

Clean Hydrogen Joint Undertaking - TRUST data collection

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1. Introduction

The Clean Hydrogen JU supports research and innovation (R&I) activities in the Union in clean hydrogen solutions and technologies, under EU's new funding programme for research and innovation, Horizon Europe, established by the Horizon Europe Regulation, and in synergy with other EU initiatives and programmes. The Clean Hydrogen JU is the continuation of the successful Fuel Cell and Hydrogen Joint Undertakings (FCH JU and FCH 2 JU), under FP7 and Horizon 2020 (H2020) respectively. To this end, it publishes calls for proposals, manages proposal evaluations and monitors project implementation.

For the purpose of monitoring technology progress against state-of-art, but also to identify how each of the projects contributes to the Clean Hydrogen JU targets, objectives and indicators described in the SRIA, supported projects shall report directly or indirectly on an annual basis in a secure online data collection platform managed by the Clean Hydrogen Joint Undertaking during the course of Horizon Europe. The reporting shall consist of filling in the template questionnaire(s) relevant to the project content (and the technology development and TRL). The projects will need

to submit all information included the questionnaire(s), unless they request and receive an exception from the Programme Office. The information is submitted by default as public, but the projects can request for certain fields to be considered as confidential except for the fields that constitute or directly inform KPIs of the Clean Hydrogen JU.

The data collection is intended to yield comparable data from various projects by unambiguously setting the relevant:

- parameters
- units
- validity date (annual granularity)

Data collection is performed, since 2017, through the TRUST (Technology Reporting Using Structured Templates) collection platform.

Projects have a contractual obligation to comply with the submission of the requested data according to article II.10 of FP7 grant agreements (from calls 2008 to 2013) and to dedicated project deliverables¹ for Horizon 2020 and Horizon Europe projects (from Call 2014 onwards).

The expected outcome is a coherent and comprehensive vision of the fuel cells and hydrogen sector which is critical for its further development and visibility and for fostering political and financial support.

2. Data collection

Data collection input period

The data collection system is intended to be open for data input by the projects for one month each year.

Reference period

Data collection should concern project data referring to the calendar year (reference year) preceding the collection exercise, i.e. for the 2021 data collection exercise, data should be reported concerning the period from 01/01/2020 to 31/12/2020 (the reference year is 2020).

For projects (a) started or (b) ended in the year preceding the data collection exercise, the reference period for which data are expected is:

- a) Project start date to 31/12 of the previous year
- b) 01/01 of the previous year to project end date

¹ Typically labelled “Annual data reporting” deliverables

Templates

Data are to be collected through template questionnaires tailored to the various technologies and their readiness level, to be answered annually by the funded projects: each project is to be divided into one or more “research object” defining a specific reporting item within the project scope. Each of these research objects will be associated to a specific template questionnaire.

The existing template questionnaires are listed below:

- Auxiliary power unit demonstration (APU)
- Biogas
- Biological
- Bunkers
- Co-electrolysis
- Depleted reservoir storage - Salt Cavern
- Depleted reservoir storage – Porous media
- Electrolysis
- On-board storage for compressed gaseous hydrogen (CGH₂ storage tank)
- Diagnostics
- Education
- Fuel cell Trucks demonstration
- Fuel cell /plug-in car demonstration
- Fuel cell bus demonstration
- Fuel cell car demonstration
- Fuel cell material handling vehicle demonstration (MHV)
- Fuel cell Vessel
- Fuel cells – research at stack level or lower
- Fuel cells – research at system level
- Fuel cell stack manufacturing
- H₂ Carriers
- Hydrogen refuelling station research
- Hydrogen refuelling station demonstration
- Stationary, μ -CHP
- Stationary, non μ -CHP
- Pre-Normative Research
- Safety
- Solar Thermochemical
- Waste biomass

The template questionnaire within the research object is divided into descriptive and operational parameters.

Descriptive parameters define the item addressed in the questionnaire and allow to set the scene for which actual results are reported as **operational** parameters. In principle, descriptive parameters do not change during the project lifetime, while operational parameters evolve and will be different from one annual data collection exercise to the next according to progress in the reference period.

The parameters have been defined in view of allowing a comprehensive overview of the technology status and include the Key Performance Indicators (KPIs) defined in the FCH JU Multi-Annual Work Plan (MAWP) addendum and Clean Hydrogen JU Strategic Research and Innovation Agenda (SRIA).

