INNOVATION FUND: Award Criteria

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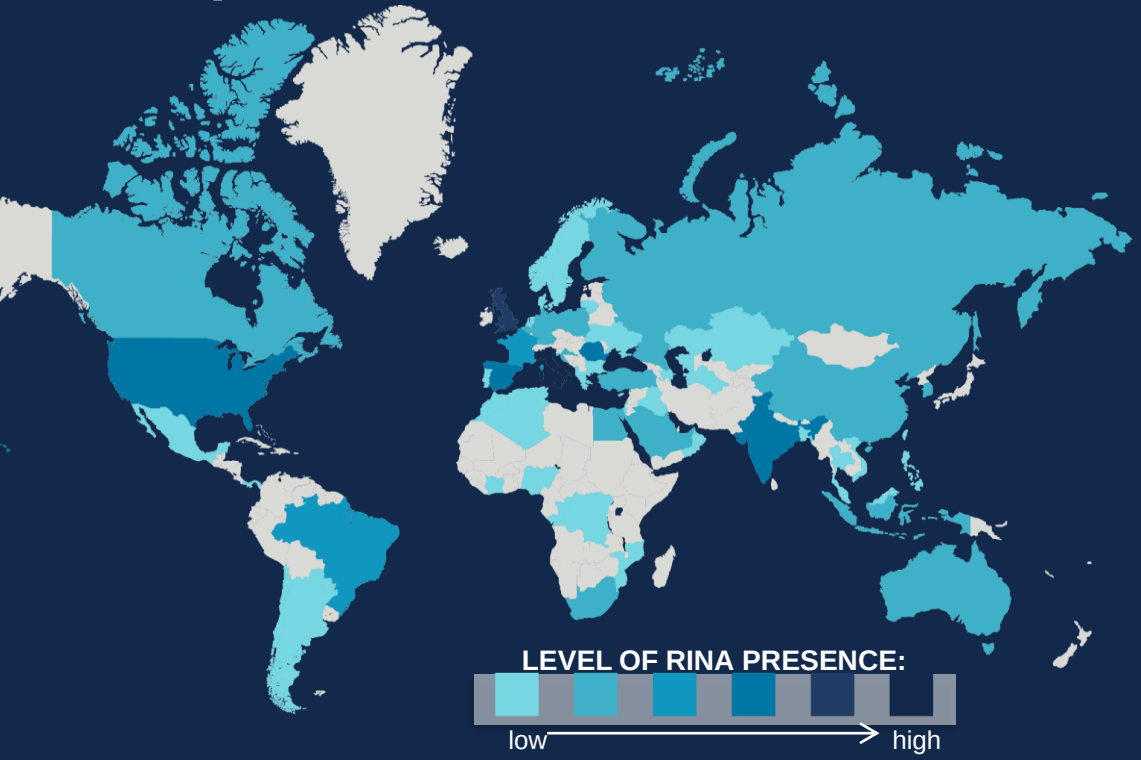


- ENERGY
- MARINE
- TRANSPORT & INFRASTRUCTURE
- CERTIFICATION
- INDUSTRY

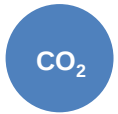
3.900+ Colleagues | **70+ Countries** | **200+ Offices** | **476+ M€ Turnover**

AWARD CRITERIA

Award criteria overview

DEGREE OF INNOVATION

- Degree to which the proposed actions (technologies and products) are innovative compared to the state-of-the-art and go beyond incremental innovation.



GREENHOUSE GAS EMISSIONS AVOIDANCE

- Absolute GHG emission avoidance
- Relative GHG emission avoidance

PROJECT VIABILITY AND MATURITY

- In terms of planning, business model, financial and legal structure as well as prospect of reaching the financial close within a pre-defined period of time not exceeding four years after the award decision compared to the state of the art.

SCALABILITY

- Technical and market potential for widespread application or replication, or for future cost reductions.

COST EFFICIENCY (COST PER UNIT OF PERFORMANCE)

- In terms of the relevant costs of the project minus any contribution to those costs from the project proponent, divided by the total projected amount of greenhouse gas emissions to be avoided.

