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EUROPEAN COMMISSION, DIRECTORATE-GENERAL CLIMATE ACTION

Assistance with the launch of the first call of the Innovation Fund

DISCUSSION PAPER IN SUPPORT OF WORKSHOP ON 12 MARCH 2020
ON PROJECT INNOVATION, MATURITY AND SCALABILITY SELECTION CRITERIA,
PROJECT DEVELOPMENT ASSISTANCE AND KNOWLEDGE SHARING

Viegand Maagøe · TYPSA · MANNVIT · CLIMA CAPITAL PARTNERS · DHI · CLEANHORIZON · COWI

COWI

ADDRESS COWI A/S
Parallelvej 2
2800 Kongens Lyngby
Denmark

TEL +45 56 40 00 00

FAX +45 56 40 99 99

WWW cowi.com

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CONTENTS

The information and views set out in this background paper are those of the authors and do not necessarily represent the official views of the Commission.

Executive summary

The Innovation Fund (IF) aims at supporting the low-carbon innovation investments in energy intensive industries, energy storage, innovative renewable energy technologies and CCS.

This discussion paper summarises the approaches that are being developed in the preparation for the first call for proposals to be issued in mid 2020. These approaches consider how to evaluate the degree of innovation of the projects compared to the state-of-the-art (degree of innovation), project maturity in terms of planning, business model, financial and legal structure (project maturity), as well as technical and market potential for widespread application or replication, or for future cost redutions (scalability). Further, it outlines approaches for supporting projects' suitability for IF funding through the project development assistance (PDA); and for promoting the knowledge sharing on innovative technologies, products and business models supported by the IF.

The discussion paper will feed into the workshop on degree of innovation, project maturity and scalability selection criteria, project development assistance and knowledge sharing to be held on 12 March 2020 in Brussels. It aims to provide experts that attend the workshop to understand the practical application, workability and utility of these approaches, and thereby also to challenge them. Questions are put forward at various points in the paper. This aims to initiate discussions which will be continued at the workshop.

Key challenges and issues that are to be discussed at the Technical Workshop include the trade-off between safeguarding diligence and transparency during the evaluation procedure, grant award and knowledge sharing (requiring a high degree of detail in application and evaluation as well as in reporting during implementation and operation), and at the same time speed and ease the application process for applicants so as not to discourage applicants or generate disproportionate administrative burden.

In particular, the following questions will be discussed:

- How can the degree of innovation of technologies, products and business models compared to the state-of-the-art be best assessed?

- What are the best indicators for project maturity in terms of planning, business model, financial and legal structure as well as prospects of reaching the financial close within a predefined period of time not exceeding four years after the award decision?

- How can technical and market potential for widespread application or replication, or for future cost redutions be assessed at an early development stage?

- To which extent can these criteria be compared across sectors?

- How can projects, that are innovative and promising in relation to GHG abatement but lack elements of maturity, be supported through project development assistance (PDA) where such need is identified?

- How can knowledge sharing on innovative technologies, products and business models supported by the IF be promoted while respecting the intellectual rights of the project partners?

The feedback and recommendations on how to refine these draft approaches will inform the drafting of the first call guidance document.

The Discussion Paper is structured as follows:

1 **Introduction**, details the scope of the discussion paper and the objective of the workshop on 12 March.

2 **Section 2** presents the developed draft approaches for the three selection criteria **degree of innovation**, **project maturity**, and **scalability**. Furthermore, the role of **due diligence** in evaluation of the technical, business, and financial viability of projects applying for IF funds is discussed.

3 **Section 3**, outlines the draft approaches to **project development assistance (PDA)**.

4 **Section 4** presents the developed draft approaches for **knowledge sharing** requirements.

1 Introduction

This chapter details the scope of the discussion paper and the objective of the workshop on 12 March.

1.1 Scope of discussion paper

This document describes potential approaches to assess the degree of innovation of the projects compared to the state-of-the-art (hereafter degree of innovation), project maturity in terms of planning, business model, financial and legal structure (hereafter project maturity), as well as technical and market potential for widespread application or replication, or for future cost reduction (hereafter scalability) for innovative projects eligible for Innovation Fund (IF) funding. Furthermore, the process for due diligence in the evaluation of the technical, business, and financial viability of projects that apply for IF funds is discussed. After this, draft approaches to project development assistance (PDA) and knowledge sharing requirements are outlined. The discussed approaches only address large-scale projects (i.e. total capital expenditure above EUR 7.5M). Simplified approaches may be developed for small-scale projects.

The document has been written specifically to help experts attending the workshop on the three selection criteria (degree of innovation, project maturity and scalability), project development assistance and knowledge sharing to be held on 12 March 2020 in Brussels, to understand and challenge the practical application, workability and utility of these approaches. Questions are raised at various points in the paper to initiate the discussions which will be continued at the workshop.

1.2 Objective of the workshop

The objective of the workshop on 12 March 2020 is to present and discuss the proposed approaches as regards the three selection criteria (degree of innovation, project maturity and scalability), due diligence, project development assistance and knowledge sharing in preparation for the first call for proposals to be issued in mid 2020.

The participating experts will discuss and provide feedback on the proposed approaches. This includes considering how to strike the balance between on the one hand, a sufficient level of detail to allow diligence and transparency in the assessment of projects, grant award and knowledge sharing, and on the other hand, speed and ease the application process for applicants.

In particular, the following questions will be discussed:

- How can the degree of innovation of technologies, products and business models compared to the state-of-the-art be best assessed?
- What are the best indicators for project maturity in terms of planning, business model, financial and legal structure as well as prospects of reaching the financial close within a predefined period of time not exceeding four years after the award decision?
- How can can technical and market potential for widespread application or replication, or for future cost redutions be assessed at an early development stage?
- To which extent can these criteria be compared across sectors?
- How can projects, that are innovative and promising in relation to GHG abatement but lack elements of maturity, be supported through project development assistance (PDA) where such need is identified? How can knowledge sharing on innovative technologies, products and business models supported by the IF be designed while respecting the intellectual rights of the project partners?

2 Project innovation, maturity and scalability selection criteria, and the role of due diligence

This chapter presents the proposed approaches for the three selection criteria: degree of innovation, project maturity, and scalability. Furthermore, the process of due diligence in the evaluation of the technical, business, and financial viability of projects applying for IF funds is discussed.

