference emissions	-	Project emissions
ΔGHG_{abs}	=	Ref	-	Proj
148,025	=	250,000	-	101,975

Figures should match across all application documents

2. GHG EMISSION AVOIDANCE POTENTIAL (AWARD CRITERIA)

2.1 Absolute GHG emission avoidance

Absolute GHG emission avoidance

Provide the potential absolute GHG emission avoidance (in tCO2) during the 10 years after the project's entry into operation using the GHG emission avoidance methodology described in Annex C of the call text (Please note that, compared to the 1st stage application, additional emissions sources have to be considered in this 2nd stage).

Briefly explain how the calculation was made, in particular:

- *assumptions for the reference scenario;*
- *assumptions for the project scenario;*
- *any deviations from the GHG emission methodology and justification.*

If the value has changed compared to the 1st stage application, indicate the difference and explain the reasons for the change.

It is mandatory to support the claims with:

- *detailed calculations in one editable Excel document using the template for second stage. As there are additional emission sources requested for second stage, please ensure these are provided. Complete all tabs. Please note that the key elements of the monitoring plan need to be described in the tab "project emissions".*
- *third-party verification of the GHG emission calculation (see section 8 for further details)*

The result of the calculation must also be included in Form C of the application form. Please ensure the numbers provided are consistent.

148,025 tCO2e

Insert text

not to complete

Best practice on GHG emissions avoidance

Ensure your calculations and reporting are aligned with the IF GHG emissions methodology

- Follow the requirements of the IF GHG emission methodology.
- Document and justify any deviations for the project boundary, methods, and emission factors from the official methodology.
- Be aware that evaluators may not accept the explanations if they are not sufficiently robust and properly justified.

Common mistake to avoid:

- Do not include GHG emissions savings from sources outside the boundaries of the project, as defined in the IF methodology for that sector. If there are such, prepare a separate calculation for Degree of Innovation.
- Do not alter the established reference scenario to match the reality of your project, unless allowed for your sectors (i.e. possible in energy-intensive industries (EII) and if well justified in energy storage).

Best practice on GHG emissions avoidance

Present only the information required

- Provide a clean, tidy and organised calculation with different colour codes in order to visually differentiate cells with input data, comments and calculations. This approach facilitates internal and external review of the calculations.
- Avoid providing a full LCA assessment done using other GHG emission methodologies unless specific references are made for the data that is used in the IF GHG emissions avoidance calculation.

Document and properly reference all assumptions and emissions factors

- Use projected operational data backed by robust evidence. Document in a transparent manner the assumptions adopted to estimate/extrapolate. The more visible and transparent the conversions are, the easier it is for evaluators to review them and check the robustness of the assumptions.
- Disclose all assumptions in a disaggregated manner (i.e., in units that are more easily verifiable) and with their rationale (i.e., the basis of the calculation) properly referenced.
- Leave a clear verification trail: include the source of information and hyperlinks to the original reference, whenever a value does not stem from Annex C.

Common mistake to avoid:

- Do not hardcode project operational data directly in the input cells (e.g., energy generated by the project – 500000 MWh) without providing justification on whether this is primary data or derived from secondary data.