Scoring

CRITERION	MAX SCORE	MIN THRESHOLD AFTER NORMALISATION	WEIGHTING
INNOVATION	**5**	**3**	**x2**
GHG AVOIDANCE	**5**	**None (minimum requirements apply)**	**x1**
PROJECT MATURITY	**5**	**3 (1.5 for each sub-criterion)**	**x2**
SCALABILITY	5	1	x1
COST EFFICIENCY	5	None (projects with ratio higher than 600 EUR / t CO_2-eq get 0)	x1

DEGREE OF INNOVATION

Degree of Innovation

Innovation Fund aim to **support technologies that are not yet commercially available but represent breakthrough solutions or are sufficiently mature to be ready for demonstration at pre-commercial scale**

Project goes beyond state of the art

- Describe the state of the art
- Describe the extent to which the project goes beyond it

Project goes beyond incremental innovation

- Proposed technology / product / business model goes beyond minor changes
- Projects contributing to SET-Plan implementation targets likely to go beyond incremental innovation

Specific activities

- Products substituting carbon intensive ones
- Direct Air Capture (DAC) plus CO_2 storage or use
- Potential for net carbon removal

All info is in ANNEX B Call text

The evaluation of proposal with a scores below the minimum threshold under this criterion, the evaluation is stopped

GHG AVOIDANCE

GHG emission avoidance potential

Calculation of the absolute GHG emission avoidance

- according to Methodology for GHG emission avoidance calculation

Calculation of the relative GHG emission avoidance

- according to Methodology for GHG emission avoidance calculation

Support the calculation with

- Copy of own detailed calculation as one editable Excel document (**mandatory**)
- Please use the available templates
- Detailed explanation of the assumptions made and consistency with the methodology

CO_2

+[EII] Comparison with EU ETS benchmark emissions: Calculate the GHG emissions of the project per unit of product and compare with the equivalent EU ETS benchmark(s) applicable

+Sustainability of biomass:
Projects using biomass as feedstock should explain how they will procure biomass that will at least meet the sustainability requirements of the Renewable Energy Directive* and originate from feedstocks with a low risk of causing indirect land-use change

*Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, *OJ L 328, 21.12.2018, p. 82–209*

Sector choice

CATEGORY	SECTORS	PRODUCTS
Energy storage incl. manufacturing plants for components	Intra-day electricity storage	Electricity
	Other energy storage	Electricity, heating/cooling, e-fuels, hydrogen
Renewable energy incl. manufacturing plants for components	Wind energy	Electricity
	Solar energy	Electricity
	Hydro/Ocean energy	Electricity
	Geothermal energy	Electricity, CHP
	Bio-electricity	Electricity, CHP
	Renewable Heating/Cooling	Heating/cooling
Energy Intensive Industries incl. CCU incl. substitute products incl. CCS (CO2 capture and full chain)	Refineries	Fuels (incl. e-fuels)
	Biofuels and bio-refineries	Biofuel, bio-based products
	Iron & steel	Coke, iron ore, iron, steel, cast ferrous metals products, other ferrous metal products or substitute products
	Non-ferrous metals	Aluminium, precious metals, copper, other non-ferrous metal, cast non-ferrous metal products, other ferrous metal products or substitute products
	Cement & lime	Cement, lime, dolime, sintered dolime, other cement or lime products or substitute products
	Glass, ceramics & construction material	Flat glass, container glass, glass fibres, other glass products, tiles, plates, refractory products, bricks, houseware, sanitary ware, other ceramic products, mineral wool, gypsum and gypsum products, other construction materials or substitute products
	Pulp & paper	Chemical pulp, mechanical pulp, paper and paperboard, sanitary and tissue paper, other paper products or substitute products
	Chemicals	Organic basic chemicals, inorganic basic chemicals, nitrogen compounds, plastics in primary forms, synthetic rubber, other chemical products or substitute products
	Hydrogen	Hydrogen
	Other	Electricity, heat, other
CCS (CO2 Transport and Storage)	CO2 Transport and Storage	CO2 Transport and Storage