Overview of selection criteria

According to Article 10a(8) of Directive 2003/87/EC projects need to fulfil the following two eligibility criteria to be eligible for funding from IF:

- The project is in one of the sectors eligible under Article 10a(8) of Directive 2003/87/EC[1]
- The project is located in a Member State (defined as Member State of the European Union or Iceland and Norway).

In accordance with Article 11 of the Delegated Regulation, the selection of projects for the Innovation Fund support shall be based on five selection criteria. An overview of the five criteria and their application in the expression of interest phase and the possible further full application phase is provided in Table 2-1.

In the following, we use the terms **quantitative** and **qualitative** assessment in the following meaning:

- A **quantitative** assessment is performed by evaluators on the basis of a list of specific predefined subcriteria. The subcriteria are scored individually

[1] Shall be made available to support innovation in low-carbon technologies and processes in sectors listed in Annex I, including environmentally safe carbon capture and utilisation ('CCU') that contributes substantially to mitigating climate change, as well as products substituting carbon intensive ones produced in sectors listed in Annex I, and to help stimulate the construction and operation of projects that aim at the environmentally safe capture and geological storage ('CCS') of CO_2 , as well as of innovative renewable energy and energy storage technologies.

based on predefined levels and they are then aggregated to provide a joint score for the criteria in question.

- A **qualitative** assessment is performed by evaluators on the basis of an assessment of all the information provided by applicants in relation to a specific criterion. The assessment results in a joint score that is *not* an aggregation of the scores of specific predefined subcriteria. Rather, it is justified by a written qualitative assessment of the level of compliance with a criterion.

Regarding the quantitative assessment, it is noted that the assessment of individual subcriteria may have qualitative elements. This will apply whenever the criterion in question is not based solely on measurable and verifiable indicators.

Table 2-1 Overview of selection criteria included at the EOI and at the full application stage respectively

Selection Criteria	EOI	Full Application (FA)
Effectiveness of GHG avoidance	Quantitative assessment (with minimum threshold)	Quantitative assessment (score as input to ranking)
Degree of innovation	Qualitative assessment with thresholds (ready for IF / not ready for IF)	Qualitative assessment (how much beyond the state of the art) and Quantitative assessment (contribution to 2050 GHG avoidance) (score as input to ranking)
Project maturity	Quantitative assessment with thresholds (ready for Full Application/recommended for PDA/not ready for IF)	Quantitative assessment (score as input to ranking)
Scalability	Not included at EOI stage	Quantitative assessment (score as input to ranking)
Cost efficiency	Not included at EOI stage	Quantitative assessment (EUR/tCO2 avoided) (score as input to ranking)

Table 2-1 shows the five selection criteria and whether they are included at both the EOI and full application stage or only at the full application stage.

In developing the draft approaches for the selection criteria, the following principles have been applied:

- Close to business (re-use of assessment for CEO or investment bank where possible)
- Easy and transparent for evaluators (limited data requirements, available/verifiable data where possible, verification by third party where possible)
- Fit for first call (ready for launch, reasonably robust methodology, learning prior to second call, foundation for future best practise)

The basis for assessment of projects according to the selection criteria will be the information provided by applicants in the IF Application Forms (one set of application forms for EOI and one more comprehensive set for Full Applications).

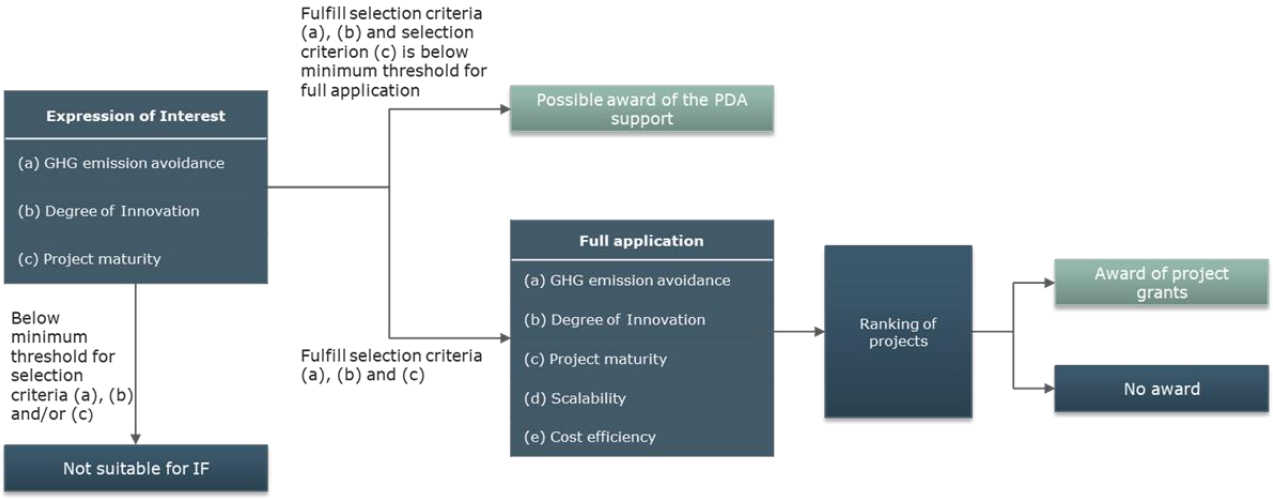
2.1.1 Use of selection criteria at EOI stage

At the EOI stage the assessments serve to conclude whether the projects are:

- **Ready for Full Application**: The project is innovative, promising in relation to GHG abatement and sufficiently mature to make it likely that it may reach financial close within four years after the award;
- **Ready for PDA** (subject to further EIB assessment): The project is innovative, promising in relation to GHG abatement, but the project could benefit from the project development assistance to improve its maturity;
- **Not (yet) ready for IF**: The project is either not innovative and/or too immature for PDA to make it ready for Full Application, or its GHG abatement potential is too limited.

As a point of departure, at the EOI stage, projects will not be ranked beyond these three classes, as indicated in Figure 1.