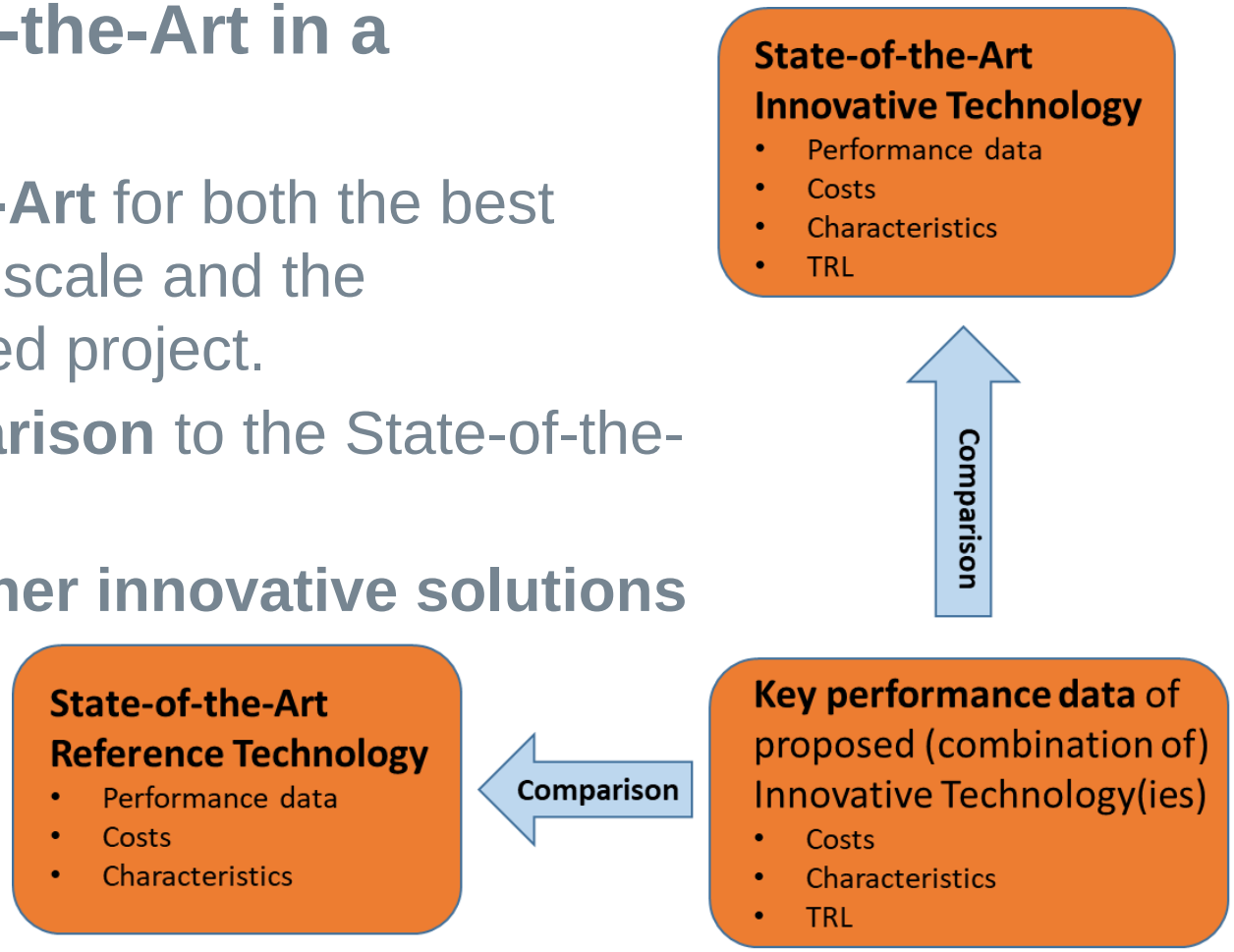
Degree of Innovation

Jakob Wachsmuth, Fraunhofer ISI

Best Practice on Degree of innovation

Establish the relevant State-of-the-Art in a comprehensive manner

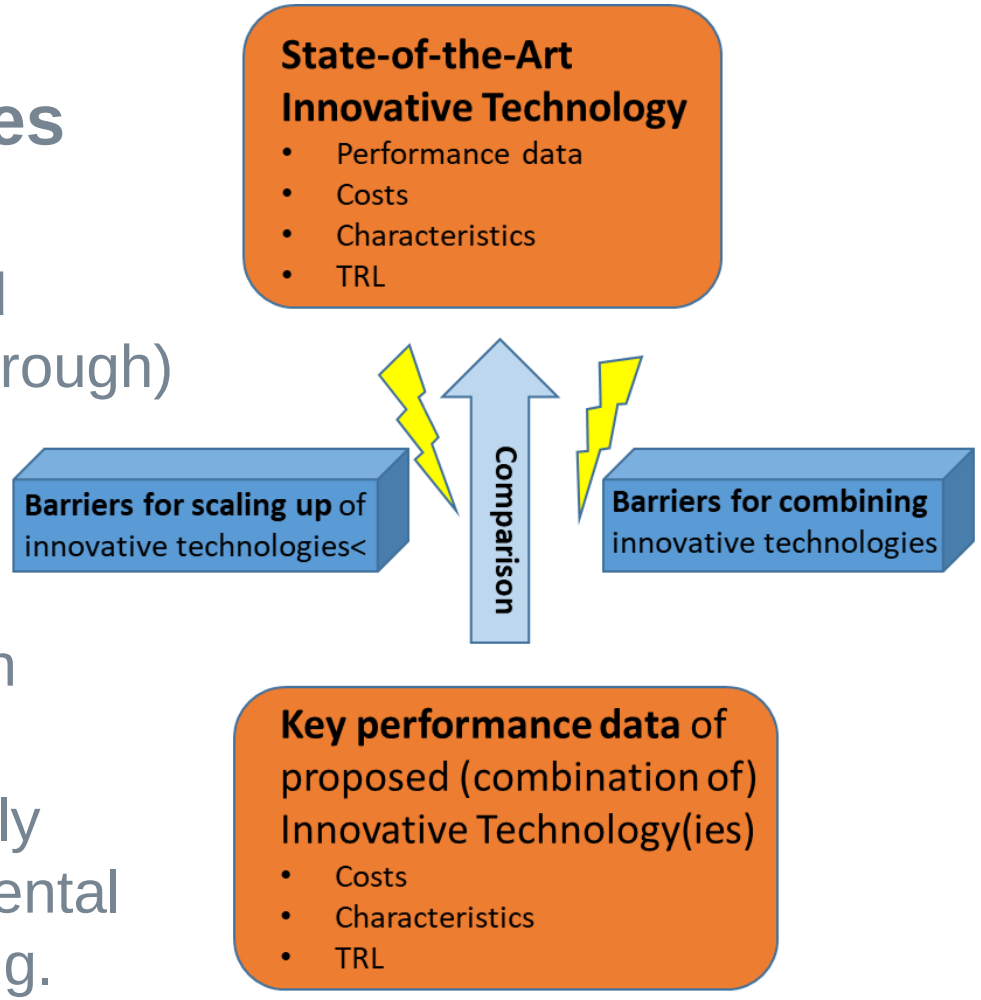
- Describe the **relevant State-of-the-Art** for both the best available technology at commercial scale and the technologies applied by the proposed project.
- Present **your innovation in comparison** to the State-of-the-Art in both these two regards.
- Compare performance data with **other innovative solutions** to show understanding of the field.



Best Practice on Degree of innovation