The parameters requested in each template can be downloaded from [here](#).

Each project is expected to provide values for all parameters requested. For each parameter, there is also the possibility (optional) to add a comment / clarification, in order to provide additional information.

The filled questionnaire can only be submitted if, for every single parameter, a value or a comment is provided. There may be cases where there is difficulty to provide certain values, for instance because the parameter is not relevant to the project or has not yet been obtained. In such cases the parameter can be reported as not applicable (N/A). In these cases an explanation should be provided in the comment field and be communicated to the Clean Hydrogen JU project officer monitoring the project, who will decide whether to approve or not this exception.

Note that the submission of all parameters that are either marked as MAWP/SRIA KPIs or specified in the “expected impact” section of the call for proposals to which the project has successfully applied is considered mandatory.

Data providers

The person with access to the online system is hereby referred to as “data provider”.

If needed, several data providers can be assigned to a same research object.

Please note that the data providers are assigned specifically for each research object, so different research objects from the same project may have different data providers.

As default, the project coordinator will be assigned as data provider. Changes or additions in data provider can be requested to TRUST@clean-hydrogen.europa.eu

Input method

The data will be collected online, through a secured connection, in a data collection platform called TRUST.

For each research object, the data provider has the possibility (optional) to enter a generic comment, e.g. specifying information relevant to the whole set of data concerned, in addition to the values and comments for the individual parameter.

Confidentiality

Each individual parameter in the template questionnaires can be defined by the data provider as either public or confidential.

Public data will be treated as such and the Clean Hydrogen JU will consider that it can disclose them accordingly.

The Clean Hydrogen JU is committed to respect data confidentiality according to the conditions setup by the Grant Agreement and will only use them in the respect of this attribute: confidential data will not be disclosed as such, but only in aggregated form, and in a manner that ensures non-attribution of their source). Progress and findings that can be shown will be made public (normally associated to the Clean Hydrogen JU annual Programme Review exercise and its monitoring framework).

Confidential data will be treated with extreme care, avoiding that any related information is made public in any form that could lead to the identification of its origin. Confidential data will be visible exclusively by the Clean Hydrogen JU Programme Office.

From 2018, parameters labeled with the prefix 'KPI' (Key Performance Indicator) will be considered by default **public** unless justification is provided by the data-provider for the necessity to keep the data confidential. These data will be used by the Clean Hydrogen JU for its monitoring framework.

More information on data treatment is provided in the section 3.

Data aggregation

Research objects in TRUST refer either to single items or a group of equivalent items. This is defined individually for each project according to its nature, its description of work and the type of questionnaire concerned. For instance, reporting is expected individually for single hydrogen refuelling stations, electrolysers or large-scale CHP units, while aggregated data would be sufficient for a fleet of same vehicles or small CHP units deployed in a given region.

3. Data utilisation

As already mentioned above, data provided in TRUST will be collected and treated by the Clean Hydrogen JU Programme Office only.

No raw data will be disclosed publicly unless they are provided as “public”.

Data validation (authorisation)

In a first phase after data submission, the data will be validated by the relevant Project Officers which will authorise or reject the entire form. In this step, the values will be verified in terms of whether they are realistic, whether there is no clerical mistake (order of magnitude, units, etc) and whether the “confidential” label (if applicable) is justified. The Project Officer will also verify (and accept/reject) the justifications given for not providing certain parameters.

Data rejection

In the case that a research object form is rejected, the data provider will be informed (through an email notification) with an explanation of the reasons for rejection. The data provider will be thus asked to revise the value / comment and resubmit the form.

Cost claims related to tasks that would lead to forms that have been rejected may be suspended until an agreement is found between the Clean Hydrogen JU and the project consortium.

Data exploitation

The Clean Hydrogen JU Programme Office will analyse the data obtained to form a view on technology status.

In comparison with public values obtained through continued technology watch and international state of the art values, it also aims at assessing the positioning of Clean Hydrogen JU projects in the global picture.

In time, through comparison of data obtained for different periods, the achievements of the Clean Hydrogen JU will also be traced in terms of technology progress yielded through the projects financed.

Data disclosure

The Clean Hydrogen JU Programme Office is often assisting its members in defining the state of the art or providing information on project progress.

As is custom already with deliverables and reports, only public data will be disclosed in this context, unless aggregation of several comparable data is possible and ensures non-attribution of their source.