Figure 1 Process for selection of project at the EOI and full application stage



At the EOI stage, the evaluation will be based on three selection criteria: Effectiveness of GHG emission avoidance, degree of innovation and project maturity. The criterion 'effectiveness of GHG emission avoidance' was covered at

the expert workshop 5-6 February. It is, therefore, not included in this discussion paper. Only projects that have a potential to reduce GHG emissions, are innovative and sufficiently mature will go on to the full application stage. Projects that have a potential to reduce GHG emissions and are innovative, but not sufficiently mature may be offered the PDA support, provided the PDA support would be identified as needed and relevant in making the project ready for the IF. To decide if projects fulfil the three selection criteria, minimum thresholds will be established for each criterion.

2.1.2 Use of selection criteria at Full Application stage

At the full application stage, projects will be evaluated to allow for the selection of the best projects within the available funding. The evaluation methodology for the full application will be based on the three selection criteria included at the EOI stage (effectiveness of GHG avoidance, degree of innovation, project maturity) as well as two additional selection criteria: scalability and cost efficiency. The criterion 'cost efficiency' will not be covered in this discussion paper, as the basis for the calculation (Relevant Cost) was partly covered at the expert workshop 5-6 February.

The evaluation of the selection criterion 'project maturity' will to some degree differ according to whether the project is at the EOI stage or the full application stage. These differences are further explained in section 2.3 on the selection criterion 'project maturity'.

2.2 Degree of innovation

This section presents the proposed approaches for the selection criterion 'degree of innovation'. The criterion and the assessment of it will be similar at the EOI stage and the full application stage.

2.2.1 Key principles

In article 11 of the Delegated regulation, the selection criterion is defined as degree of innovation of projects compared to the state of the art. This broad description combined with no generally accepted definition of innovation imposes a challenge as to how the degree of innovation should be measured. It is suggested that the criterion should reflect a) to which degree the proposed project is innovative compared to state-of-the-art for the specific sector and b) to which extent the project is consistent with key EU policy targets.

It should be noted that innovation should not necessarily relate to the development of a new technology. Innovation may relate to a specific technology, process, product or service. The innovative aspect may consists of the innovative combination or innovative application of existing technologies.

2.2.2 Suggested approach

Following the key principles, it is suggested that the assessment of the degree of innovation is based on the two sub-criteria shown in Table 2-2. These sub-criteria will apply at both the EOI stage and the full application stage. The overall assessment of the degree of innovation will thus consist of:

- A qualitative assessment of the extent to which technologies / products / business models in proposal projects are innovative in relation to the state-of-the-art
- A quantitative assessment of the extent to which proposal projects are consistent with key EU policy targets

Table 2-2 Suggested sub-criteria for the assessment of degree of innovation

Subcriteria	Assessment by evaluator based on information provided by applicant
Extent to which technologies / products / business models in proposal projects are innovative in relation to the state-of-the-art	Assessment of degree of innovation based on separate description of following aspects: - Extent to which work is beyond state of art - Quality of analysis of product/process/business innovation
Extent to which projects are consistent with EU policy target	Consistency with EU's long-term strategy[2] based on applicants' qualitative description and calculation of 2050 GHG avoidance (low/medium/high)
	Consistency with the SET plan[3] (low/medium/high)
	Consistency with Industrial Policy Strategy from 2017[4] and any subsequent updates/new EU industrial policy as relevant (low/medium/high)
	Consistency with the sustainability goals[5] (low/medium/high)

The first sub-criterion will be qualitatively assessed by evaluators. The assessment will be based on the description of the technological aspects of the project that are provided in the project description by the applicants. The

[2] A Clean Planet for all

[3] The strategic energy technology (SET) plan

[4] EU Industrial Policy Strategy

[5] Next steps for a sustainable European future

projects will need to provide such a description at both the EOI and full application stage. The evaluators will assess the degree of innovation based on an assessment within the following areas:

- Extent to which the work is beyond state of art, where innovation beyond the state of the art could take the form of:
  - poduct substitution i.e. a new product / service / digital solution that eliminates the need for existing products
  - a new product that requires a new production set up / plants
  - a new product that requires technical adjustments in production facilities / supply chain
  - an existing product that by adjustments in production facilities / supply chain can be produced with a better energy efficiency and/or low GHG-emission
  - a new technology / machinery that can substitute an existing technology / machinery
  - implementation of a known technology / machinery from one industry into another industry
  - commercialisation of known research / technical principles / prototypes / processes from labs / pilot plants / demo plants
  - adjustments in production facilities / supply chain that make it possible to substitute fossil energy with renewable energy

- Quality of analysis of product/process/business innovation, the quality of the analysis in the application on whether the project's expected outcomes are innovative or distinctive compared to existing solutions.

The second sub-criterion is suggested to be based on a quantitative approach. This will result in a weighted score based on four separate assessments that reflect the consistency with key EU policy targets. For each of the policy targets listed in Table 2-2, the applicants will describe whether their project is consistent with the policy target in question. For the EU Long Term Strategy the description will be supplemented with a calculation of GHG avoidance in 2050. The evaluators will, based on the information provided by the applicant and their own sector knowledge, asses to which degree the project is consistent with the different policy targets.

The scoring of the criterion 'degree of innovation' will be a combined score of the two sub-criteria. Proposal projects, that have a high degree of innovation should receive a high score, likewise, proposal projects that are also compatible with EU policy targets should receive a higher score.

To ensure that only innovative projects are selected it is suggested to establish minimum cut-offs for each of the following sub-criteria:

- The proposed technology/product must not be commercially available[6]

[6] Not including technologies that failed in the past and therefore today are not commercially available.

- Projects must be consistent with a least EU's long term strategy and the SET plan.

These minimum cut-offs will ensure the exclusion of projects that are not innovative or not consistent with EU policy. The minimum cut-offs will apply both at the EOI stage and at the full application stage.

2.2.3 Key questions for stakeholders

- In order to simplify the EOI application, can any of the sub criteria be shifted to second stage applications? If so, how the robustness of evaluation in the EOI stage can be maintained?

- How will applicants be able to provide a qualitative assessment of degree of Innovation that demonstrates that the product/process/business innovation is beyond state of art?

- Are there any aspects that are important for degree of innovation not covered by the suggested sub-criteria?

- How will applicants be able to provide a qualitative assessment of the suggested sub-criteria on consistency with EU policy targets?