Explain in detail why the innovation goes beyond incremental innovation

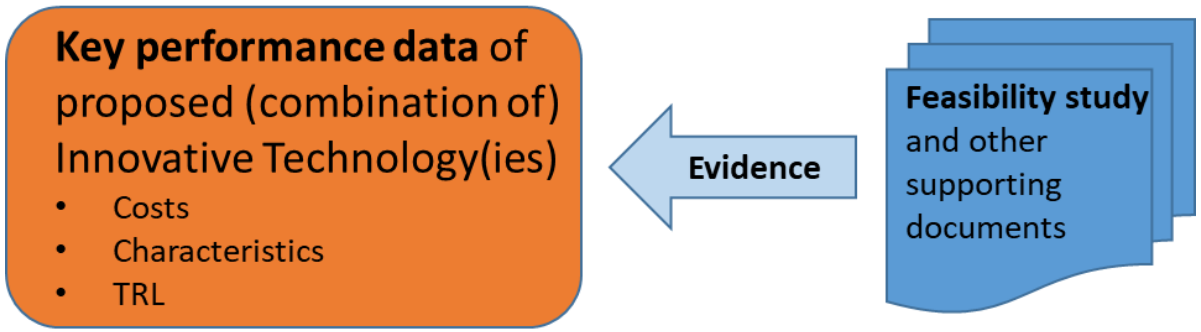
- **Characterise the degree of innovation** beyond incremental innovation (medium, strong, breakthrough) based on Annex D of the call text.
- When **combining technologies** available at commercial scale, clearly explain why their combination goes beyond incremental innovation by addressing the barriers to a combination.
- For **upscaling of available technologies**, clearly explain why their upscaling goes beyond incremental innovation by addressing the barriers to upscaling.