The applicant needs to choose the sector under which the project falls

The application may only be submitted for one sector

Determine principal product(s) and use

… if one principal product: the choice is straightforward: e.g. Geothermal energy or cement production
…but **may be influenced by the use**: e.g. **ethanol** can be used in **chemicals** or as a **fuel** (**refineries**)

if + one principal product but all in the same sector: again straightforward: e.g. different chemicals (chemicals) or fuels (refineries)

if principal products from 2 or more sectors: choose one of the sectors of the principal products

don't forget to list all **'other products'**

Sector choice

CATEGORY	SECTORS	PRODUCTS
Energy storage incl. manufacturing plants for components	Intra-day electricity storage	Electricity
	Other energy storage	Electricity, heating/cooling, e-fuels, hydrogen
Renewable energy incl. manufacturing plants for components	Wind energy	Electricity
	Solar energy	Electricity
	Hydro/Ocean energy	Electricity
	Geothermal energy	Electricity, CHP
	Bio-electricity	Electricity, CHP
	Renewable Heating/Cooling	Heating/cooling
Energy Intensive Industries incl. CCU incl. substitute products incl. CCS (CO2 capture and full chain)	Refineries	Fuels (incl. e-fuels)
	Biofuels and bio-refineries	Biofuel, bio-based products
	Iron & steel	Coke, iron ore, iron, steel, cast ferrous metals products, other ferrous n products
	Non-ferrous metals	Aluminium, precious metals, copper, other non-ferrous metal, cast non- ferrous metal products or substitute products
	Cement & lime	Cement, lime, dolime, sintered dolime, other cement or lime products o
	Glass, ceramics & construction material	Flat glass, container glass, glass fibres, other glass products, tiles, plat houseware, sanitary ware, other ceramic products, mineral wool, gypsu construction materials or substitute products
	Pulp & paper	Chemical pulp, mechanical pulp, paper and paperboard, sanitary and ti products or substitute products
	Chemicals	Organic basic chemicals, inorganic basic chemicals, nitrogen compour synthetic rubber, other chemical products or substitute products
	Hydrogen	Hydrogen
	Other	Electricity, heat, other
CCS (CO2 Transport and Storage)	CO2 Transport and Storage	CO2 Transport and Storage

EXAMPLE

A steelworks proposes a project to modify its existing plant to produce ethanol as well as steel products. The ethanol will be sold as an alternative transport fuel for blending in gasoline for road transport.

The principal product could be chosen to be either steel or transport fuel. Either would be eligible for IF because they displace products made in the EU ETS, and because both the improvement of the carbon performance of the steel process and the production of ethanol are main aims of the project. It is not possible to consider both the steel and ethanol principal products, however, as they are in different sectors (iron and steel vs refinery). As the project makes a relatively minor change to the steel emissions, relative emissions savings are likely to be higher if transport fuel is claimed to be the principal product. However, the applicant may consider that there is less competition for IF funds in the steel sector.

Toluene is a minor by-product of the ethanol production. It could be added as a second principal product in the case that transport fuel is chosen as the principal product, as both are in the refinery sector. However, it would be artificial and disallowed to propose that toluene is the only principal product.

Reference scenarios

CATEGORY/ SECTOR	GHG EMISSIONS ARE BASED IN THE REFERENCE SCENARIO (AMONG OTHERS) ON:	PROJECT SCENARIO
Energy intensive industry	EU ETS benchmark(s) or fossil fuel comparators (FFCs) in some cases or proposed by applicant if the reference cannot be constructed by combination of benchmarks and/or FFCs	Changes in inputs, processes, products, use and end of life. Fully decarbonised electricity mix for electricity inputs
Biofuels	Adapted fossil fuel comparators from REDII	
CCS	CO2 is not captured, but released/available in atmosphere	Emissions from capture, transport and storage
Renewable electricity	Expected 2030 electricity mix	Emissions from the production and supply of biomass-derived fuels and emissions due to leakage during the operation of geothermal power plants
Renewable heat	Natural gas boiler	
Renewable cooling	Expected 2030 electricity mix or fossil fuel comparator in some cases	
Energy storage	Single-cycle natural gas turbine (peaking power)	Direct and indirect emissions from the use of fossil fuels and generation of heat, process-related emissions from the production of hydrogen as well as from transmission losses associated with the grid transport. Fully decarbonised electricity mix for electricity inputs.
Electricity grid services	Combined-cycle natural gas turbine (partial load)	
Heat / Hydrogen storage	EU ETS benchmark for heat / hydrogen production	
Energy storage in vehicles	Diesel-fuelled internal combustion engine	

The calculations of GHG emission avoidance should comprehensively cover the impacts from the changes in inputs, processes, and outputs between the project and the reference scenario.