- Are the minimum cut-offs appropriate?
  - The proposed technology/product must not be commercially available
  - Projects must be consistent with a least EU's long term strategy and the SET plan.

2.3 Project maturity

This section presents the proposed approaches for the selection criterion 'project maturity', first at the EOI stage and then at the full application stage.

2.3.1 Key principles

In article 11 of the Delegated regulation the selection criterion of maturity is defined as project maturity in terms of planning, business model, financial and legal structure as well as the prospect of reaching the financial close within a predefined period of time not exceeding four years after the award decision.

The assessment of project maturity will be different at the EOI stage and at the full application stage. It is suggested that at the EOI stage, the assessment will be based on a number of sub-criteria. At the full application stage, the assessment will be based on the same sub-criteria as at the EOI stage and 'the due diligence assessment'. This allows for a more comprehensive assessment of project maturity based on additional information such as on technical maturity, financial maturity, environmental permits and organisation set-up at the full application stage (see section 2.5 for further details on the due diligence).

In the following the suggested approach for assessing project maturity at the EOI and full application stage are separately described.

2.3.2 Suggested approach for EOI stage

At the EOI stage the assessment of project maturity will be based on ten sub-criteria that reflect relevant individual milestones on the way to implementation, see Table 2-3. The applicants will for each of the proposed sub-criterion have to self-assess the progress level (on a scale as illustrated in Table 2-3) that best reflect their project's current stage of development. The evaluators will then verify the applicants' self-assessment. The sub-criteria will be weighted into one overall score for the 'project maturity' criterion.

Table 2-3 Suggested sub-criteria for assessment of project maturity[7] at EOI stage?

Subcriteria	Assessment by evaluator based on information provided by applicant
Feasibility study available	Available in good quality / available in lesser quality / not available
Business plan available	Available in good quality / available in lesser quality / not available
FEED study available	Completed / partially completed (or planned as part of project) / not available
Regulatory framework required for project	Regulatory framework required for project in place/under development/not available
Acquisition of project site	Acquired / identified but not acquired / not identified
Commitment by investors	Percentage of needed funding from investors for which conditional commitment is available in writing
Project management	Robust project management with strong track record/ unclear project management/weak project management
Permits cleared	Share of necessary permits and other environmental clearance granted + 25% of share of other necessary permits applied for. Plan for permitting is clear, detailed and realistic.
Due diligence report certified by third party	Technical and financial due diligence report certified by third party available / not available
Conditional final investment decision	FID and full third-party investment commitment available in writing with IF support as only (major) condition

Provided that the criterion 'effectiveness of GHG avoidance' and the criterion 'degree of innovation' are both met at the EOI stage, the 'project maturity'

[7] Please note that the individual sub-criteria are not intended to be seen as a list of successive steps, but rather as individual milestones on the way to implementation. As an example, the Front End Engineering Design (FEED) is basic engineering which comes after the Conceptual design or Feasibility study. The FEED study can be made at alternative stages of the project development depending on the sector and the specific project, and it may be a part of the project for which IF support. Hence, apart from possible minimum requirements, none of the milestones reflected by the sub-criteria are preconditions for award.

criterion is decisive for determining whether a project can proceed to full application, or be recommended for PDA support if such support is identified as relevant, or is not ready for IF, as illustrated in Figure 1.

Consequently, two minimum cut-offs should be established: one to decide whether a project can be recommended for the PDA support or can proceed to full application and one to decide whether a project is ready for full application. The two suggested minimum cut-offs are:

- *For recommending the project for PDA support* (*subject to further assessment by the EIB*), the projects should as a minimum have a feasibility study and an indicative business plan and that these should be of sufficient quality[8]. Further, the PDA support needs to be identified as relevant for the project by evaluators (i.e. that the PDA can lead to improved maturity of the project).

- *For proceeding to Full Application*, an assessment by the evaluators based on the information provided by the applicant confirms that project is likely to reach financial close within four years.

It could furthermore be considered to let the minimum cut-off be determined in the evaluation process to ensure that only projects that have reasonable chance for being selected for funding will proceed to the full application stage (i.e. limiting the number of projects proceeding to Full Application so that the maximum expected grant for all projects progressing to full application is e.g. 3 times the call budget).

2.3.3 Suggested approach for Full application stage

At the full application stage the assessment of project maturity will be divided into two parts:

- Quantitative assessment of the sub-criteria
- Technical and financial due diligence assessment

At the full application stage, the applicants must (similar to the EOI stage), self-assess the level of progress for each of the sub-criteria (in Table 2-3) that best reflects their project's status at the time of the application.

Furthermore, a technical and financial due diligence assessment should be provided (either prepared by a third party, or similar information provided by the applicant directly in the Application Forms). The evaluators will then, based

[8] The assessment of the quality of the feasibility study and business plan will require that they are available to the evaluator and it should therefore be considered whether applicants should be allowed (or required) to attach these to their applications at the EOI stage.

on the information provided, establish an independent assessment of the maturity of the project at the time of the application.

However, the option for a technical and financial due diligence self-assessment provided by the applicant may not always provide a solid basis for evaluation and it may therefore be considered whether a requirement for due diligence of the project provided by a third party should be introduced at the full evaluation stage.

Finally, the applicant must at the full application stage provide a list of all supporting documents, that can be made available in connection with the grant agreement negotiation if the project is selected for funding.

However, it is recognized that such documents may be needed for the the purpose of the evaluation and it may therefore be considered whether applicants should be allowed or required to attach any relevant annexes to their applications.

Table 2-4 Assessment of project maturity at Full Application stage

Sub-criteria	Assessment by evaluator based on information provided by applicant
Nine sub-criteria **(see Table 2-3 above, minus due diligence)**	Quantitative assessment as during EOI. The due diligence report is no longer assessed as a sub criterion at full application stage and becomes a full-fledge part of the evaluation.
Due Diligence Assessment **(see Section 2.5 below)**	Further assessment of project maturity based on due diligence report prepared by a third party, or similar information provided by the applicant through self-assessment in the Application Forms.

2.3.4 Key questions for stakeholders

EOI:

- How will applicants be able to provide a preliminary assessment of the suggested sub-criteria at the EOI stage and a detailed assessment of the same sub-criteria at the full application stage as well as all necessary background documentation if their projects are selected for award and negotiation?