Best Practice on Degree of innovation

Provide key performance data evidenced by the feasibility study

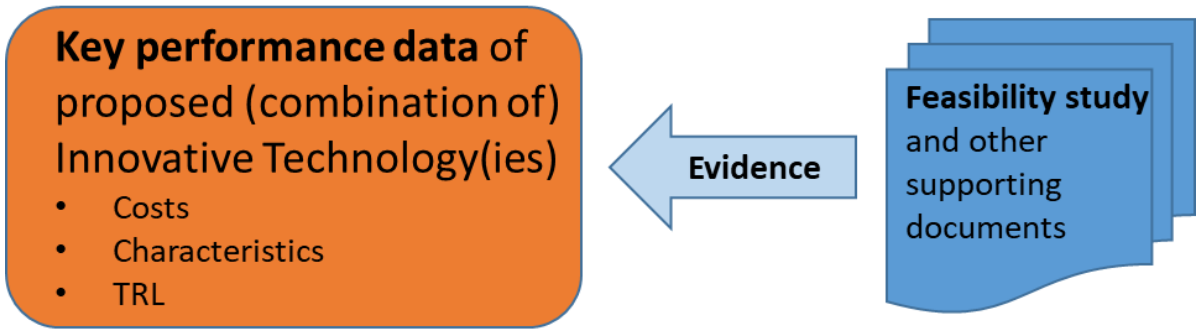
- Present key **performance data (technical and financial)** to demonstrate and support innovation claims in Application Form Part B
- Refer to the evidence provided elsewhere, with **clear signposting** of document/page/section etc.
- Provide evidence for the performance data (technical and financial) in the **feasibility study**.