The reference scenarios should reflect the current state-of-the-art in the different sectors

Reference scenarios

Forecasting of Grid Electricity
For calculations of emissions due to generation and use

SECTOR	REFERENCE SCENARIO (Grid electricity substituted by net electricity export from the project / Discharging for energy storage)	PROJECT SCENARIO (Net grid electricity consumed / Charging for energy storage)
Energy intensive industry	Expected 2030 electricity grid mix*	Expected 2050 electricity grid mix
CCS	[Not applicable]	2050 electricity grid mix
Renewable electricity	2030 electricity grid mix	2050 electricity grid mix
Renewable heat	[Not applicable]	Expected 2050 electricity grid mix
Energy storage	Single-cycle natural gas turbine (used for peaking power)	Expected 2050 electricity grid mix

* Electricity is treated as zero carbon presuming full decarbonisation of the electricity mix by 2050

GHG Emission Avoidance calculation

Sub-criteria	Description	Equation	Unit
Absolute GHG emission avoidance	The difference between the expected GHG emissions of the project and the GHG emissions in the reference scenario during 10 years after entry into operation	$\Delta GHG_{abs} = \sum_{y=1}^{10} (Ref_y - Proj_y)$	t CO_2e
Relative GHG emission avoidance	The absolute GHG emission avoidance of the project divided by the GHG emissions in the reference scenario	$\Delta GHG_{rel} = \frac{\Delta GHG_{abs}}{\sum_{y=1}^{10}(Ref_y)}$	%

Hybrid projects: the absolute GHG emission avoidance and the project emissions have to be calculated according to the individual methodologies adding these up while removing double counting of avoidance and/or emissions, if any.
In such cases, the relative GHG emission avoidance shall be calculated based on the cumulated emission avoidance and the cumulated reference emissions.

GHG Emission Avoidance calculation

Tools available to support the calculation for different projects

Applicants may **adapt their calculations** using the provided Excel template

Remember to:

- Split calculation of reference and projects emissions, for the ease of verification
- Maintain projected input data separated by year
- Use conversion factors easily traceable and updatable
- Provide a full description of the data traceability and responsibility

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}	=	$Ref_{release}$	-	($Proj_{capture}$ + $Proj_{transport\ pipeline}$ + $Proj_{transport\ road}$ + $Proj_{transport\ rail}$ + $Proj_{transport\ maritime}$ + $Proj_{injection}$)
19,464,085	=	21,500,000	-	2,035,915

Relative GHG Emissions Avoidance

Relative GHG emissions avoided due to operation of the project during the first 10 years of operation, in percent.

Acummulated GHG emission avoidance	=	Acummulated GHG emission avoidance	÷	Reference emissions
ΔGHG_{rel}	=	ΔGHG_{abs}	÷	$Ref_{release}$
90.5%	=	19,464,085	÷	21,500,000

Reference emissions calculation

Projected operational data														GHG Emissions	
Source	Parameter monitored	Description	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Comments	t CO2e / [unit]	t CO2e
$Ref_{release}$	CO_2 transferred to the capture installation	Amount of CO2 transferred to the capture installation	t CO_2	1,200,000	1,500,000	1,700,000	2,100,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000			21,500,000

GHG Emission Avoidance Scoring proposal

SUB-CRITERIA	NOTES	UNIT	MAX SCORE	MIN SCORE
ABSOLUTE GHG EMISSION AVOIDANCE	Score is calculated by comparing the absolute GHG emission avoidance for the project to the “best in sector”, i.e. the application with the highest value of absolute GHG emission avoidance, which also meets min project maturity criteria and min requirements re ETS benchmarks and biomass.	tCO2	5 (the best in the sector)	0 (the worst in the sector)
RELATIVE GHG EMISSION AVOIDANCE	To derive the score for the relative emission avoidance, the resulting percent for the relative emission avoidance is normalised across all submitted proposals to a score between 5 and 0.	%	5 (100%)	0 (0%)
TOTAL			10	0
NORMALISED SCORE			5	0