- The sub-criteria are suggested to be treated as independent milestones in the scoring. Should the subcriteria rather be a list of successive steps, with it being mandatory to fulfil each step to go to the assessment of the next criterion?

- Are there any aspects that are important for determining the project maturity that are not covered by the suggested sub-criteria?

- Can any of the sub criteria be shifted to second stage applications, in order to lighten the EOI application?

Full Application:

- The proposed option for a technical and financial due diligence self-assessment provided by the applicant directly in the Application may not always provide a solid basis for evaluation. Would it be more prudent to introduce a requirement for due diligence report prepared by a third party at the full evaluation stage?

- At the full application stage, applicants are proposed to list all documents that can be made available in connection with the grant agreement negotiation if the project is selected for funding. However, such documents will likely be needed for the evaluation. Should applicants be allowed to attach any relevant annexes to their applications?

Minimum cut-off:

- Is the minimum cut-off for IF maturity (feasibility study and indicative business plan of sufficient quality) appropriate?

- An assessment of the quality of the feasibility study and business plan will require that they are available to the evaluator. Should applicants be required to attach these to their applications at the EOI stage?

- What is a good approach to determining the threshold between PDA and full application?

2.4 Scalability

This section presents the proposed approaches for the selection criterion 'scalability' for the full application stage.

2.4.1 Key principles

In article 11 in the Delegated regulation the selection criterion 'scalability' is defined as technical and market potential for widespread application or replication, or future cost reductions.

Generally, the assessment of scalability can either be based on a quantative or a qualitative approach. A quantative approach would assess the potential for scalability based on market statistics and should be used to the extent possible. This will ensure that the assessment is objective. However, for new technologies it can be a challenge to use market statistics for this purpose. Service/products that new technologies will provide might not be covered in current market statistics, and market statistics are often a picture of the current situation and not the future situation. Furthermore, market statistics will not capture all relevant aspects for scalability.

An alternative approach is that applicants estimate the scalability/market potential for their technology/product based on several indicators. The applicants should, to the extent possible reference reliable source to support their assessment. Based on the applicants' own assessment of the scalability,

the evaluators can then estimate the scalability on a predefined scale. The indicators for scalability must take several aspects into account, including:

- Scalability can be perceived from a project level or a general technology/product level. From a project level, the proposed scope and scale of demonstration should be such that no significant additional problems are to be expected from further scaling up.

- Some technologies/products will be relevant for many sectors and regions, while others will only be relevant for one sector, one region, or even one specific site. For instance, some renewable energy technologies will only be relevant for one sector, namely the energy sector. However, in this case, the energy sector is quite large compared to some of the other eligible sectors. Hence, the potential demand can be relatively large compared to other sectors.

- Technologies/products where a supply chain is already well established will have a greater potential for scalability. Likewise, technologies/products that do not have any resource limitations will have a greater market potential.

- The IF prioritizes technologies/products that are relevant in a 2050 perspective. Though, some technologies may no longer be relevant in 2050 from an EU perspective, they may be relevant for the decarbonization between 2030 and 2050 and export beyond 2050. Hence, the demand for a technology/product towards 2050 is also relevant.

- Technologies/products whose production costs are expected to decrease significantly due to learning curve and economies of scale and which are not dependent on national support schemes will most likely have a higher market potential.

- Finally, projects that have a high quality plan for knowledge sharing should be prioritized, as this will contribute to scaling and de-risking of innovative decarbonization technologies, products and business models.

2.4.2 Suggested approach

It is suggested that the assessment of scalability will be based on eight sub-criteria as shown in Table 2-5. The first sub-criterion reflect the scalability at the project level, while the others reflect the scalability toward 2050 for the developed technology/product. The applicants will for each sub-criterion have to choose the category that best reflect their project. The evaluators will then validate or reassess scalability based on their sector knowledge and the information provided by applicants in the Application Forms (as well as the due diligence report). The sub-criteria will, based on a weighting, be combined in one score for the selection criterion.

The call guidelines will specify which documentation the projects need to provide to support their answers.

Table 2-5 Suggested sub-criteria for the selection criterion Scalability (only relevant for the full application stage)

	Subcriteria	Assessment by evaluator based on information provided by applicant
Scalability at the project level	Scale of demonstration	Immediate scalability opportunities based on results of IF project based on sector coupling, cluster, or scaling the project at same/adjacent site
Scalability of technology/ product towards 2050	Sectors	Applicable in large or multiple sectors before and after 2050 / large or multiple sectors 2030 - 2050 / site specific or small sector
	Regions	Potential is Global + EU / Global or EU / National
	Synergies	Supply chain for project well established / partly established / not established
	Production cost in 2050 compared to current level	Expected unit cost reduction of more than 50% / 20-50% / Less than 20%
	Resource limitation	No resource limitation / resource limitation after 2050 / resource limitation before 2050
	Knowledge sharing plan	Approach to knowledge sharing is high quality / medium quality / low quality

2.4.3 Key questions for stakeholders

- How will applicants be able to provide a qualitative assessment of the information suggested in the sub-criteria:
  - Immediate scalability at the project level?
  - Scalability of technology/product towards 2050?
- Are there any aspects important for determining the scalability that are not covered by the suggested sub-criteria (e.g. a competitive advantage that may allow the technology to eliminate/outpace alternative technologies addressing same market need)?
- Should there be a minimum cut-off for the selection criterion scalability to ensure that a project that scores 0 on this criterion (i.e. is not scalable) can not be selected for grant award even though it may have a high score on all other selection criteria?

- Which reference for market potential to use for your particular sector? (please send reference in writing)

2.5 Due diligence - How to evaluate technical, business, and financial viability?

This section presents the suggested process and requirements for due diligence at the Full Application stage.

2.5.1 Key principles

The predecessor programme - the NER300 required the EIB to perform due diligence assessment of any proposed project, covering at least the following aspects: technical scope, costs, financing, implementation, operation, environmental impact, and procurement procedures (Decision (2010/670/EU), Article 7 Financial and technical due diligence).