Best Practice on Degree of innovation

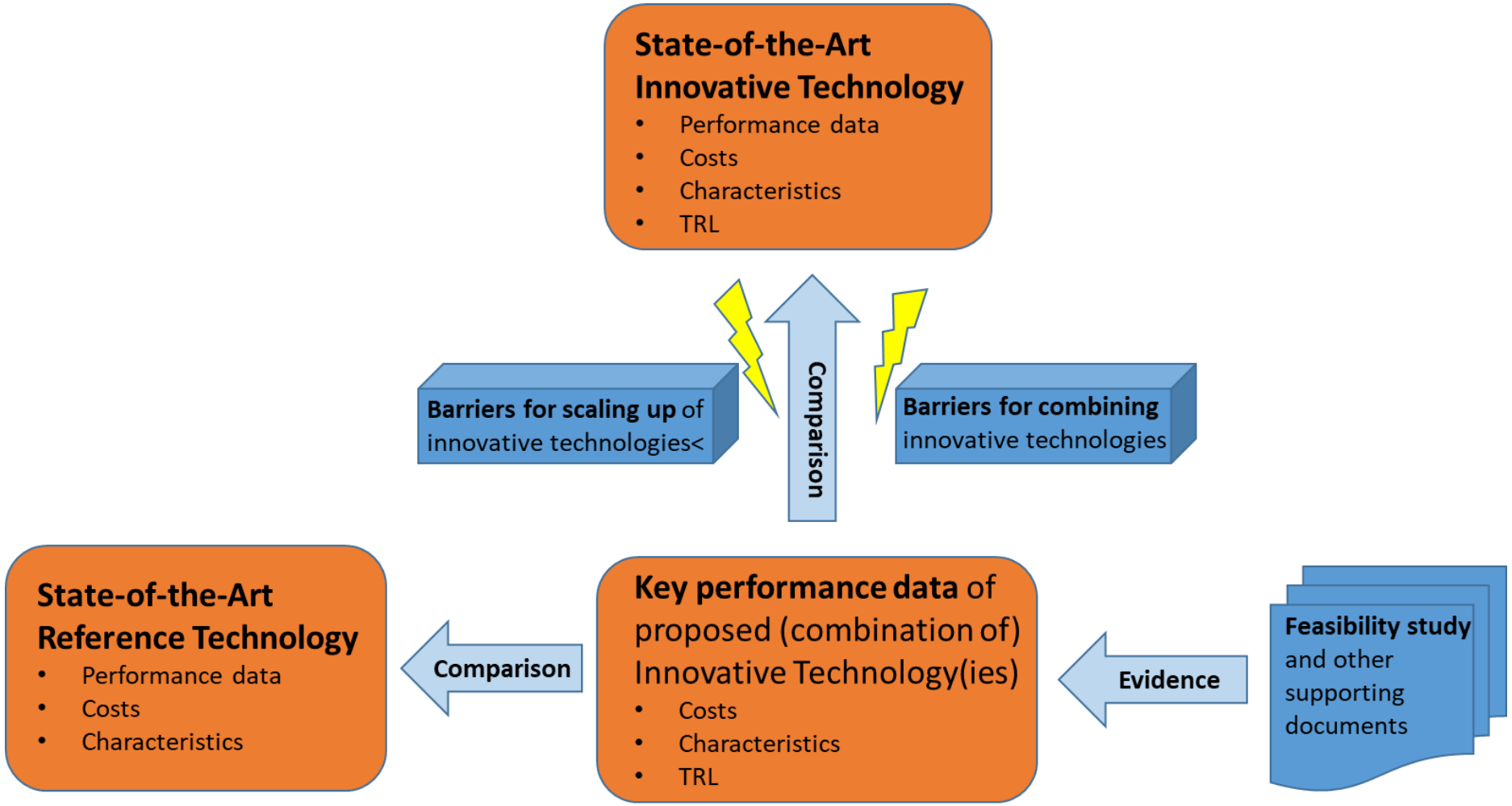
Provide a calculation of additional GHG emission avoidance:

- Provide a **calculation of any additional GHG emission savings**, which are out of the scope of the GHG emission avoidance criterion, in the sheet 'Degree of innovation' of the Excel template for the GHG emission avoidance.
- If at all possible, **follow the logic of GHG emission avoidance methodology** and the corresponding guidance.
- In any case, **keep this calculation separate** from the calculation of GHG emission avoidance calculation.
- **Refer to the Excel file**, when presenting the additional savings under degree of innovation.



Common mistake to avoid:

Comparison with the State-of-the-Art of either the reference technology or the innovative technology only.

