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| Project Description[Name of Project] |

Name of Company/Companies

[Company logo(s)]

*Important*

*These guidelines explain how to describe the project for the expression of interest for IPCEI Hydrogen in Sweden. Complete all the main items and sub-items in the template in the order established here. Please keep the headings and delete the instructions. Submissions that have not completed all the items in this template will not be evaluated.*

# Summary

Provide a brief (< 1 page) summary of the project. “Who, what, how, where and with whom”. The description must be sufficient for the reader to understand the purpose and scope of the project, which technology or solution that is to be developed/invested in and how the project is to be carried out. Detailed technical descriptions are not necessary here.

# The Company/Companies

## Company presentation

Provide a brief description of the company/companies in the project, including (but not limited to)

* company structure and ownership
* number of employees
* financial situation and key figures (attach copy of latest annual report in Attachment A2)
* location(s)

## Market description

Provide a brief description of the relevant market(s) in which the company/companies operate(s), including (but not limited to):

* The relevant product
* The national market for the product (or relevant substitutes)
* The European market for the product (or relevant substitutes)
* Market share of the company, other market players/competitors in Sweden or the EEA (to the extent possible) and market outlook in the future both in Sweden and the EEA (if possible)

For guidance, reference is made to the [Commission Notice on the definition of relevant market for the purposes of Community competition law](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A31997Y1209%2801%29).

## Background

Provide a description of R&D activities that precede the IPCEI project, that were necessary for the IPCEI project and that were carried out before the start of the project (background). The description should include both the activities performed by the company/companies, as well as by relevant collaborating partners.

## Key partners / technology providers

Describe key technology partners / suppliers / subcontractors, as well as their roles in the project (project organization). An overview of key personnel with mini CVs should be attached in Attachment A1. Also describe how the collaboration in the project is organized.

# Technology and challenges

## State of the art

Describe the state of the art in the relevant technical fields. Include relevant technical- and cost-related KPIs.

## Technical challenges that are barriers to improvements in the field

Describe the technical challenges/locks that are barriers to further improvements in the relevant fields. Include necessary developments in technical- and cost-related KPIs in order to mature the technology both technically and commercially.

## Innovations and technical challenges in the project

Provide a description of

* the innovations that the company/companies aim(s) at in the IPCEI project, i.e. the contribution of the project beyond the state of the art.
* the main technical challenges or barriers for realising the planned innovations in the project
* technology or system maturity (TRL) at the time of application, as well as what TRL level the technology is expected to be at the end of the project.
* What remains of development or changes in other conditions before the technology / solution can be used on commercial terms, i.e. describe the commercial readiness level for the solution before and after the project.

# Project description

## Objectives of the project

Provide a brief description of the overall objectives of activities in all technical fields the company/companies is/are involved in the project, linking objectives between technical fields, emphasising:

* The technical, industrial and commercial objectives of the project
* The innovative aspects of the project
* The environmental aspects of the project

The objectives must be described in SMART form (Specific, Measurable, Achievable, Relevant and Time-bound).

Relate the objectives to the KPIs from the State of the art section. Prove that these objectives/innovations go beyond the state of the art.

## Project description

### Overall project organisation and progress plan

Provide

* A description of the activities in the project in accordance with work package (WP) principles, specifying R&D, FID and EET activities. R&D activities must fall within the R&D categories “industrial research” or “experimental development”
* a description of the resources needed per WP, including how these are distributed between project partners (where relevant)
* a Gantt diagram (or similar) showing the timeline(s) of the project and how the WPs are connected.
* A milestone plan. This can be an attachment to the electronic application. Pay particular attention to milestones that represent decision gates or which have consequences for the project's implementation or progress. Provide a summarizing table.
* A description of the project organisation and management
* A description of why this size or scope of investment has been chosen.

In the following: Provide a more detailed description of the activities and how they are necessary to reach the project objectives. Only describe the types of activities planned and which are necessary for the project (i.e. FID and/or EET when applicable).

### The R&D activities

* Describe the project’s central R&D challenges and delimit the research question to be addressed, so as to clearly highlight the need for developing new knowledge or new technology. This should be presented in the context of available knowledge or technology to indicate how the project will build on the relevant state of the art.
* Explain the planned approach and choice of methodology.
* Describe how the R&D activities are necessary in order to achieve the overall project objectives
* Describe any special factors (research-related or technological risks) that may make it difficult to achieve the project’s objectives in full.
* Link the R&D activities clearly to the FID/EET activities in the project

### First Industrial Deployment activities (FID) – if applicable

* Describe the FID activity in the project
* Describe clearly whether the FID activity entails
	+ upscaling of pilot facilities *or*
	+ first-in-kind equipment and facilities which cover the steps subsequent to the pilot line including the testing phase
* Describe clearly the KPIs and associated success criteria that represent the end of the FID phase, separating it from mass production/commercialisation. Note: the KPIs must be technical success criteria and cannot be related to market success. (cf. FID definition in the Guidelines[[1]](#footnote-2)).
* Describe how the FID activity is necessary in order to achieve the overall project objectives
* Describe clearly how the FID activity does not entail mass production or commercial activities
* Describe how the R&D activities (3.2.2) are an integral and necessary element for the successful implementation of the project, how the FID builds on preceding R&D activities, and how the R&D activities in the project interlink with the FID

### Environmental, energy or transport activities (EET) – if applicable

* Describe the environmentally friendly investment including (CAPEX)
* Describe OPEX and revenue streams of the commercial phase of the project

Describe how the R&D activities (3.2.2) are an integral and necessary element for the successful implementation of the project, how the EET builds on preceding R&D activities, and how the R&D activities in the project interlink with the EET

### Environmental benefits

* Describe the expected environmental benefits from the project, emphasising climate gas emission reductions (direct and/or indirect), and how the results will be documented. Clearly show how the emission reductions are calculated and how the baseline (reference) is determined.
* Describe overall climate gas abatement cost over the lifetime of the project.