The IF Delegated Regulation (2019/856) is less explicit, but in its Article 18(c) tasks the implementing body with "organising the project selection, including the project evaluation or the due diligence assessment and ranking". The Directive (2003/87/EC) in Article 10a(8) only states that "Projects shall be selected on the basis of objective and transparent criteria".

Hence, the IF Delegated Regulation and the Directive do not foresee the due diligence assessment having a stand-alone implication outside of the evaluation of the five defined selection criteria. At the same time, it is clear that a due diligence is foreseen and will contribute to ensure that projects are evaluated based on comprehensive and relevant information and subsequently selected on the basis of objective and transparent criteria. Due diligence is a normal business practise for any investment decision making.

2.5.2 Suggested approach

Ideally, at the full proposal stage all projects will have a good quality due diligence report from a reputable third party. In practice, however, it is likely that some (otherwise promising) projects may not have this.

We therefore suggest, that:

- The applicant, at the full application stage, will have to submit a due diligence report developed by a third party.
- If no due diligence report is available from a third party at that stage, the applicant will be requested to provide similar information (the due diligence assessment) as an integrated part of the Application Forms[9].

[9] It is recognized that the option for a technical and financial due diligence self-assessment provided by the applicant may not provide a solid basis for evaluation and it may therefore

- The evaluators will review and assess the content of the due diligence report or the applicant's due diligence assessment and this information will provide input to the scoring of the selection criteria.

The result of the evaluator's review of the content of the due diligence report or the applicant's due diligence self-assessment will be a key input to the assessment of the selection criteria at the full application stage. Hence, the due diligence report (or the applicant's due diligence self-assessment) is a key complement to other information provided by the applicant in the application forms informing the scoring of the application on the individual selection criteria. The due diligence report will especially benefit the evaluator's assessment of the 'degree of innovation' criterion as well as the assessment of the 'project maturity' criterion and the 'scalability' criterion: It allows evaluators to include issues in their assessment that are identified during due diligence but are not adequately captured by the pre-defined individual criteria. All other things being equal, proposals with a robust third party due diligence may achieve a higher score on maturity than ones without.

There may, however, be risks identified in the review of the due diligence report that cannot be adequately captured by the selection criteria. It is therefore recommended that specific issues that will be outstanding after completed due diligence (e.g. confirmation of availability of own or external financing) will be reflected in the grant agreement as conditions precedent (e.g. for achieving certain project milestones). Finally, it is possible that the result of the technical and financial due diligence seriously questions the viability of the project or the applicant and it should be considered whether this should be reflected in the relevant score (and as conditions precedent) or potentially could lead to project rejection.

To support project proponents and evaluators it is suggested to establish standardized minimum requirements for the technical and financial due diligence, supplemented with sector specific guidelines for specific items. It is suggested that the the due diligence report (or the applicant's due diligence self-assessment) as a minimum shall contain the following:

- Technical due diligence
  (is the project likely to be technically viable, based on assessment of technical scope, plans for project implementation, plans for project operation, assessed costs and benefits, analysis of regulatory steps that are necessary for commercial operation, risk assessment and mitigation plans)

- Financial due diligence
  (is the project fundable/bankable, based on project financial model, financial standing of project sponsors, expected revenues and costs, project

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be considered whether a requirement for due diligence by a third party should be introduced at the full evaluation stage.

financing plan and financial structure)

- Environmental due diligence
  (are environmental impacts during construction and operation adequately identified and their risks assessed and mitigated, are necessary environmental permits clearly identified and a clear strategy for optaining them outlined)

- Project management due diligence
  (is the project organization and management sufficiently strong, are implementation plan, procurement procedures, commercial agreements, contractual risk mitigants (warranties & insurances) sufficiently developed)

2.5.3 Key questions for stakeholders

- Should the applicant:
  - be required to submit a project due diligence report developed by a third party,
  - alternatively, provide a similar due diligence assessment through self-assessment in the Application Forms at the Full Application stage (and how can robustness and accuracy of such self-assessment be ensured), or
  - have the option to choose?
- Can the robustness and accuracy of an external due diligence contracted by the project developer be ensured?
- What should the consequence be if the due diligence identifies issues that seriously question the viability of the project?

2.6 Selection at the EOI stage

This section presents the suggested approach for selection of projects at the EOI stage.

2.6.1 Key principles

The evaluation method will differ between the EOI and full application stage.

At the EOI stage, projects will be assessed on the basis of whether they are:

- **Ready for Full Application**, indicating that the project is innovative, promising in relation to GHG abatement and sufficiently mature to make it likely that it may reach financial close within four years after award;
- **Ready for PDA support** (subject to further EIB assessment) , indicating that the project is innovative, promising in relation to GHG abatement, but

that the project could realistically benefit from project development assistance ; or

- **Not (yet) ready for IF**, indicating that the project is either not innovative, too immature for PDA to improve its maturity, or has a too limited GHG abatement potential.

The assessment will be based on the three selection criteria: Effectiveness of GHG avoidance, degree of innovation, and project maturity. As a point of departure projects will not be ranked beyond these three classes at the EOI stage. When selecting which projects to proceed to PDA or full application at the EOI stage the overall budget constraint for the call needs to be taken into account.

At the full application stage, projects will be scored to allow for the selection of the best projects within the available funding. The scoring methodology for the full application will be based on all five selection criteria (effectiveness of GHG avoidance, degree of innovation, project maturity, scalability and cost efficiency).

2.6.2 Suggested approach

The following describes the suggested approach for selection of projects at the EOI stage.

The first step at the EOI stage will be to ensure that projects fulfil the two eligibility criteria of the IF, i.e.:

- The project is in one of the sectors eligible under Article 10a(8) of Directive 2003/87/EC[10]
- The project is located in a Member State (defined as Member State of the European Union or Iceland and Norway).

Given that the project fulfils the eligibility criteria, the next step will be to decide if the project qualifies for the full application stage, if it is innovative and promising in relation to GHG abatement but immature and can be recommended for PDA, or if it is not ready for the current call of the Innovation Fund.