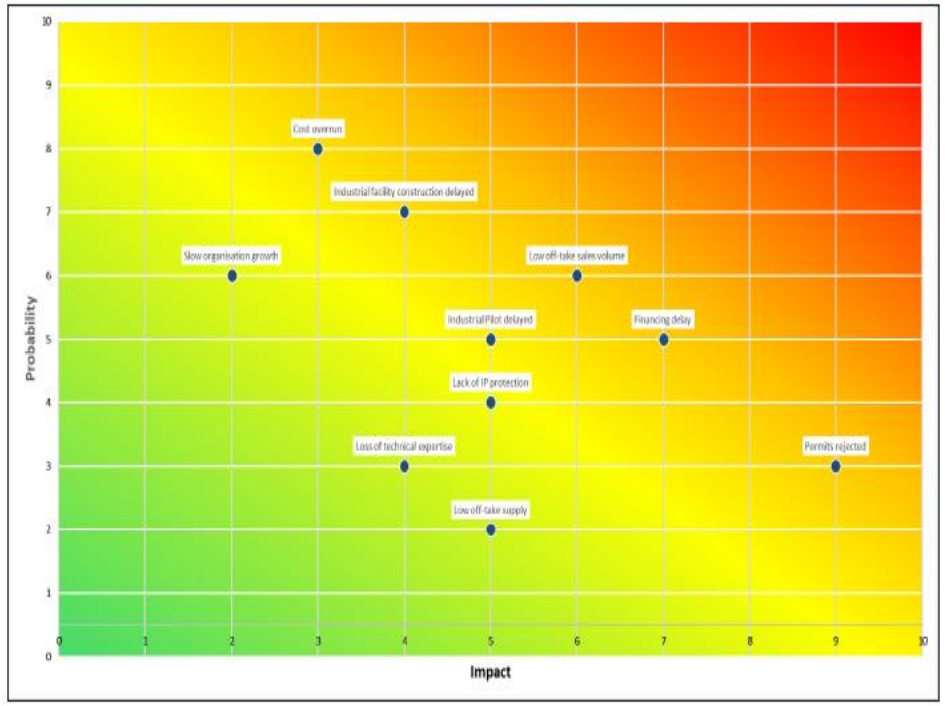


Project maturity

Jonathan Lonsdale & Gregor Paterson-Jones, ICF

Best practice on Overall Project maturity

- **Identify technical, financial and operational risks based on a comprehensive risk assessment**
- **Focus on describing fewer and better formulated risks (>5 but < 10 for each category)**
- **Use a standard scale to measure the probability, impact and overall severity of risks**
- **Calculate total risk scores and plot these as a risk heat map (see diagram to right)**
- **Underpin your risk analysis with supporting information in the three mandatory documents**
- **Ensure that your mitigation strategy is convincing across your major technical, financial and operational risks**



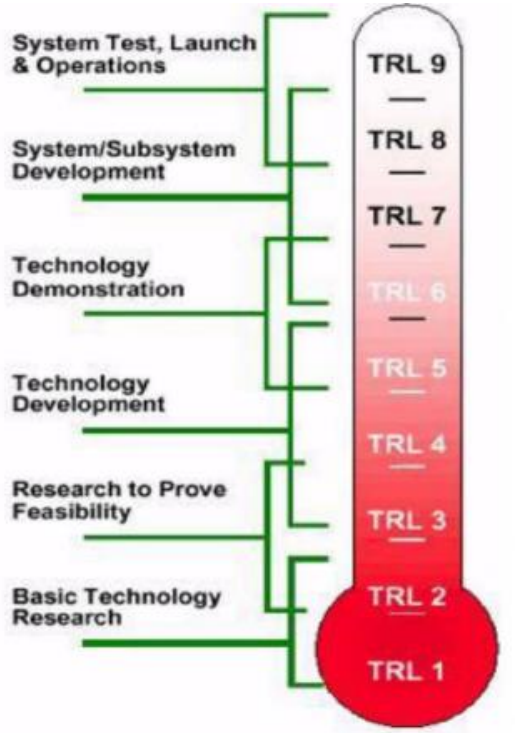
Common mistakes to avoid:

#1 Poorly defined risks with no clear prioritisation or assessment of their potential severity (probability * impact), and no identifiable risk owners

#2 The sensitivity analysis in the business plan and contingency funding in the financing plan are not linked to the risks added in the financial maturity section of Application Form B (AFB)

Best practice on Technical maturity

- Build your case around technical maturity based on evidence from technology suppliers and previous stage results
- Ensure engineering principles are observed (e.g. heat and mass balance)
- Bring evidence of the technical feasibility of the project within its operational environment
- Underpin any information you provide on technical maturity with credible evidence
- If the project is expected to evolve past >1 TRL ensure to set them against key project milestones
- Ensure that you attach your technical due diligence report (where available) to your feasibility study



Best practice on Financial maturity

Financial data

Be consistent and clear with your financial data

Market, costs and revenues assumptions

Fully describe and substantiate your market and financial assumptions, e.g. unit price assumptions, CAPEX, OPEX, revenues WACC estimates

Cash flow projections

Cash flow projections should cover project lifetime and be consistent with project milestones

Ensure cashflow projections are consistent with:

- evidenced documentation or pre-agreements concluded with suppliers and off-takers;
- price/volume quotes (to the extent possible); and,
- expected terms of agreements.