Score may be reduced if calculations are not robust and accurate

- **Manifest errors:** discrepancies that can be seen to influence the GHG avoidance estimates significantly and, consequently, the result of the evaluation / scoring. Such errors could derive from an incorrect application of the GHG emission methodology, omission or miscalculation, etc. **IMPORTANT: leads to a zero score and rejection of the proposal**
- **Clerical errors**: minor errors, normally caused by inadvertent negligence in the application of formulas, or conversion of units, and that can be easily corrected (e.g. wrong links in formulas, wrong unit conversions, inadequate EF)

PROJECT MATURITY

Project Maturity

IMPLEMENTATION MATURITY	FINANCIAL MATURITY
• Technical feasibility • Credibility of implementation planning • Project team • Permitting procedures • Contracts or MoU with customers	• Viability of financial plan and project bankability • Soundness of financial model

Evaluation is based on :

- **mandatory documents:** as a **feasibility study and a business plan**
- **due diligence reports** produced by independent third parties

Implementation Maturity

TECHNOLOGY READINESS AND GHG EMISSION AVOIDANCE FEASIBILITY

- **Degree of technology readiness (TRL7)** of project
- **Technical readiness of the project site**, project **output and technical feasibility**
- **How the proposed technology has performed at the TRL** preceding this proposal
- **How changes compared to previous testing/projects** taken into account in the project **design**
- **Main conclusions of the feasibility study**.

IMPLEMENTATION PLANNING

- I**mplementation planning** of the project and **key milestones, deliverables and work plan** for project development, construction and roll out, and **envisaged permitting procedures**.
- **Timeline for the project implementation period including the status of project development, the steps concluded** (e.g. FEED study, initial permits, etc)
- I**mplementation planning** consistent with the **work packages, milestones and deliverables**.

KEY POINTS

- **Feasibility study (mandatory)**
- **Technical design of project** consistent with financial/operational set-up.
- **Due diligence report**

KEY QUESTION:

CAN THE TECHNOLOGY DELIVER THE EXPECTED OUTPUT AND GHG EMISSIONS AVOIDANCE?

Implementation Maturity

PROJECT BUSINESS MODEL

- **Business model**, including:
  - ✓ Company strategy,
  - ✓ Commercialization plan and market access strategy,
  - ✓ Target markets,
  - ✓ Key customers,
  - ✓ **Added value of the proposed innovation**,
  - ✓ How it addresses market gaps,
  - ✓ Main competitors,
  - ✓ The market demand and market entry barriers

PROJECT MANAGEMENT TEAM AND PROJECT ORGANISATION

- **Project organisation and the relevance and track record of the project management team**:
  - ✓ **Governance structure** and **alignment of interests** between management and investors, responsibilities and decision-making mechanisms and processes including within the consortium where applicable,
  - ✓ **Description of the project management team**.
  - ✓ **Number of staff adequately qualified** for project implementation and **description of key qualifications** of key staff.
  - ✓ **Need for additional outside resources**

KEY POINTS

- Detailed summary of BM
- Detailed plan of milestones and deliverables
- Focus on quality/relevance of the project team and partners for success of the project

KEY QUESTION:

IS YOUR BUSINESS MODEL SOUND?

Implementation Maturity

PERMITS, RIGHTS, LICENCES AND REGULATORY PROCEDURES

- **The required permitting and other relevant regulatory procedures**,
- Steps towards acquiring intellectual property rights or licences (the list of permits/rights/licences already obtained, those still needed and the envisaged timing for obtaining them).
- **The regulatory framework**, both barriers and support relevant for the project

ENSURING PUBLIC ACCEPTANCE

- Environmental impacts during construction and operation
- State of public acceptance of the technology and the project
- How you propose to ensure public acceptance for your project if the size or nature of the project makes it relevant.

KEY POINTS

- Public acceptance, permits and licenses are the responsibility of applicants – think of related timing, procedures and steps

KEY QUESTION:

WHAT IS YOUR PUBLIC ACCEPTANCE STRATEGY PLAN?

DO YOU HAVE ALL NEDEED LICENCES OR PERMISSION?

Implementation Maturity

STRATEGY FOR SECURING THE KEY SUPPLY AND OFF-TAKE CONTRACTS

- Main commercial contracts (key supply and construction contracts, off-take contracts e.g. with pioneer customers or PPA, EPC etc.) and contractual relationship between the main parties involved with the project.
- List any preliminary agreements with suppliers and off-takers/pioneer customers, where available, and describe the strategy for timely conclusion of further required agreements.
- Brief description of key contracts and explain how the required solidity/track record of suppliers and off-takers will be ensured

CONCLUSIONS OF ANY TECHNICAL DUE DILIGENCE REPORT

- Relevant main conclusions of any relevant due diligence report produced by an independent party.