Projects are, according to the Delegated regulation, eligible for the full application stage if they fulfil the three criteria: Effectiveness of GHG avoidance, degree of innovation and project maturity. If the project fulfils the first two criteria effectiveness of GHG avoidance and degree of innovation but does not meet the criterion 'project maturity', an assessment will be performed of

[10] Shall be made available to support innovation in low-carbon technologies and processes in sectors listed in Annex I, including environmentally safe carbon capture and utilisation ('CCU') that contributes substantially to mitigating climate change, as well as products substituting carbon intensive ones produced in sectors listed in Annex I, and to help stimulate the construction and operation of projects that aim at the environmentally safe capture and geological storage ('CCS') of CO_2 , as well as of innovative renewable energy and energy storage technologies.

whether the project has the potential to meet the criterion if further developed through project development assistance (PDA).

To determine whether a project is seen as fulfilling criteria at the EOI stage minimum cut-offs need to be established.

As described in section 2.2.2 it is suggested that the selection criterion 'degree of innovation' has two minimum cut-offs that are related to the two sub-criteria, i.e.:

- For the first sub-criterion "Extent to which technologies / products / business models in proposal projects are innovative in relation to the state-of-the-art" the minimum cut-off could be that the suggested technology / product / business model must not be commercially available.
- For the second sub-criterion "Consistency with EU policy targets" the minimum cut-off could be that projects must be consistent with a least EU's long term strategy and the SET plan.

These minimum cut-offs will ensure that projects, which are not innovative or consistent with key EU policy targets are excluded at the EOI stage.

For the selection criterion 'project maturity' two separate minimum cut-offs need to be established to decide whether a project can proceed to full application, to be recommended for PDA, or should be rejected. Suggested minimum cut-offs for recommending the PDA support or proceeding to full application are as described in section 2.3.2:

- *For recommending the PDA support* (*subject to further assessment by the EIB*), the projects should as a minimum have a feasibility study and an indicative business plan and that these should be of sufficient quality[11]. Further, the PDA support needs to be identified as relevant for the project by evaluators (i.e. that the PDA can lead to improved maturity of the project).
- *For proceeding to Full application*, the minimum requirements for PDA are met and an assessment by the evaluators based by the information provided by the applicant confirms that the project is likely to reach financial close within four years.

These minimum cut-off approaches however do not take budget constraints into account, hence, the combined grant for the selected projects to proceed to the full application stage may in principle be much higher than the budget constraint of the call. Hence, unless a separate mechanism to manage the number of projects progressing to full application is developed, there is a risk that a large amount of projects submit a full application and few of them are supported.

[11] The assessment of the quality of the feasibility study and business plan will require that they are available to the evaluator and it should therefore be considered whether applicants should be allowed (or required) to attach these to their applications at the EOI stage.

It could, therefore, be considered to let the minimum cut-off be determined dynamically in the evaluation process to ensure that only projects that have reasonable chance for being selected for funding will proceed to the full application stage (i.e. the maximum expected grant for all projects progressing to full application is 3 times the call budget).

3 Project development assistance (PDA)

According to Article 13 of the Delegated Regulation, the Commission (in consulation with member states), can provide PDA to applicants to cover the costs related to:

- improvement and development of a project documentation, or of components of the project design, with a view to ensuring the sufficient maturity of the project;
- assessment of the feasibility of the project, including the technical and economic studies;
- advice on the financial and legal structure of the project;
- capacity building of the project proponent.[12]

3.1 Key principles

Key considerations during the provision of PDA include:

- Projects that are found promising at expression of interest phase but not sufficiently mature may be offered project development assistance (PDA).
- The PDA will include tailor-made technical and financial support to the project promoters. It would be implemented by financial and technical experts at the European Investment Bank with support from external consultants, as deemed necessary[13].
- The PDA services may be an independent process run by the EIB, but seamlessly integrated in the IF project selection process.

[12] Source: Delegated regulation - C(2019)1492/1006746

[13] Subject to further decision making procedures at the EIB and the European Commission.

- The projects identified by evaluators as suitable for the PDA support at the EoI stage would be assessed further by the EIB and a short-list would be recommended to the Commission. The final PDA support award decision will be taken by the Commission.
- To ensure close interlinkage between the evaluation done by INEA and the implementation of the PDA done by the EIB, EIB experts would participate in the evaluation as observers.
- PDA support provided to the project will be subtracted from the total grant amount if awarded to the project in the future call.
- PDA will be available for both large- and small-scale projects

3.2 Suggested approach

An indicative outline of the potential expert support under the PDA that could support prospective but not sufficiently mature innovative project applying to the IF is provided below:

Table 3-1 Types of Project Developmwent Assistance (PDA)

Services/ advisory needed	Technical	Financial	Legal
Types of PDA	› Preparation for FEED Study › Third party due diligence report › Independent technology assessment › GHG reduction potential assessment › MRV systems design › E&S appraisal › EIA › Certification processes	› Capital structure › Debt and risk allocation › Innovative financial instruments › Market research › Strategy development and planning › Early-stage investor outreach › Financial modelling › Financial mechanism design	› Process management › Procurement advisory › Contract preparation › Insurability of innovative process

3.3 Key questions for stakeholders

- Are the proposed PDA types sufficient or should others be considered?
- What are the most likely PDA types you may envision for your sector?
- Should a third party due diligence be a service eligible for PDA?
- What should be the minimum requirements for PDA-eligible projects?

4 Knowledge sharing

4.1 Key principles

Knowledge sharing requirements are critical to lower risks in bridging the transition to large-scale production of innovative technologies and to facilitate acceleration of deployment.

The predecessor programme NER300 approach on knowledge sharing requires submission of Relevant Knowledge reports by the project sponsors in order to receive project funding. The Relevant Knowledge collection forms were structured to reflect the knowledge sharing obligations in line with NER 300 Decision and Award Decisions. The requested relevant knowledge sections included standard sections on General Project details, Technical set-up and performance, Cost levels, Project management, Environmental impact, Health and safety and Agreement to take part in dissemination activities. The reports had to be submitted on annual basis and the provided information should cover relevant knowledge attained during the preceding operative year.[14] It is notable that knowledge sharing started as of entry into operation, while half of the selected projects did not materialise as for various reasons they were not able to reach Final Investment Decision. It would have been useful to systematically collect and share knowledge for the period before entry into operation as well.

There were two levels of relevant knowledge collected and shared defined by the level of sensitivity. Level 1 knowledge could be shared with al projects of the same technology category and any other projects, and Level 2 knowledge of general interest could be shared with a wider technology community (MS, researchers, NGOs, international organisations and other projects).