Funding commitments

Provide evidence of credible support by your funders and project partners - such as binding letters of support / MoU / terms of agreement with project funders signed at board level

Ensure conditions precedents are clearly stipulated in the funding agreements

Correlate profitability with the degree of funder commitment

Ensure shareholder's 'skin in the game' cover contribute to their 'fair share' of funding required for any cost overruns/project liabilities

Provide a well-thought through financing structure. BUT, also describe your financial contingency measures ('Plan B') if public support does not work out

Don't rush artificially. Apply to the Innovation Fund when you are ready. IF is not a research programme, focus on business!

Common mistakes to avoid on Financial maturity

#3 Lack of shareholder support evidence that would: 1. get the project past the operation phase; or 2. cover for funding shortfalls during operation had not been provided for projects with low profitability and / or exposed to high financial risks

#4 Steps taken to reach financial close had not been clearly identified

#5 IRR only calculated for the first 10 years and did not cover the full project lifetime and and assumptions for WACC not adequately justified

#6 Insufficient cash flows projections to cover expected debt financing amounts and cash shortfalls in the early years of operation

#7 Projected cash flows covered only a limited number of years and not the full project lifetime

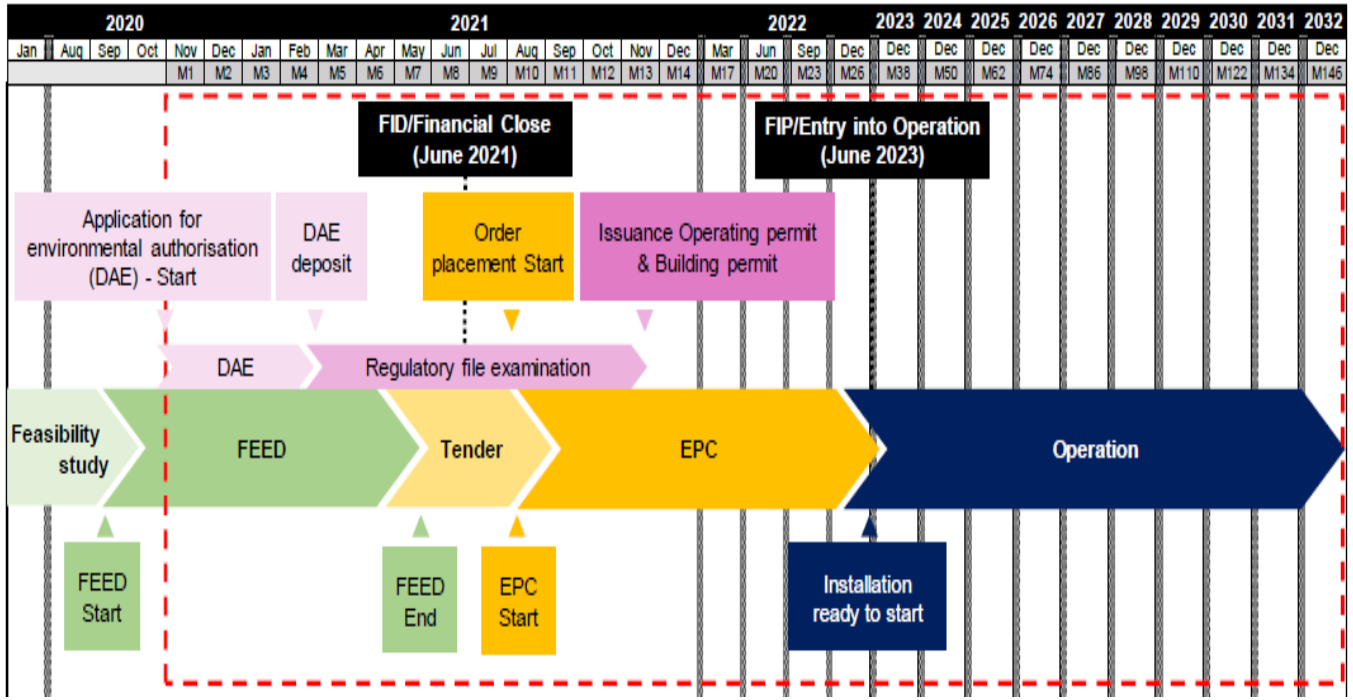
#8 Where debt featured in the financing structure, there was no mention of indicative terms based on negotiation with debt providers