## Alternative to implementing the project (the counterfactual scenario)

This call is for projects that will provide a higher degree of environmental protection than if the project had not been carried out. Therefore, describe as concretely as possible what the alternative is to carry out the project, i.e. what the company/companies will do in absence of state aid.

This can be, for example

* an investment in a conventional, less environmentally friendly solution that fulfils the same purpose
* an investment that is reduced in scope
* to make the investment at a significantly later date
* to not to make an investment ("business as usual")

# Importance/relevance for IPCEI hydrogen, EU and other member states

## Contribution to IPCEI hydrogen

* Describe how the project will increase the level of R&D and innovation in the strategic hydrogen value chain, both in the relevant sector and the European economy and society.
* Describe how the project contributes to and strengthens IPCEI hydrogen across participating countries and EU as a whole.

## Cooperation with other participating projects/states

* Describe the partners in the project (Swedish and/or European), and if not yet established, which type partners you will be seeking through the matchmaking process.
* Explain how this project is complementary to/has synergies with Swedish or European partners and their projects.
* Describe how the project gives value to partners outside the host-country. Also specify which other participating countries the project will be relevant for and contribute to.

## Contribution to national and European strategic goals for climate and energy, including “Green Deal”

Describe how the project is relevant for and contributes towards realising national and European strategic goals for climate and energy.

Examples of relevant European strategies and documents are given in the IPCEI Guidelines under chapter 3. Eligibility Criteria1. National goals and ambitions are relevant both for the host-country for the project and for the other countries participating in the IPCEI.

## Expected impact

### Impact of the project

Describe the expected impact of the project. This should include:

* direct impact of the project (environmental, value creation, etc)
* whether / to what extent the technology is on the market today (commercial maturity), and how this project can contribute to widespread application of the technology in the relevant sector.
* realistic market potential nationally, in the EEA zone and, if relevant, internationally.

### Spill-over effects from the project

Specify a plan for disseminating knowledge, including when, in what form and to what extent information about the project's results will be disseminated. Emphasise:

* Spill-over by non-protected results diffusion (publications and communication on IPCEI results)
* Spill-over by IP protected results diffusion (licencing, etc)
* Spill-over in FID phase or from EET activities (open infrastructures for SMEs, RTOs, etc)

# Budget

## Eligible costs

Eligible costs are costs that are necessary to carry out the project, to the extent and in the timeframe of the IPCEI project. The eligible cost categories are:

1. Feasibility studies
2. Cost of instruments and equipment to the extent and for the period used for the project
3. Cost of acquisition (or construction) of buildings, infrastructure and land to the extent and for the period used for the project
4. Cost of other materials, supplies and similar products necessary for the project
5. Cost for obtaining, validating and defending patents and other intangible assets, contractual research, consultancy etc. used exclusively for the project
6. Personnel and administrative costs directly linked to the IPCEI activities.
7. For FID: capital and operating expenditures (CAPEX and OPEX) in the FID phase.
8. Other costs, if justified, where they are inextricably linked to the realisation of the project

For a detailed description of the eligible costs, see the IPCEI Guidelines.[[2]](#footnote-3)

Provide an overview of the costs of the project, specified in the above categories. Ensure to take into account the methods in the IPCEI Guidelines for calculating the eligible costs.

* Describe the costs for R&D&I activities. Specify R&D&I costs undertaken during the FID or EET activity
* Describe the CAPEX, and linked OPEX and revenue streams of the FID investment (if relevant)
* Describe OPEX and revenue streams of the commercial phase of the project (after FID/outside the timeframe of the IPCEI project (if relevant)
* Describe the CAPEX, OPEX and revenue streams of the environmentally friendly investment (if relevant)
* Describe the costs (including CAPEX, OPEX and revenue streams) of the counterfactual scenario

Provide an NPV analysis of the project over the project’s lifetime, as given in the template. Attach separate NPV analysis with the company’s own methodology if relevant.

## Financing

State aid can only be provided if the aid is necessary in order to carry out the project. It is therefore important that you describe why the project cannot be carried out without state aid, and what type of funding is necessary (grants, repayable advances, soft loans, guarantees, etc).

Describe how the project is planned to be financed, including

* Own financing
* Grant from the Swedish Energy Agency
* Loans from the commercial market or other sources of financing
* Other national state aid
* Funding from other countries participating in IPCEI Hydrogen
* Funding from supranational support schemes such as the EU framework programs
* Other (describe)

Indicate the State aid requirement in nominal terms and discounted terms.

# Risks and mitigating measures

Describe the key risk factors that are present for the project, including which risk mitigation measures are to be implemented.

Risk can e.g. be related to:

* Technological performance
* Market for the product / solution
* Operation
* Achieving environmental requirements
* Regulatory risk
* Competence / organizational conditions
* Other conditions that are specific to the project

# Mandatory Attachments

## A1. Mini-CVs for Key Personnel (maximum 1 page per person)

## A2. Financial statement(s)

## A3: NPV and Funding Gap Analysis

1. <https://www.eftasurv.int/cms/sites/default/files/documents/Consolidated-version--Criteria%20for%20projects%20of%20common%20European%20interest.pdf> [↑](#footnote-ref-2)
2. <https://www.eftasurv.int/cms/sites/default/files/documents/Consolidated-version--Criteria%20for%20projects%20of%20common%20European%20interest.pdf> [↑](#footnote-ref-3)