In order to reach the NER300 goals the Commission can summarise and disseminate collected Level 2 knowledge and can aggregate Level 1 relevant knowledge and disseminate it when it was seen to contribute to the overall goals

[14] The methodology for knowledge sharing as well as the principles for aggregation of relevant knowledge are guided by JRC science and policy report: Principles for the aggregation of relevant knowledge submitted by NER300 projects, and by JRC technical paper: Methodology for the assessment of compliance with knowledge sharing requirements for NER300 projects.

of the knowledge sharing mechanism, e.g. where specific data and information was considered to be important to be communicated at a broader level, it could be aggregated in a manner that 'de-sensitizes' information considered to be too commercially sensitive to be released on a general level; or where it is considered important to aggregate knowledge in order to communicate best practice in a more general area between similar projects. Also, where relevant knowledge was considered important to be communicated to a broader level, information being of a highly technical nature could then be simplified in order to make it accessible. Factsheets with Level 2 information from NER 300 were publicly shared under SETIS[15]

Under the Innovation Fund, the project proponent is to submit a knowledge sharing plan at the full application stage, cf. Article 10 (3) of the IF Delegated Regulation (2019/856). The requirements need to safeguard the public interest, to respect non-disclosure of commercially sensitive information and to facilitate a fast penetration in the market of the demonstrated technologies. The project proponents are to provide detailed information on the planned actions for making coherent, effective and targeted information publicly available for the projects supported under the fund, cf. Article 27 of the Delegated Regulation.

The development of the minimum knowledge sharing requirements for the Innovation Fund are to be defined, based on experiences and lessons learned from NER300.

It is clear from the NER300 experiences that certain adjustments and simplifications are needed in order to make knowledge sharing more meaningful within the respective technologies and industries, and also to make the knowledge sharing less administrative burdensome for the project proponents without jeopardizing the objectives for knowledge sharing. In general, the withdrawal of a large number of projects led to a reduced number of projects being part of the knowledge sharing programme. Also a large amount of knowledge deliverables were limited to Level 1 stakeholders only. Under NER300, the project sponsors were to submit annually to the European Commission a relevant knowledge report gained during that year in the implementation of their project. However, the annual reports tended to be:

- focusing on knowledge sharing from the stage of entering into operation only (not from signing of grant to entering into operation which would be the critical time for spotting projects facing challenges/risks of not making it to the operation stage)
- too detailed on technical aspects with less focus on challenges related to implementation and barriers e.g. in relation to financing, permitting and regulatory frameworks and how to overcome these (impacting on the potential for scaling up the technologies)
- too thin a gathering of crosscutting experiences due to a wide number of technology sub-categories (too few projects in each sub-category to allow for beneficial knowledge sharing).

[15] https://setis.ec.europa.eu/NER300

4.2 Suggested approach

It is proposed that the objectives of the knowledge sharing will closely mirror the NER300 approach with relevant adjustments and adapted to the mandate of innovation in low carbon technologies and processes. Thus, the objectives would be to ensure:

- de-risking with regard to scaling up to commercial sizes;
- acceleration of the deployment;
- increasing the undertaking of and the confidence in low-carbon technologies and processes by the wider public; and
- maintenance of a competitive market for post-demonstration deployment of innovative low-carbon technologies and processes.

Based on the NER300 experiences, it is proposed that the general knowledge sharing categories upon which the project proponents are to report will be maintained while adding knowledge-sharing sections before entry into operation. These are:

- [new] Progress and challenges ahead of financial close and entry into operation
- Technical set-up and performance
- Cost levels
- Project management
- Environmental impact
- Health and safety
- Additional category specific information (e.g. for CCS: site performance).

Also, it is recommended to keep the two-level approach for sharing of relevant knowledge, defined by the level of sensitivity, that is Level 1 knowledge to be shared with all projects of same technology category, and Level 2 knowledge of general interest is to be shared with a wider technology community (MS, researchers, NGOs, international organisations and other projects). As with the NER300, if other projects (funded by other EU programmes) may agree to share relevant knowledge from their experience on terms similar to those receiving funding from the Innovation Fund, they can be invited to and involved in the knowledge sharing. Knowledge to be disseminated is to be aggregated and anonymized at both levels.

Suggestions for the Innovation Fund thus include the following:

- Knowledge sharing to start from grant award to facilitate sharing of important qualitative knowledge on challenges met and strategies for overcoming them in the critical phase between grant award and financial close as well as between financial close and start of operation.

- Focus on qualitative reporting in knowledge sharing plans prior to operation linked to implementation challenges and barriers for implementation, including how proponents will approach and address these, thereby establishing a closer link to project maturity as well as scalability through preventive action.

- Arrange for relevant clustering of technology groups (if relevant cross-sectoral, as many issues may be of generic nature rather than technology specific) allowing for better knowledge sharing among a sufficient number of project proponents and stakeholders.

- Arrange for other ways of performing information, communication and promotion actions (e.g. seminars, workshops to facilitate exchanges of experiences and best practices)

At the full application phase, the project proponent will have to submit a knowledge sharing plan, covering the full project cycle from preparation, through construction, testing and commissioning to operation.

Also, awarded projects will have to submit regular progress reports to the implementing body, foreseen to be every six months before financial close and every 12 months after, or more frequent if the evaluation report recommends so and this is formalised in the grant agreement. The initial outline of the KS report is foreseen to contain the following headings:

Project development before financial close

A. Project management and financial structuring
B. Permitting, public engangement and regulatory issues
C. Connections and networks

Project development from financial close to entry in operation

A. Project management
B. Procurement plan
C. Permitting
D. Construction
E. Commissioning

Project development from entry into operation

A. Technical set-up and performance
B. Cost level and cost per unit performance
C. Project management
D. Environmental impacts
E. Health and safety

4.3 Key questions for stakeholders

- What type of knowledge sharing do project proponents consider most beneficial to share?
- At which stages would knowledge sharing be most beneficial for proponents/for other stakeholders?
- How to ensure knowledge sharing among relevant technologies, avoiding to few projects per group?
- Other suggestions for simplifications of knowledge sharing reporting without jeopardizing the objectives of knowledge sharing?