Best practice on Operational maturity

Devise a project implementation timeline that is comprehensive, realistic and consistent with your project's technical (supply of components, construction, etc.) and financial elements (funding allocation over key milestones) in a manner that can be understood by a non-expert audience, whilst ensuring accuracy.

Provide a clear and comprehensive description of the operational steps (permits, licences etc) in line with your deployment and funding expectations

Overall project planning should be consistent across all project documentation

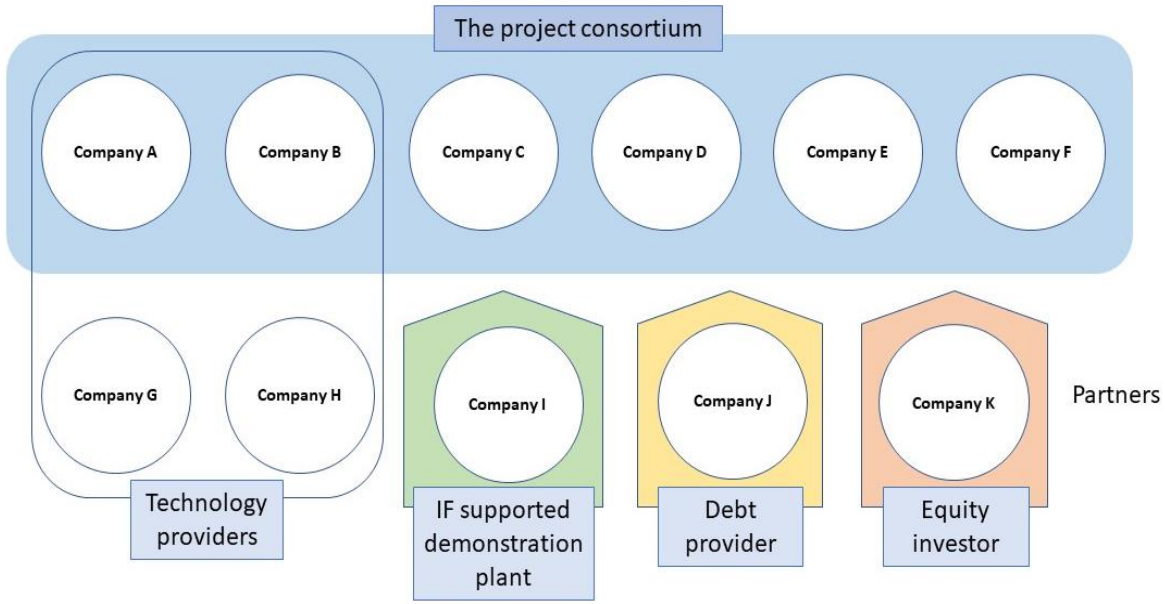


Best practice on Operational maturity

The role and relationships of all consortium partners needs to be well described and illustrated in a diagram (see right)

Key technology suppliers and Engineering, Procurement and Construction (EPC) parties should also be described, including evidence of supply contracts and costs

Your strategy for off-take agreements should be backed by evidence in the form of letters of support / MoUs / Terms of agreement



Contractual evidence will help evaluators to confirm your project's correct costings, revenue assumptions and, crucially, the likelihood of your reaching Financial Close

Common mistake to avoid:

#9 Inconsistencies between project implementation plan, feasibility study and/or business plan


Thank you!
we are ICF