KEY POINTS

- Evidenced contracts or agreements with suppliers and off-takers increase the credibility of planning, e.g. pioneer customers

KEY QUESTION:

HOW DO YOUR SALES LOOK LIKE?

WHO ARE YOUR PARTNERS AND OFF-TAKERS?

Financial Maturity

PROJECT CASH FLOW

- Calculation of the expected costs and revenues (cash flow projections)
- **Breakdown of the project costs**, i.e. **CAPEX**, **OPEX** and **the expected revenues.**
- Sensitivity of the cash-flows to regulatory frameworks and market conditions, and robustness of off-take agreements / pioneer customers.

Costs and revenues should be presented in constant prices.

TOTAL PROJECT COSTS, RELEVANT COSTS AND REQUESTED EU CONTRIBUTION

- **State the total project costs and project relevant costs (equivalent to CAPEX**).
- Justify and explain **costs** and provide **background assumptions**
- **State the requested EU contribution for the project (EUR) and describe how this was established.**
- **The maximum amount of the requested EU contribution cannot exceed 60% of the relevant costs.**

KEY POINTS

- **Business plan (mandatory).**
- Any existing financial due diligence report produced by an independent party, e.g. independent financial assessment (optional).

KEY QUESTION:

HOW ROBUST AND CLEAR IS YOUR FINANCIAL MODEL (part of the business plan)?

Financial Maturity

PROJECT FINANCIAL VIABILITY

- **Project's business viability (**Net Present Value **(NPV)** and Internal Rate of Return **(IRR)** estimated over the expected lifetime of the project before and after the requested Innovation Fund support).

FINANCING PLAN

- T**he financial structure of the project including a description of type, sources and use of funds**
- **How potential negative cash flows at the start of operation** will be funded and **how project scale up will be financed** when the project has entered into operation
- **Allocation of costs** and consistency of project planning with the financing plan and type of the project.
- **Alignment of requested funding and milestones** with the profile of cash consumption during the project cycle.
- **Timeline for such cash consumption and cash injection**, on a cumulated basis, indicating the proposed milestones and demonstrating the financial sustainability of the financing plan.

KEY POINTS

- Provision of detailed insights from project financing plan, showing clear financial structure, sources of funding and demonstrating the financial sustainability of the financing plan
- Coherence with cash flow projections and project design and operational planning over project lifetime

KEY QUESTION:

WHAT IS THE FINANCIAL STRUCTURE?

CAN THE FUNDING AND REVENUES COVER THE COSTS AND RETURN ON INVESTMENT?

HOW MUCH "SKIN IN THE GAME" DOES THE APPLICANT HAVE?

Financial Maturity

PROJECT FUNDERS AND INVESTORS COMMITMENT

- **Expected date of reaching financial close**
- **Status, level and solidity of commitment of funding from other sources** than the Innovation Fund, including applicant's own contribution, external funding and financial support from Member States.
- T**he nature, level and conditions of support provided from project funders and investors**, including the contribution by the applicant and how the funds will be injected into the legal entity owning the project and the ownership structure.
- Supporting documents (e.g. **letters of interest, letters of support, letters of approval from funders, letters from shareholders or board**)
- Evidence on **support from other sources including market mechanisms, or support from Member States and status/planning for State aid clearance** where relevant
- S**hareholder structure and integrity of envisioned investors** with project objectives

CONCLUSIONS OF ANY FINANCIAL DUE DILIGENCE REPORT

- Relevant main conclusions of financial due diligence report produced by an independent party

KEY POINTS

- Set out all funding sources other than the Innovation Fund
- Evidence on funding commitments

KEY QUESTION:

HOW QUICKLY CAN THE PROJECT REACH FINANCIAL CLOSE WITHIN THE 4 YEARS?

IS THE PROJECT FUNDING SECURED AND EVIDENCED?

WHAT IS THE OWNERSHIP STRUCTURE?

Industry Innovation & Strategy

Thanks for your attention

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RINA

Make it sure, make it simple.